

Veritas NetBackup on Cisco UCS S3260 Storage Server



This document provides an introduction to the process for deploying the Veritas NetBackup master server and media server on the Cisco UCS® S3260 Storage Server.

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Introduction

This document describes at a high level the installation and configuration steps for deploying Veritas NetBackup on the Cisco UCS S3260 Storage Rack Server to build a data protection solution. This document does not provide a detailed step-by-step guide, and not every task is documented. The document focuses on the steps that are relevant to the specific use case under discussion. To complete the deployment, you should be familiar with the following:

- Cisco Unified Computing System™ (Cisco UCS) configuration
- Microsoft Windows and Linux installation and configuration
- Veritas NetBackup configuration

Technology overview

This section introduces the technologies used in the solution described in this document.

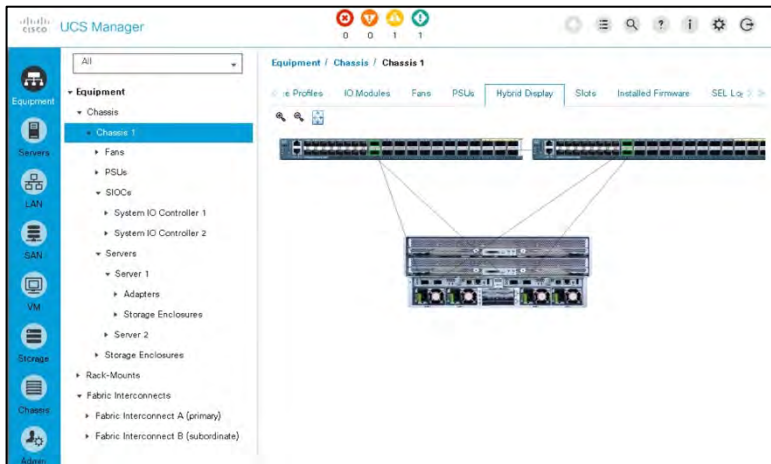
Cisco Unified Computing System

Cisco UCS is a state-of-the-art data center platform that unites computing, network, storage access, and virtualization resources into a single cohesive system.

The main components of Cisco UCS are described here:

- **Computing:** The system is based on an entirely new class of computing system that incorporates rack-mount and blade servers using Intel® Xeon® processor CPUs. The Cisco UCS servers offer the patented Cisco® Extended Memory Technology to support applications with large data sets and allow more virtual machines per server.
- **Network:** The system is integrated onto a low-latency, lossless, 10- or 40-Gbps unified network fabric. This network foundation consolidates LANs, SANs, and high-performance computing (HPC) networks, which are separate networks today. The unified fabric lowers costs by reducing the number of network adapters, switches, and cables, and by decreasing the power and cooling requirements.
- **Virtualization:** The system unleashes the full potential of virtualization by enhancing the scalability, performance, and operational control of virtual environments. Cisco security, policy enforcement, and diagnostic features are now extended into virtualized environments to better support changing business and IT requirements.
- **Storage access:** The system provides consolidated access to both SAN storage and network-attached storage (NAS) over the unified fabric. By unifying the storage access layer, Cisco UCS can access storage over Ethernet (with Network File System [NFS] or Small Computer System Interface over IP [iSCSI]), Fibre Channel, and Fibre Channel over Ethernet (FCoE). This approach provides customers with choice for storage access and investment protection. In addition, server administrators can pre-assign storage-access policies for system connectivity to storage resources, simplifying storage connectivity and management for increased productivity.

Figure 1. Cisco UCS Manager



The Cisco UCS consists of the following components:

- [Cisco UCS Manager](#) provides unified, embedded management of all Cisco UCS software and hardware components (Figure 1).
- [Cisco UCS 6000 Series Fabric Interconnects](#) are line-rate, low-latency, lossless, 10-Gbps Ethernet and FCoE interconnect switches providing the management and communication backbone for Cisco UCS.
- [Cisco UCS 5100 Series Blade Server Chassis](#) supports up to eight blade servers and up to two fabric extenders in a six-rack unit (6RU) enclosure.
- [Cisco UCS B-Series Blade Servers](#) increase performance, efficiency, versatility, and productivity with Intel-based blade servers.
- [Cisco UCS C-Series Rack Servers](#) deliver unified computing in an industry-standard form factor to reduce total cost of ownership (TCO) and increase agility.
- [Cisco UCS S-Series Storage Servers](#) deliver unified computing in an industry-standard form factor to address data-intensive workloads with reduced TCO and increased agility.
- [Cisco UCS adapters](#), with wire-once architecture, offer a range of options to converge the fabric, optimize virtualization, and simplify management.

Cisco UCS is designed to deliver:

- Reduced TCO and increased business agility
- Increased IT staff productivity through just-in-time provisioning and mobility support
- A cohesive, integrated system that unifies the technology in the data center
- Industry standards supported by a partner ecosystem of industry leaders
- Unified, embedded management for easy-to-scale infrastructure

Cisco UCS S3260 Storage Server

The Cisco UCS S3260 Storage Server (Figure 2) is a modular, high-density, high-availability dual-node rack server well suited for service providers, enterprises, and industry-specific environments. It addresses the need for dense, cost-effective storage for the ever-growing amounts of data. Designed for a new class of cloud-scale applications and data-intensive workloads, it is simple to

deploy and excellent for big data, software-defined storage, and data protection environments such as IBM Spectrum Protect and IBM Cloud Object Storage and unstructured data repositories, media streaming, and content distribution.

Figure 2. Cisco UCS S3260 Storage Server



Extending the capabilities of the Cisco UCS C3000 platform, the S3260 helps you achieve the highest levels of data availability. With a dual-node capability that is based on the Intel Xeon processor E5-2600 v4 series, it offers up to 600 terabytes (TB) of local storage in a compact 4-rack-unit (4RU) form factor. All hard-disk drives (HDDs) can be asymmetrically split between the dual nodes and are individually hot-swappable. The drives can be built in an enterprise-class Redundant Array of Independent Disks (RAID) redundant design or used in pass-through mode.

This high-density rack server easily fits in a standard 32-inch-depth rack, such as the Cisco R42610 Rack.

Cisco UCS S-Series Storage Servers can be deployed as standalone servers or as part of a Cisco UCS managed environment to take advantage of Cisco's standards-based unified computing innovations that help reduce customers' TCO and increase their business agility.

The S3260 uses a modular server architecture that, using Cisco's blade technology expertise, allows you to upgrade the computing or network nodes in the system without the need to migrate data from one system to another. It delivers:

- Dual server nodes
- Up to 36 computing cores per server node
- Up to 60 drives, mixing a large form factor (LFF) with up to 28 solid-state disk (SSD) drives plus 2 SSD SATA boot drives per server node
- Up to 512 GB of memory per server node (1 TB total)
- Support for 12-Gbps serial-attached SCSI (SAS) drives
- A system I/O controller with a Cisco UCS Virtual Interface Card (VIC) 1300 platform embedded chip supporting dual-port 40-Gbps connectivity

High reliability, availability, and serviceability (RAS) features with tool-free server nodes, system I/O controller, easy-to-use latching lid, and hot-swappable and hot-pluggable components.

Veritas NetBackup

Veritas NetBackup offers enterprise-class data protection. Recognized as the market leader in enterprise backup and recovery software for more than a decade, Veritas NetBackup is built to protect the largest and most demanding data center environments. NetBackup delivers breakthrough capabilities for virtualized and cloud-based deployments that go well beyond what traditional backup software can achieve.

- **Comprehensive:** As a single, unified solution to protect all of your data assets, NetBackup provides support for almost every popular server, storage, hypervisor, database, application, and cloud platform used in enterprises today.
- **Scalable:** High performance, intelligent automation, and centralized management based on a flexible, multitier architecture enables NetBackup to adapt to the growing needs of a fast-paced, modern enterprise. More information is available at <https://www.veritas.com/product/backup-and-recovery/backup-benchmark>.
- **Integrated:** From backup appliances to cloud storage, NetBackup integrates at every point in the technology stack to improve reliability and performance.
- **Innovative:** With hundreds of patents awarded in areas including backup, recovery, virtualization, deduplication, and snapshot management, NetBackup continues a long tradition of bringing advanced technologies to market first.
- **Proven:** For more than a decade, NetBackup has led the industry as the most popular enterprise data protection software by market share and is used by many of the largest enterprises in the world. When you need your data back, you can trust NetBackup.

Solution design and suggested configuration

Cisco UCS with Veritas NetBackup addresses the data protection needs of modern data centers. The increasing percentage of virtualized workloads, the dramatic increase in the size and amount of data, and the changes in the ways that companies do business and work with data have had an immense impact on data protection solutions. With the time requirement for backup operations reduced to minutes and recovery point objective (RPO) and recovery time objective (RTO) requirements in the range of minutes to one hour, technologies such as compression, deduplication, replication, and backup to disk are essential in every design. The features and functions provided by Veritas NetBackup, combined with the features and functions provided by Cisco UCS servers, create a powerful solution for fast backup and fast restore operations. For long retention periods and for less frequently accessed data, tape libraries or object storage on Cisco UCS S3260 Storage Servers can be used. With the combination of Cisco and Veritas technology, you can easily scale from tens of terabytes (TB) up to multiple petabytes (PB) of protected data.

Disks are now common backup media, and data backup on disk generally provides faster restore operations. Disk-based storage can be useful if you have many incremental backups and the percentage of data change is small. If the volume of data in incremental copies is insufficient to help ensure efficient writing to tape, consider disk storage. After writing the data to disk, you can use staging or storage lifecycle policies to copy batches of images to tape. This arrangement can produce faster backup operations and prevent wear and tear on your tape drives.

Consider the following factors when backing up a data set to disk or tape:

- Disks are well suited for short retention periods; tape is better suited for longer retention periods.
- Disks are well suited for staging; tape is good for long-term storage.
- Disks are better suited for low-volume incremental backups.
- Synthetic full backups are faster when incremental backup copies are stored on disk.
- Restoration from disk is usually faster than from tape.
- If client backup operations are too slow to keep the tape in motion, send the backups to disk.
- If the backups are small, send the backups to disk.
- Staging or lifecycle policies can later move the backup images to tape.

There is no “best” position in the infrastructure to install a Veritas NetBackup media server. Many different options are available regardless of how big a data center is. One option is to position the NetBackup servers in a central place in the physical network so that it can be accessed from everywhere with the required bandwidth. With this approach, the number of required NetBackup servers will be small, but the amount of network traffic will be high. Another option is to place the NetBackup servers as close as possible to the data source. With this approach, the number of NetBackup servers will be greater, but the amount of network traffic on the core network will be much less.

With most data transferred from the backup client to the server and not directly from storage, and with the unique design of Cisco UCS, the use of one NetBackup server per Cisco UCS domain will limit the required network bandwidth dramatically. This option also allows Cisco UCS Manager to manage all NetBackup servers.

Suggested hardware configurations

Based on the sizing rules for the NetBackup master server and media server components, Cisco has defined suggested configurations (Tables 1 and 2) for different scale options. The configurations for the NetBackup master server cannot be used to configure the NetBackup media server. However, the configurations for the NetBackup media server can be used to deploy a single server with both functions.

As a deployment option, the Veritas NetBackup master server can run virtualized to manage the physical NetBackup media server. The recommended approach is to use two or more NetBackup media servers per NetBackup domain.

Table 1. Suggested Cisco UCS configurations for NetBackup master server

	Cisco UCS C200 platform	Cisco UCS C200 platform	Cisco UCS B200 platform	Cisco UCS C480 platform	Cisco UCS B480 platform	Cisco UCS C880 platform
Maximum number of managed media servers	80	120	120	250	250	750
Maximum number of backup jobs per day	8000	12,000	12,000	25,000	25,000	75,000
Cisco UCS rack servers	C220 M5 and C240 M5	C220 M5 and C240 M5	B200 M5	C480 M5	B480 M5	C880 M5
CPU	2 Intel Xeon processor 5118 (12 cores, 2.3 GHz, and 105W)	2 Intel Xeon processor 6148 (20 cores, 2.4 GHz, and 150W)	2 Intel Xeon processor 6148 (20 cores, 2.4 GHz, and 150W)	4 Intel Xeon processor 6148 (20 cores, 2.4 GHz, and 150W)	4 Intel Xeon processor 6148 (20 cores, 2.4 GHz, and 150W)	8 Intel Xeon processor 8176 (28 cores, 2.1 GHz, and 165W)
Memory	64 GB	128 GB	128 GB	256 GB	256 GB	512 GB
LOM ports	2 x 10 Gbps	2 x 10 Gbps	2 x 40 Gbps	2 x 10 Gbps	2 x 40 Gbps	2 x 40 Gbps

Table 2. Suggested Cisco UCS configurations for NetBackup media server

	Cisco UCS C240 with 4 TB	Cisco UCS C240 with 6 TB	Cisco UCS S3260 with 6 TB	Cisco UCS S3260 with 10 TB
Boot disks	2 x 480-GB SSDs	2 x 480-GB SSDs	Cisco UCS S3260 with 6 TB	Cisco UCS S3260 with 10 TB
Data disks	12 x 4-TB SAS	12 x 6-TB SAS	2 x 480-GB SSDs	2 x 480-GB SSDs
Raw capacity	48 TB	72 TB	<ul style="list-style-type: none"> • 14 x 6-TB SAS • 28 x 6-TB SAS • 42 x 6-TB SAS • 56 x 6-TB SAS 	<ul style="list-style-type: none"> • 14 x 10-TB SAS • 28 x 10-TB SAS • 42 x 10-TB SAS • 56 x 10-TB SAS
Average usable capacity	36 TB	54 TB	<ul style="list-style-type: none"> • 66 TB • 132 TB • 198 TB • 264 TB 	<ul style="list-style-type: none"> • 110TB • 220 TB • 330 TB • 440 TB
Cisco UCS rack servers	C240 M5 LFF	C240 M5 LFF	S3260 M4	S3260 M4
CPU	Intel Xeon processor 5118 (12 cores, 2.3 GHz, and 105W)	Intel Xeon processor 6148 (20 cores, 2.4 GHz, and 150W)	Intel Xeon processor E5-2650 v4 (12 cores, 2.2 GHz, and 105W)	Intel Xeon processor E5-2695 v4 (18 cores, 2.1 GHz, and 120W)
Memory	64 GB	128 GB	256 GB	256 GB
RAID cache	1 GB	1 GB	4GB	4 GB
RAID	RAID 6	RAID 6	RAID 6 and RAID 60	RAID 6 and RAID 60
Maximum Fibre Channel ports	4 x 16 Gbps	8 x 16 Gbps	4 x 16 Gbps	4 x 16 Gbps
LOM ports	2 x 10 Gbps	2 x 40 Gbps	2 x 40 Gbps	2 x 40 Gbps

The suggested configurations based on the Cisco UCS C240 are “as-is” configurations with no option to scale within the chassis. The design is for small deployments and remote-office and branch-office (ROBO) deployments or for staging units for backup to disk and then to tape or backup to disk and then to cloud.

The suggested configuration based on the S3260 with 6- and 10-TB drives provides the option to choose 14, 28, 42, or 56 drives at the time of ordering and to scale to 56 drives later. The configuration with 6-TB drives provides better throughput per terabyte, and the configuration with 10-TB drives provides lower cost per terabyte.

NetBackup provides a data deduplication function, which requires a deduplication database. You can place the deduplication database on the same storage device as the storage unit. However, a better and more performant option is to use dedicated flash-memory storage for the deduplication database. The flash storage options for the suggested configurations are listed in Table 3.

Table 3. Optional flash storage for NetBackup deduplication storage unit

	Cisco UCS C240 with 4 TB	Cisco UCS C240 with 6 TB	Cisco UCS S3260 with 6 TB	Cisco UCS S3260 with 10 TB
Memory	64 GB	128 GB	256 GB	256 GB
Storage for deduplication database	1 x 3.8-TB half-height, half-length NVMe	1 x 6.4-TB half-height, half-length NVMe	<ul style="list-style-type: none"> • 1 x 3.2-TB 2.5-inch NVMe • 2 x 3.2-TB 2.5-inch NVMe • 3 x 3.2-TB 2.5-inch NVMe • 3 x 3.2-TB 2.5-inch NVMe 	<ul style="list-style-type: none"> • 1 x 3.2-TB 2.5-inch NVMe • 2 x 3.2-TB 2.5-inch NVMe • 3 x 3.2-TB 2.5-inch NVMe • 3 x 3.2-TB 2.5-inch NVMe

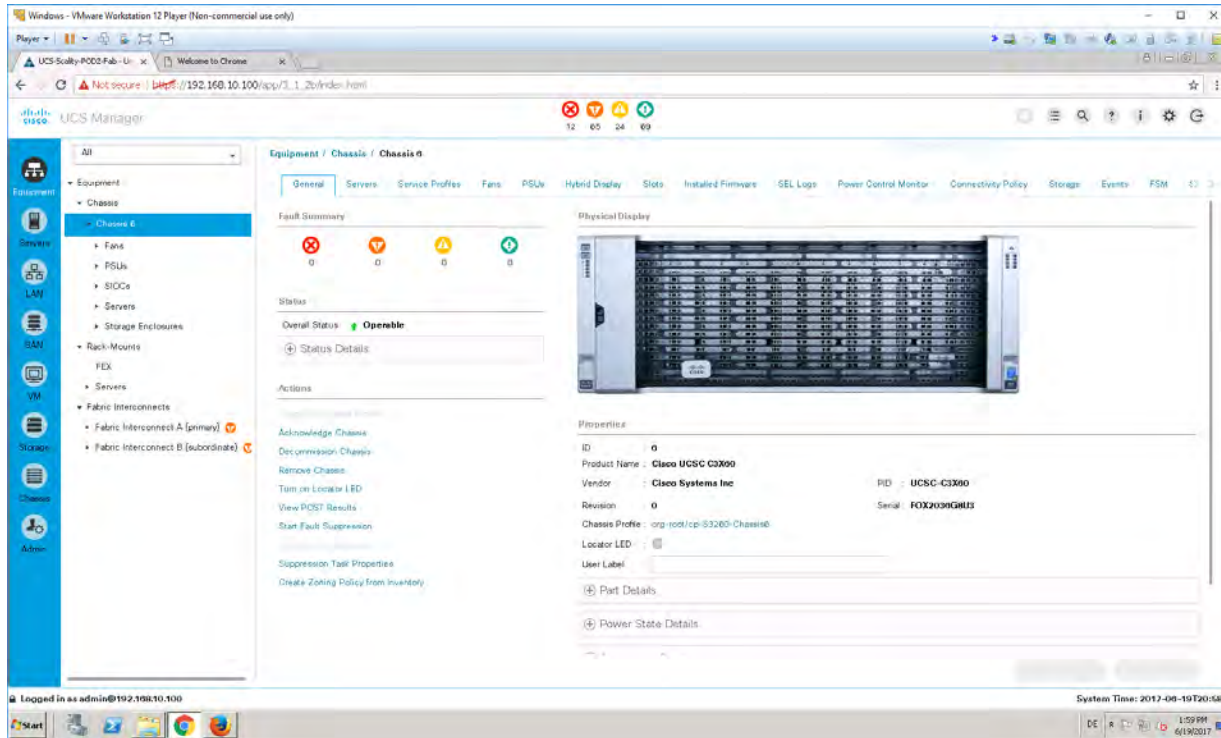
Cisco UCS configuration

This document covers the use of the Cisco UCS S3260 Storage Server to install the Veritas NetBackup media server or master server with a media management role.

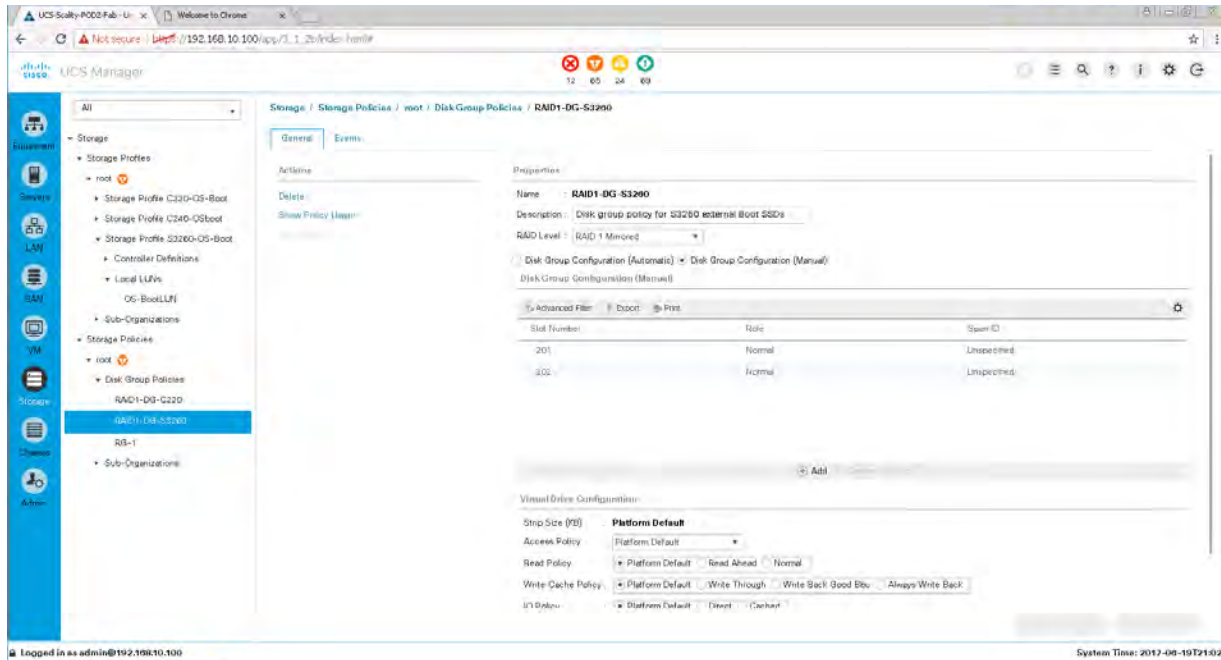
The basic steps for connecting a Cisco UCS S3260 server to a Cisco UCS domain are described in the S3260 installation guide.

Note: The design and configuration principles can be used for unmanaged installations. The Cisco Integrated Management Controller (IMC) is used for the storage and network configurations as well as for the operating system installation.

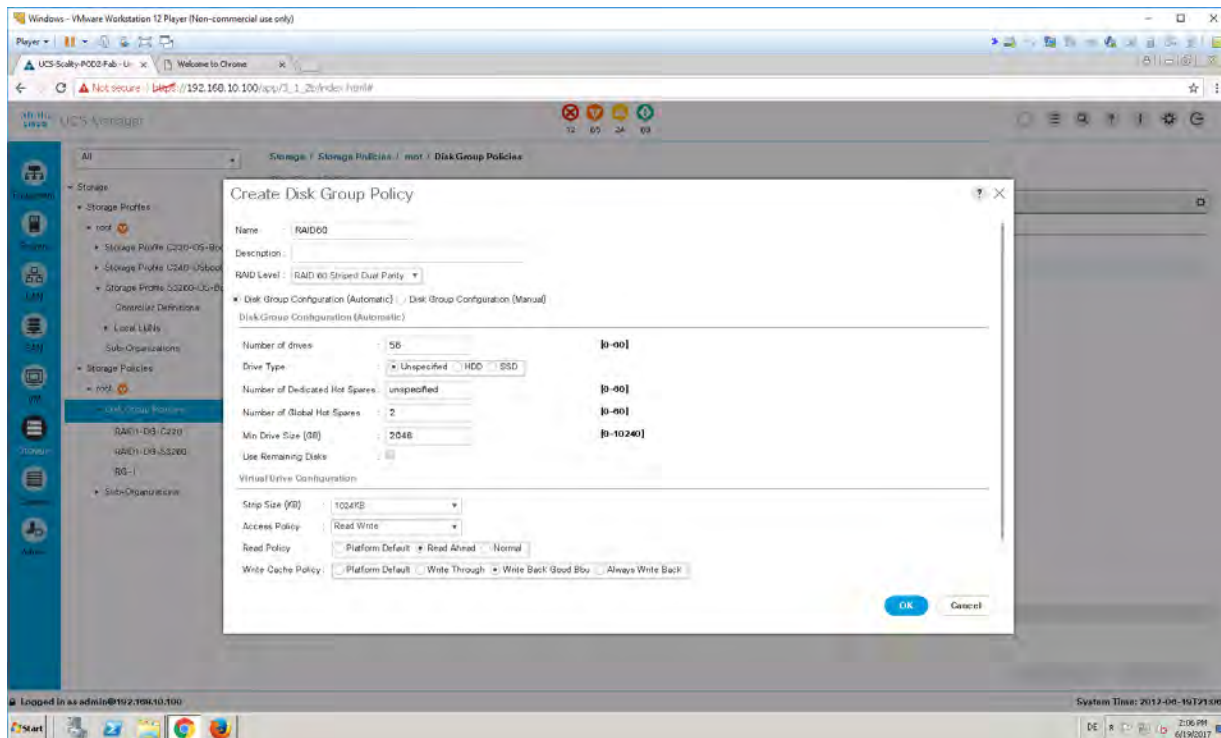
A RAID group with the two SSDs in the back of the chassis is used to install the operating system.



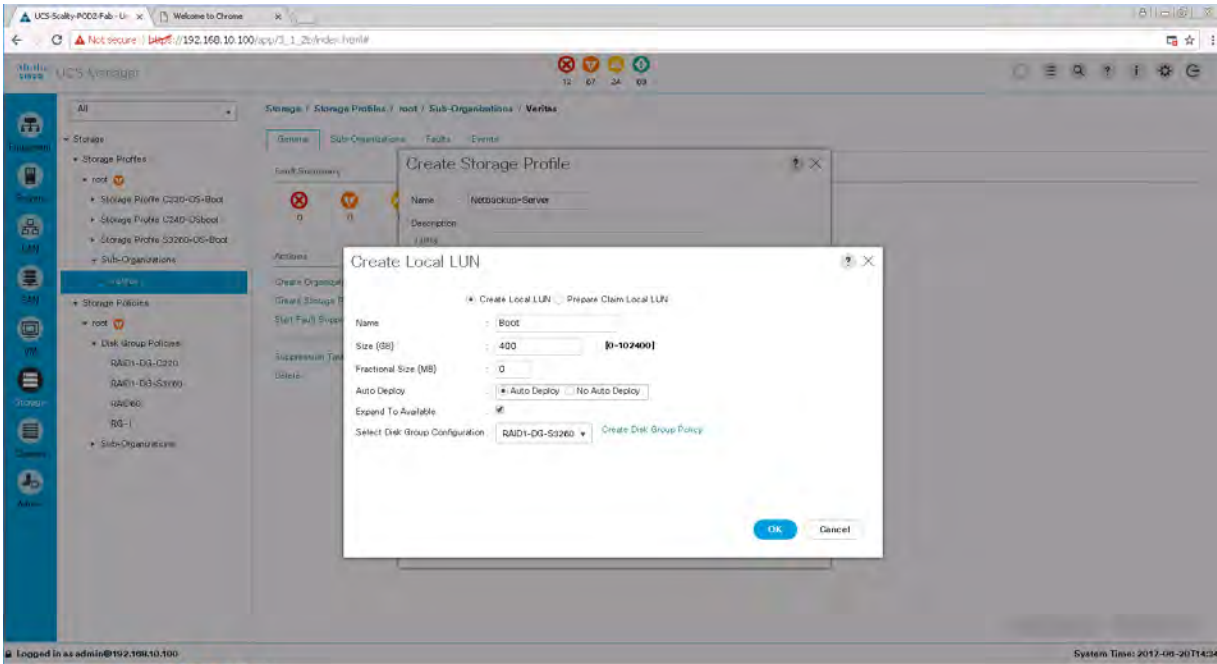
Choose Storage Area > Storage Policy > Disk Group Policy. Select two slots from the range 201 to 204.



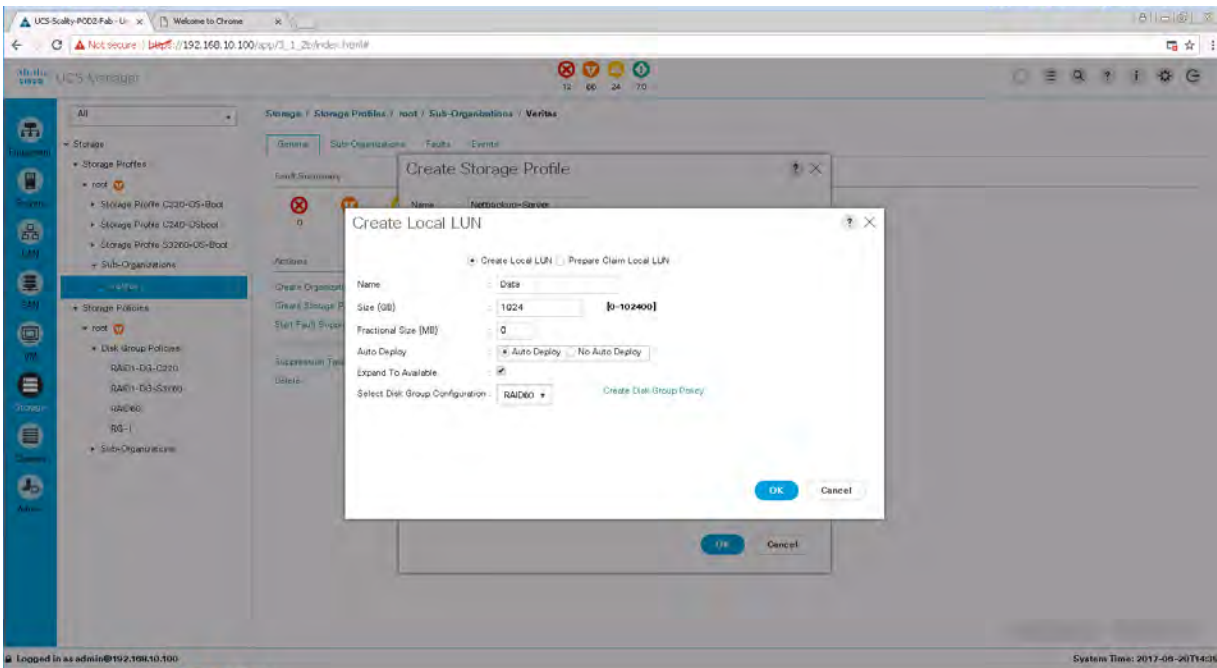
All top-loaded drives are used in one disk group policy with the RAID level RAID 6 Striped Dual Parity for 14 disks or RAID 10 Striped Dual Parity for 28, 42, or 56 disks as capacity drives.

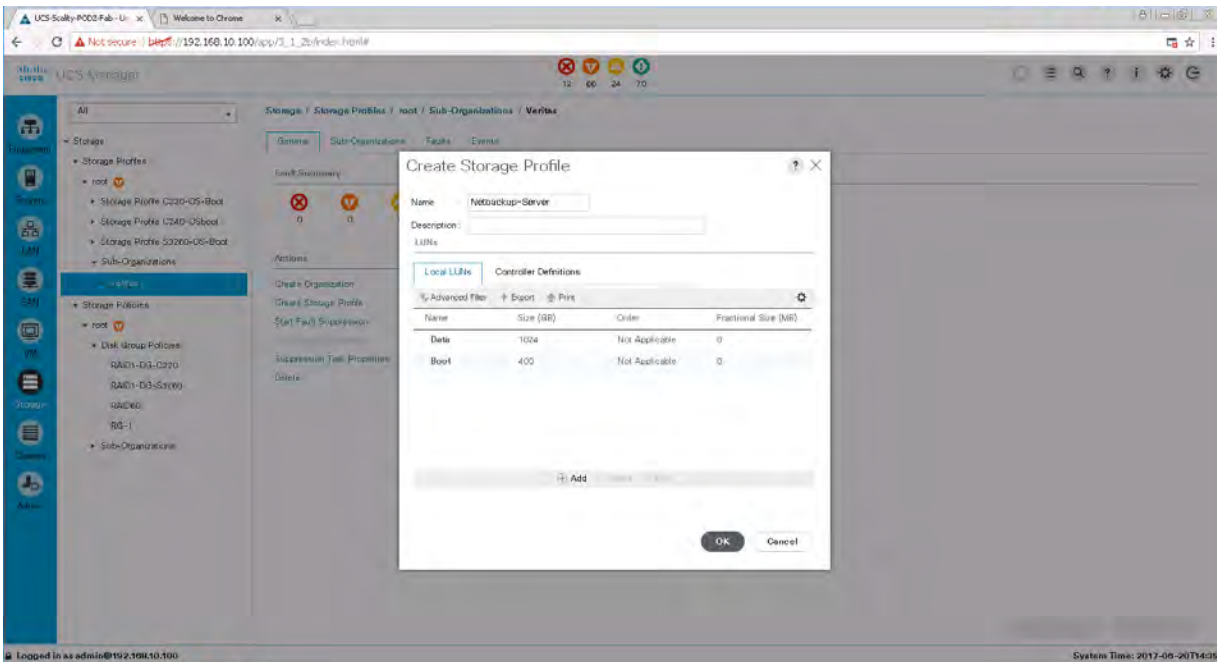


The logical unit numbers (LUNs) for the OS and the NetBackup disk-storage area are configured in Storage > Storage Profiles. For the OS, a LUN using all available space on the rear drives is used. You do not need to know the exact size; select Expand To Available, and the system will allocate the available space in the selected disk group.

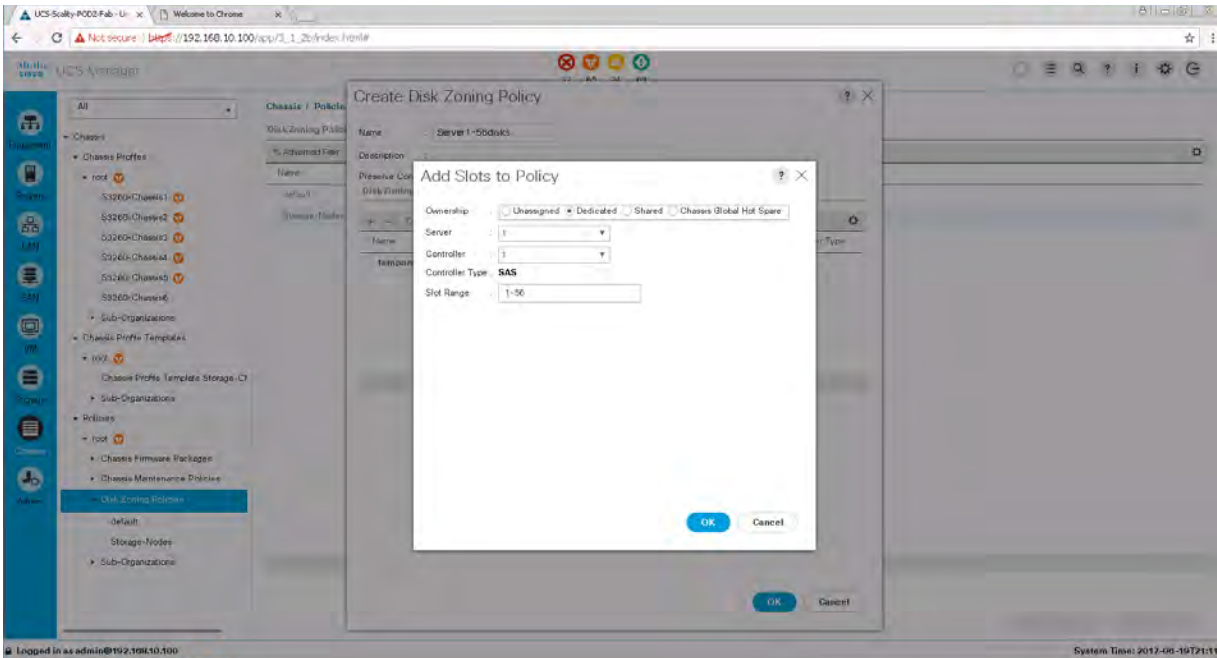


For the NetBackup storage unit, one LUN using all available space in the RAID 6 or 60 disk group is used.





A unique feature of the Cisco UCS S3260 is the option to manage the top-loaded drives in a highly flexible way. Choose Chassis > Policies > Disk Zoning Policy. Here, all available disks are zoned for Server 1 in dedicated mode.



A service profile with the created storage profile, at least one virtual network interface card (vNIC) in the backup network, and a boot policy for the local drive is required for the NetBackup server.

The screenshot shows the UCS Manager interface for configuring a Chassis Profile named 'Veritas'. The left sidebar shows a navigation tree with 'Veritas' selected under 'Chassis Profiles'. The main content area is titled 'Chassis / Chassis Profiles / root / Chassis Profile Veritas'. It includes tabs for 'General', 'Policies', 'Chassis', 'FSM', 'Faults', and 'Events'. The 'Policies' tab is active, showing sections for 'Chassis Firmware Package' (set to 'Select (Default policy used by default)'), 'Disk Zoning Policy', and 'Actions'. A table lists disk zoning policies:

Name	Slot Number	Ownership
disk-slot-10	10	Dedicated
disk-slot-11	11	Dedicated
disk-slot-12	12	Dedicated
disk-slot-15	15	Dedicated

The screenshot shows the UCS Manager interface for configuring a Service Profile named 'NBU-Max'. The left sidebar shows 'NBU-Max' selected under 'Service Profiles'. The main content area is titled 'Services / Service Profiles / root / Sub-Organizations / Veritas / Service Profile NBU-Max...'. It includes tabs for 'General', 'Storage', 'Network', 'OS/BIOS', 'Boot Order', 'Virtual Machines', 'FC Zones', 'Options', 'Server Details', 'CMC Sensors', 'FSM', 'VF Ports', 'Faults', 'Events', and 'Media Policy'. The 'Storage' tab is active, showing 'Storage Profile Policies' and a table of LUNs:

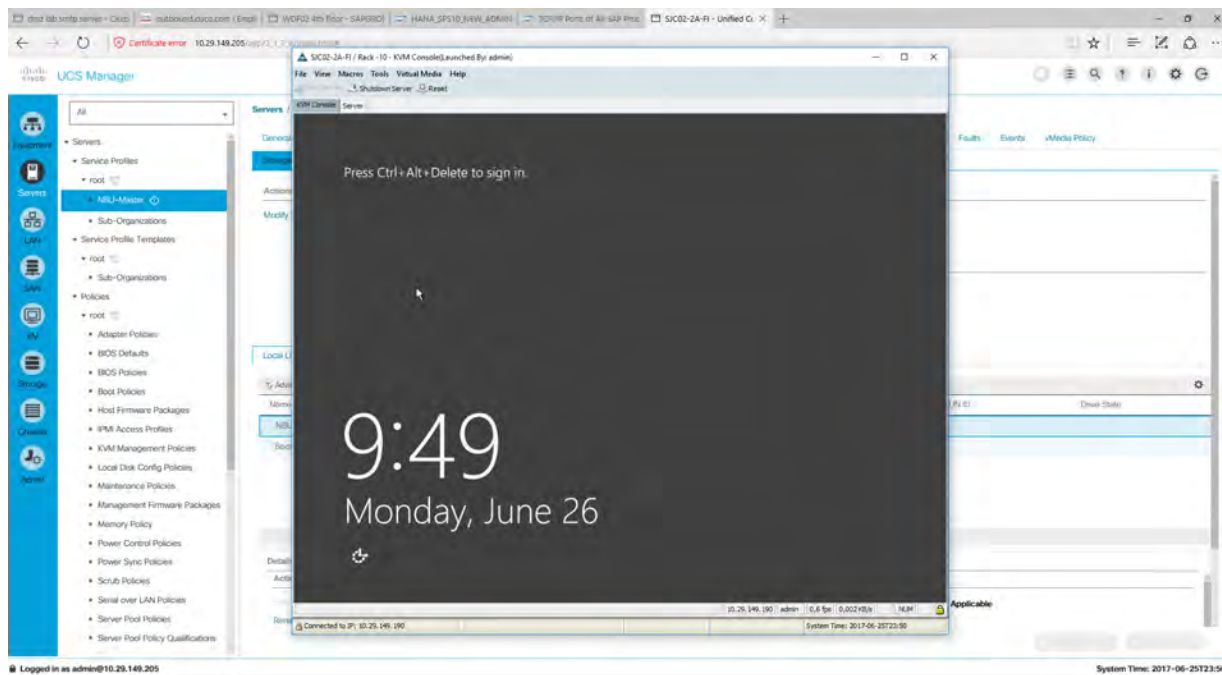
Name	RAD Level	Size (MB)	Config State	Display Name	LUN ID	Disk State
NBU-Data	RAD 60 Striped Dual Parity	305174070	Applied	NBU-Data-1	100	Offline

Below the table, the 'Details' section shows 'LUN Details' for the 'NBU-Data' profile:

Profile LUN Name	Order	Not Applicable
NBU-Data	1	Not Applicable

Additional details include: RAD Level: RAD 60 Striped Dual Parity And Striped; Config Size (KB): 305174070; Admin State: Online; Config State: Applied; Bootable: Disabled; Deployed LUN Details: LUN Name: NBU-Data-1, Referenced LUN Name: NBU-Data-1, LUN ID: 100.

Finally, the operating system of choice is installed with basic settings. The setup described in this document uses Microsoft Windows Server 2012 R2 and Red Hat Enterprise Linux (RHEL) 7.3.



Veritas NetBackup installation on Linux

This section describes the installation process on Linux.

Veritas NetBackup master server installation

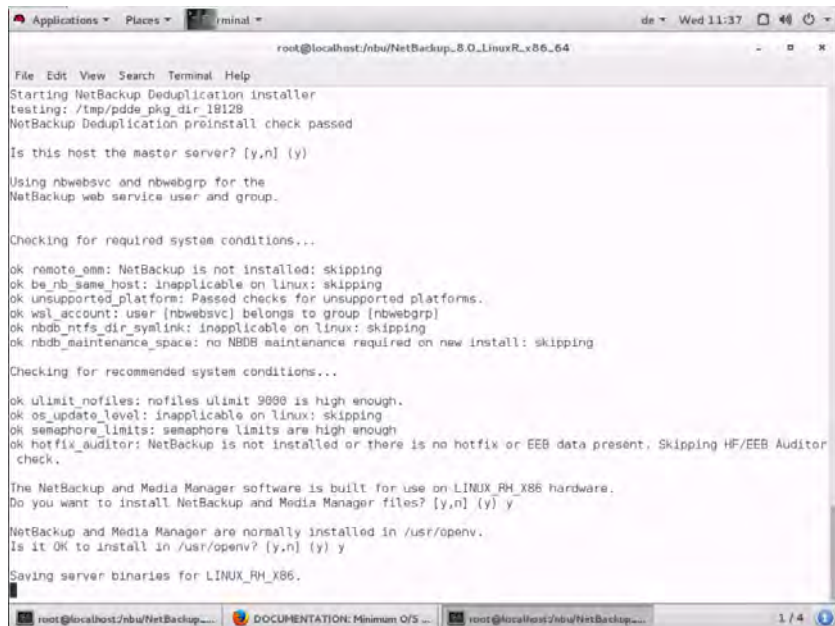
NetBackup services require a Linux group and user to exist before the software installation starts. Both can be created in a command shell with the following commands:

```
# groupadd nbwebgrp
# useradd -g nbwebgrp nbwebsvc
```

This installation uses one partition in the RAID 6 LUN and XFS as the file system mounted under /nbu.

To install NetBackup on a Linux system, open the Netbackup_8.0_LinuxR_x86_64 DVD or directory and start ./install. Follow the instructions on the screen.

This installation is for a combined master server and media server. Therefore, you need to answer the question about installing the media manager files with y (for yes).



```
root@localhost:nbu/NetBackup_8.0_LinuxR_x86_64
File Edit View Search Terminal Help
Starting NetBackup Deduplication installer
testing: /tmp/pdde_pkg_dir_18128
NetBackup Deduplication preinstall check passed

Is this host the master server? [y,n] (y)

Using nbwebsvc and nbwebgrp for the
NetBackup web service user and group.

Checking for required system conditions...
ok remote_omn: NetBackup is not installed: skipping
ok be_nb_same_host: inapplicable on linux: skipping
ok unsupported_platforms: Passed checks for unsupported platforms.
ok wsl_account: user [nbwebsvc] belongs to group [nbwebgrp]
ok nbdb_nfs_dir_symlink: inapplicable on linux: skipping
ok nbdb_maintenance_space: no NBDB maintenance required on new install: skipping

Checking for recommended system conditions...
ok ulimit_nofiles: nofiles ulimit 9880 is high enough.
ok os_update_level: inapplicable on linux: skipping
ok semaphore_limits: semaphore limits are high enough
ok hotfix_auditor: NetBackup is not installed or there is no hotfix or EEB data present. Skipping HF/EEB Auditor
check.

The NetBackup and Media Manager software is built for use on LINUX RH_X86 hardware.
Do you want to install NetBackup and Media Manager files? [y,n] (y) y

NetBackup and Media Manager are normally installed in /usr/opensv.
Is it OK to install in /usr/opensv? [y,n] (y) y

Saving server binaries for LINUX_RH_X86.
```


Enter the license key to proceed with the installation.

```

root@localhost:~# netbackup --install
File Edit View Search Terminal Help
Checking for VRTSpddea package...
Package VRTSpddea found.

NetBackup Deduplication software is installed.

NetBackup Deduplication is not yet configured.
Checking for SYMCPddea package...
Checking for VRTSpddea package...
Checking for SYMCPddea package...
Installing NetBackup Deduplication server package (/usr/opensv/pddeserver.tar.gz)...
Extracting package VRTSpddea in /tmp/pdde_pkg_dir_19711.
Package VRTSpddea extracted to /tmp/pdde_pkg_dir_19711.
Installing package VRTSpddea.
Package VRTSpddea installed.
Running NetBackup Deduplication upgrade script (server mode)...
NetBackup Deduplication install finished successfully.
Version now installed: 10.0000.0016.1025
Full NetBackup Deduplication installation log saved to: /var/log/pureDisk/2017-06-21_11:38-pdde-install.log

Installing VRTSnbcfg.rpm ...
Installation of VRTSnbcfg.rpm was successful; Check /tmp/install_VRTSnbcfg.rpm_trace.18693 for details.

Done executing NB.inst.

If you ran NB.inst instead of <cdrom_path>/install, you must
run /usr/opensv/netbackup/bin/install_bp to initiate NetBackup.
Running /usr/opensv/netbackup/bin/install_bp

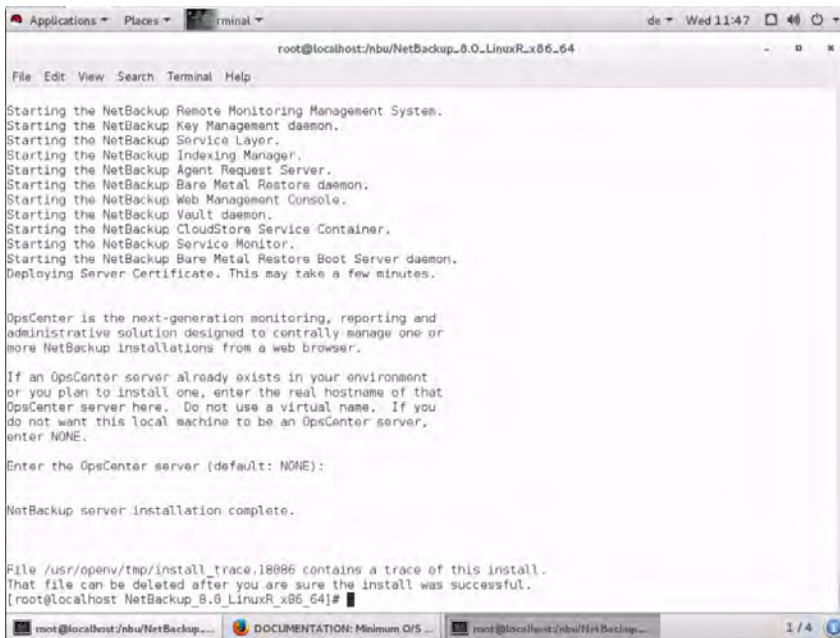
A NetBackup Server or Enterprise Server license key is needed
for installation to continue.

Enter license key: KJNW-PBCN-WKA3-MZ63-6CPC-IR4K-S0YK-Y7FF-YU6P-P
Evaluation NetBackup Enterprise Server with Jul 31, 2017 expiration date will be registered.
Is this OK? [y,n] (y)
    
```

```

root@localhost:~# netbackup --install
File Edit View Search Terminal Help
Bare Metal Restore
Encryption
Open File Backup
Remote Client Support
Robotic Library Sharing Support
Remote Media Server Support
Microsoft RSM Robotic Libraries
ADIC DAG/SOLC Robotic Libraries
IBM ATL Robotic Libraries
Fujitsu LMF Robotic Libraries
StorageTek ACS Robotic Libraries
Snapshot Client
MS SharePoint Agent
Inline Tape Copy
Vault
Library Based Tape Drives
DataStore
Encryption (Legacy DES 56-bit)
Encryption (Legacy DES 40-bit)
SAP extension
Sybase extension
Informix extension
Oracle extension
Lotus Notes extension
DB2 extension
MS SQL Server extension
MS Exchange extension
Shared Storage Option
NDMP
Additional clients
has been registered.

All additional keys should be added at this time.
Do you want to add additional license keys now? [y,n] (y)
    
```



```
root@localhost:/nbu/NetBackup_8.0.LinuxR_x86_64
File Edit View Search Terminal Help

Starting the NetBackup Remote Monitoring Management System.
Starting the NetBackup Key Management daemon.
Starting the NetBackup Service Layer.
Starting the NetBackup Indexing Manager.
Starting the NetBackup Agent Request Server.
Starting the NetBackup Bare Metal Restore daemon.
Starting the NetBackup Web Management Console.
Starting the NetBackup Vault daemon.
Starting the NetBackup CloudStore Service Container.
Starting the NetBackup Service Monitor.
Starting the NetBackup Bare Metal Restores Boot Server daemon.
Deploying Server Certificate. This may take a few minutes.

OpsCenter is the next-generation monitoring, reporting and
administrative solution designed to centrally manage one or
more NetBackup installations from a web browser.

If an OpsCenter server already exists in your environment
or you plan to install one, enter the real hostname of that
OpsCenter server here. Do not use a virtual name. If you
do not want this local machine to be an OpsCenter server,
enter NONE.

Enter the OpsCenter server (default: NONE):

NetBackup server installation complete.

File /usr/openv/tmp/install_trace.18086 contains a trace of this install.
That file can be deleted after you are sure the install was successful.
[root@localhost NetBackup_8.0.LinuxR_x86_64]#
```

The installation of NetBackup is now complete.

Veritas NetBackup media server installation

To also install a NetBackup media server, the installation process differs in some steps. The process for installing a NetBackup media server on RHEL is described here.

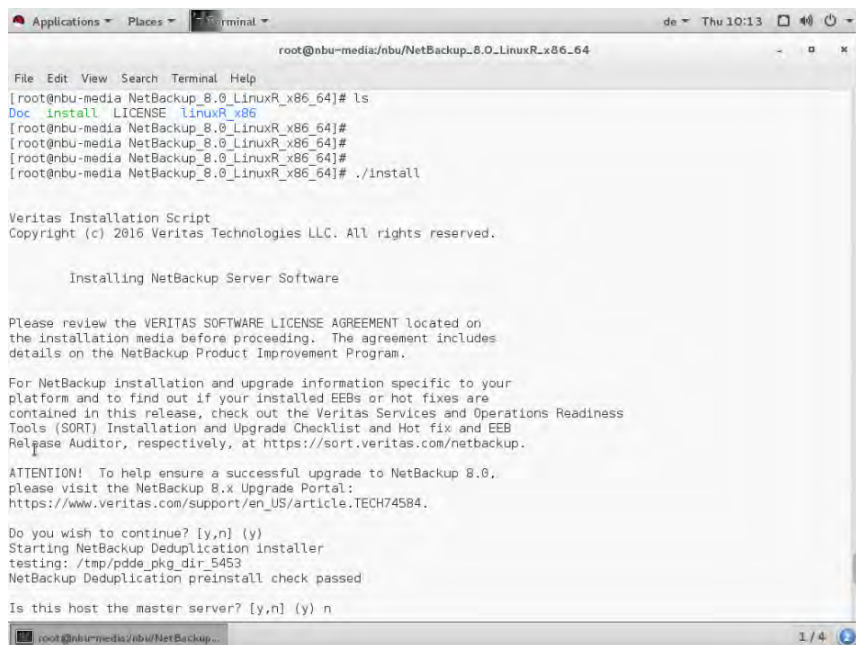
The NetBackup services require a Linux group and user to exist before the software installation starts. Both can be created in a command shell with the following commands:

```
# groupadd nbwebgrp
# useradd -g nbwebgrp nbwebsvc
```

This installation uses one partition in the RAID 6 LUN and XFS as the file system mounted under /nbu.

To install NetBackup on a Linux system, open the Netbackup_8.0_LinuxR_x86_64 DVD or directory and start ./install. Follow the instructions on the screen.

This installation is for a media server only. Therefore, you need to answer the question about the master server with n (for no) and the question about installing the media manager files with y (for yes).



```
Applications ▾ Places ▾ Terminal ▾ de ▾ Thu 10:13 ▾
root@nbu-media:/nbu/NetBackup_8.0_LinuxR_x86_64

File Edit View Search Terminal Help
[root@nbu-media NetBackup_8.0_LinuxR_x86_64]# ls
Doc install LICENSE linuxR_x86
[root@nbu-media NetBackup_8.0_LinuxR_x86_64]#
[root@nbu-media NetBackup_8.0_LinuxR_x86_64]#
[root@nbu-media NetBackup_8.0_LinuxR_x86_64]#
[root@nbu-media NetBackup_8.0_LinuxR_x86_64]# ./install

Veritas Installation Script
Copyright (c) 2016 Veritas Technologies LLC. All rights reserved.

Installing NetBackup Server Software

Please review the VERITAS SOFTWARE LICENSE AGREEMENT located on
the installation media before proceeding. The agreement includes
details on the NetBackup Product Improvement Program.

For NetBackup installation and upgrade information specific to your
platform and to find out if your installed EEBs or hot fixes are
contained in this release, check out the Veritas Services and Operations Readiness
Tools (SORT) Installation and Upgrade Checklist and Hot fix and EEB
Release Auditor, respectively, at https://sort.veritas.com/netbackup.

ATTENTION! To help ensure a successful upgrade to NetBackup 8.0,
please visit the NetBackup 8.x Upgrade Portal:
https://www.veritas.com/support/en_US/article.TECH74584.

Do you wish to continue? [y,n] (y)
Starting NetBackup Deduplication installer
testing: /tmp/pdde_pkg_dir_5453
NetBackup Deduplication preinstall check passed

Is this host the master server? [y,n] (y) n
```

```

Applications  Places  Terminal
root@nbu-media/nbu/NetBackup_8.0-LinuxR_x86_64

File Edit View Search Terminal Help

ok remote_emm: NetBackup is not installed: skipping
ok be_nb_same_host: inapplicable on linux: skipping
ok unsupported_platform: Passed checks for unsupported platforms.
ok wsl_account: Inapplicable for non - Master Server: skipping
ok nbdb_ntfs_dir_symlink: inapplicable on linux: skipping
ok nbdb_maintenance_space: no NBDB maintenance required on new install: skipping

Checking for recommended system conditions...

not ok ulimit_nofiles: nofiles ulimit 1024 is too low.
NetBackup Master and Media Server processes may run slower if they are
limited to fewer than 8000 open file descriptors. This test runs
"ulimit -n" and checks that the result is at least 8000 on NetBackup
servers. See
https://www.veritas.com/support/en_US/article.TECH75332
for more information.
ok os_update_level: inapplicable on linux: skipping
not ok semaphore_limits: too low:
Performance of NetBackup Master and Media Servers can be affected
adversely if the system is configured with low semaphore limits. This
test checks whether the current semaphore limits are set as
recommended. See https://www.veritas.com/support/en_US/article.TECH203066 for
details.

The current SEMMNI setting is 128; at least 1024 is recommended.
The current SEMMSL setting is 250; at least 300 is recommended.
The current SEMMNS setting is 32000; at least 307200 is recommended.
ok hotfix_auditor: NetBackup is not installed or there is no hotfix or EEB data present. Skipping HF/EEB Auditor
check.

WARNING: One or more non-critical preinstall checks have failed.

The NetBackup and Media Manager software is built for use on LINUX_RH_X86 hardware.
Do you want to install NetBackup and Media Manager files? [y,n] (y)

```

Enter the license key to proceed with the installation.

```

Applications  Places  Terminal
root@nbu-media/nbu/NetBackup_8.0-LinuxR_x86_64

File Edit View Search Terminal Help

testing: /tmp/pdde_pkg_dir_7044
Checking for SYMCpddea package...
Checking for VRTSpddea package...
Package VRTSpddea found.

NetBackup Deduplication software is installed.

NetBackup Deduplication is not yet configured.
Checking for SYMCpddea package...
Checking for VRTSpddea package...
Checking for SYMCpddea package...
Installing NetBackup Deduplication server package (/usr/opensv/pddeserver.tar.gz)...
Extracting package VRTSpddea in /tmp/pdde_pkg_dir_7044.
Package VRTSpddea extracted to /tmp/pdde_pkg_dir_7044.
Installing package VRTSpddea.
Package VRTSpddea installed.
Running NetBackup Deduplication upgrade script (server mode)...
NetBackup Deduplication install finished successfully.
Version now installed: 10.0000.0016.1025
Full NetBackup Deduplication installation log saved to: /var/log/puredisk/2017-06-29_10:17-pdde-install.log

Installing VRTSnbcfg.rpm ...
Installation of VRTSnbcfg.rpm was successful. Check /tmp/install_VRTSnbcfg.rpm_trace.0018 for details.

Done executing NB.inst.

If you ran NB.inst instead of <cdrom_path>/install, you must
run /usr/opensv/netbackup/bin/install_bp to initiate NetBackup.
Running /usr/opensv/netbackup/bin/install_bp

A NetBackup Server or Enterprise Server license key is needed
for installation to continue.

Enter license key:

```

Confirm the server name for this media server and enter the host name for the NetBackup master server.

```
Applications ▾ Places ▾ Terminal ▾ de Thu 10:20
root@nbu-media/nbu/NetBackup_8.0-LinuxR_x86_64
File Edit View Search Terminal Help
Oracle extension
Lotus Notes extension
DB2 extension
MS SQL Server extension
MS Exchange extension
Shared Storage Option
NDMP
Additional clients
has been registered.

All additional keys should be added at this time.
Do you want to add additional license keys now? [y,n] (y) n

Use /usr/opensv/netbackup/bin/admincmd/get_license_key
to add, delete or list license keys at a later time.

Installing NetBackup Enterprise Server version: 8.0

If this machine will be using a different network interface than the
default (nbu-media), the name of the preferred interface should be used
as the configured server name. If this machine will be part of a
cluster, the virtual name should be used as the configured server name.

The domainname of this machine appears to be "wdf02-4-dmz.local".
You may choose to use this domainname in your configured NetBackup server
name, or simply use "nbu-media" as the configured NetBackup server name.

Would you like to use "nbu-media.wdf02-4-dmz.local" as the configured
NetBackup server name of this machine? [y,n] (y)

What is the fully qualified name of the master server? nbu-master.wdf02-4-dmz.local
```

```
Applications ▾ Places ▾ Terminal ▾ de Thu 10:21
root@nbu-media/nbu/NetBackup_8.0-LinuxR_x86_64
File Edit View Search Terminal Help
Successfully updated the session cache parameters.
Starting the NetBackup Authentication daemon.
Starting the NetBackup network daemon.
Starting the NetBackup client daemon.
Starting the NetBackup SAN Client Fibre Transport daemon.
Starting the NetBackup Discovery Framework.
Creating /usr/opensv/tmp/sqlany
Installed SQL Anywhere Version 16.0.0.2322
Installation completed successfully

This is not a EMM and Master server, exiting

Starting the NetBackup Event Manager.

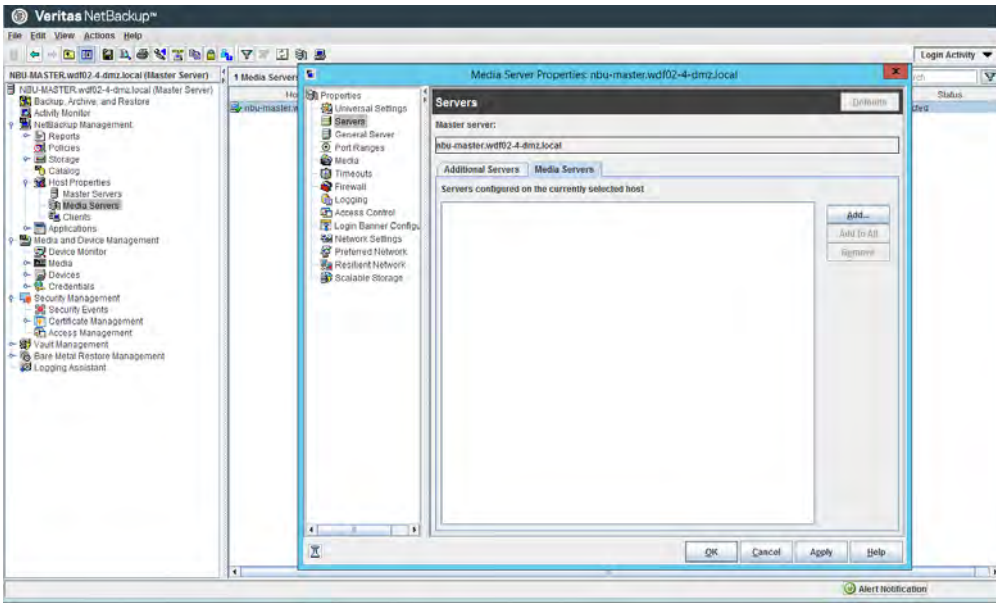
Starting the NetBackup Deduplication Manager.
Starting the NetBackup Deduplication Engine.
Starting the NetBackup compatibility daemon.
Starting the Media Manager device daemon processes.

Starting the NetBackup Remote Monitoring Management System.
Starting the NetBackup Key Management daemon.
Starting the NetBackup Service Layer.
Starting the NetBackup CloudStore Service Container.
Starting the NetBackup Service Monitor.
Starting the NetBackup Bare Metal Restore Boot Server daemon.

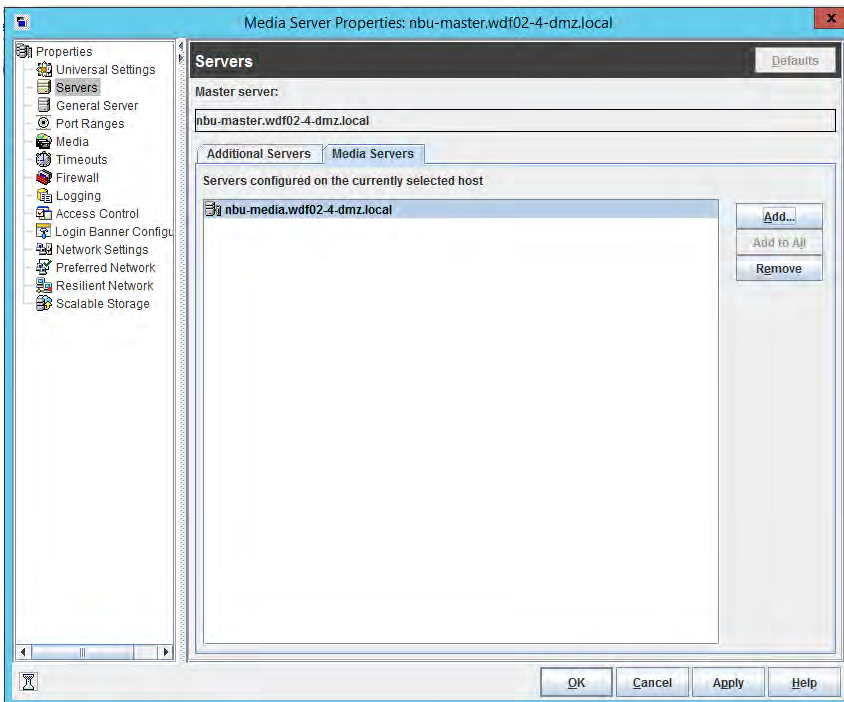
NetBackup server installation complete.

File /usr/opensv/tmp/install_trace_5411 contains a trace of this install.
That file can be deleted after you are sure the install was successful.
[root@nbu-media NetBackup_8.0-LinuxR_x86_64]#
```

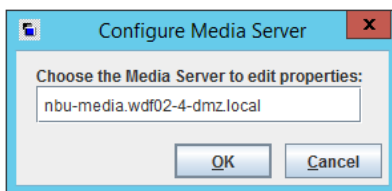
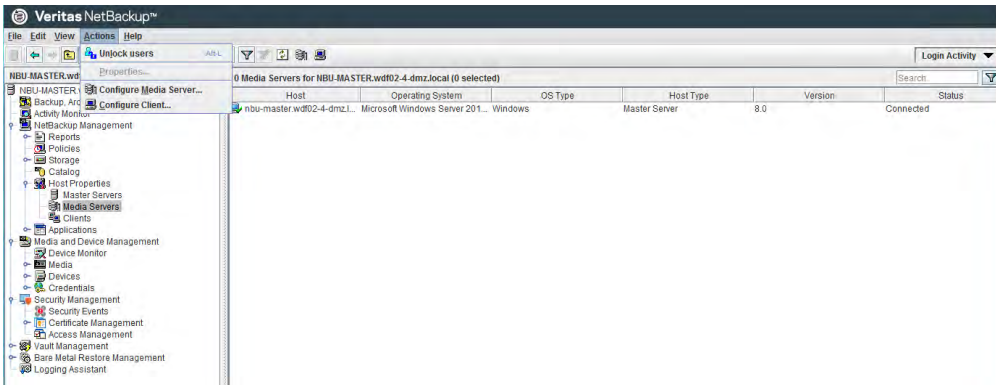
After the installation of the NetBackup media server software is complete, open the NetBackup Administration Console. Open the Properties pane for the NetBackup master server, choose Servers > Media Servers, and click Add.



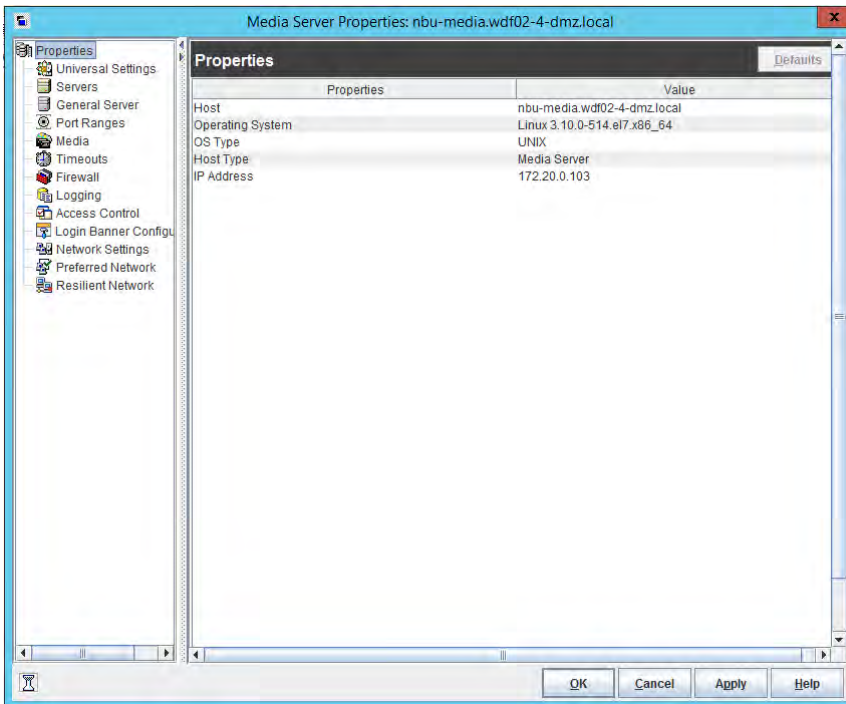
Enter the name of the new NetBackup media server and click OK.

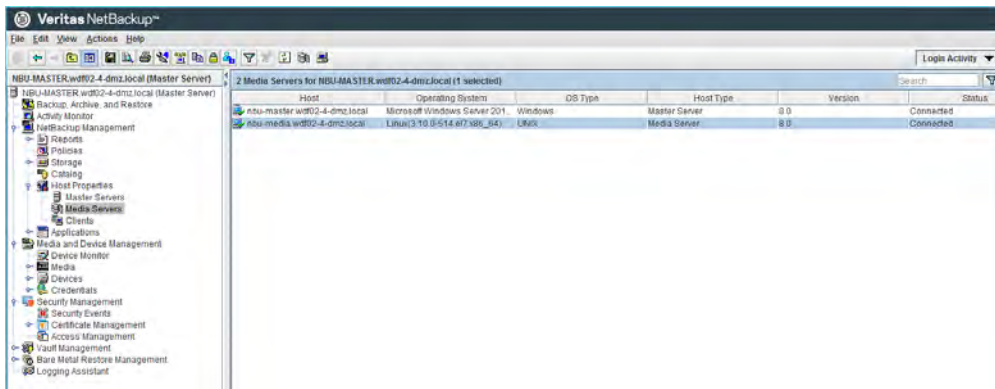


In the main window, open the Actions menu and click Configure Media Server. Enter the media server name and click OK.



Configure the media server properties as required and click OK.





The storage units on the media server are configured in the same way as on the master server.

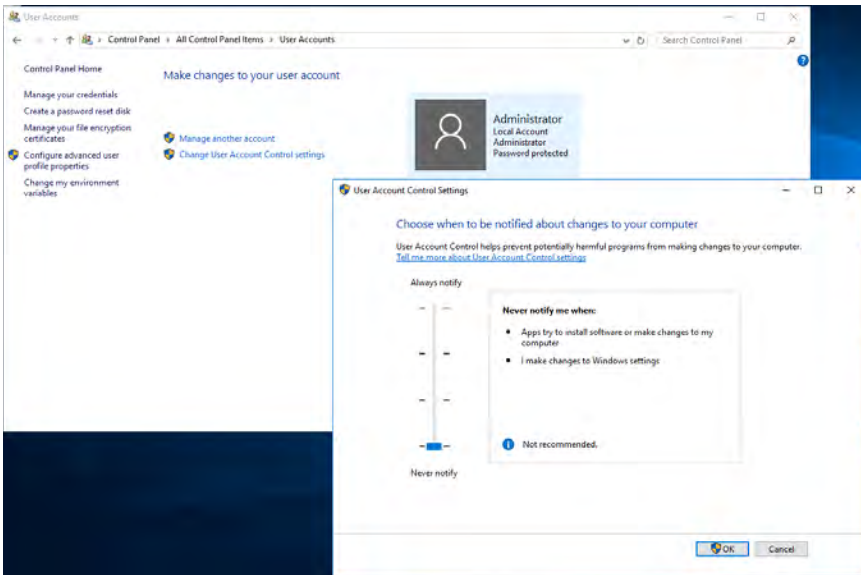
Veritas NetBackup installation on Microsoft Windows Server

This section describes the installation process on Microsoft Windows Server.

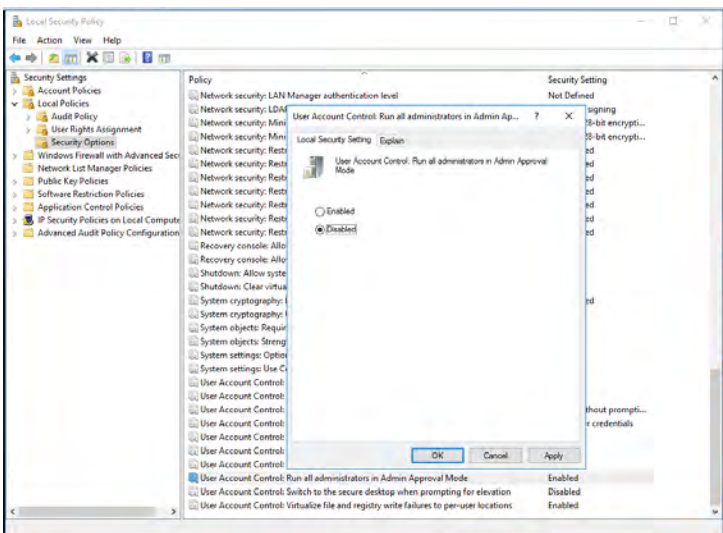
Veritas NetBackup master server installation

For NetBackup, the user account control settings should be disabled. Detailed documentation is available from Microsoft, but the basic process involves two steps.

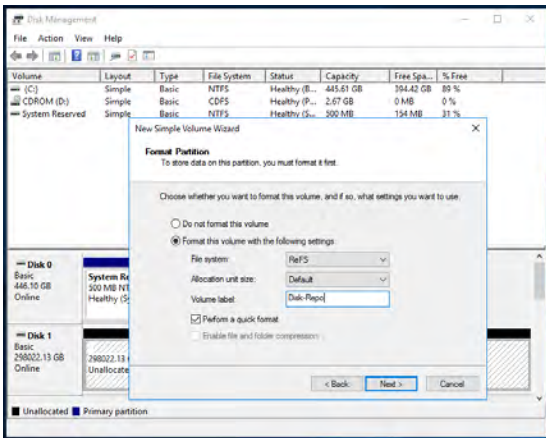
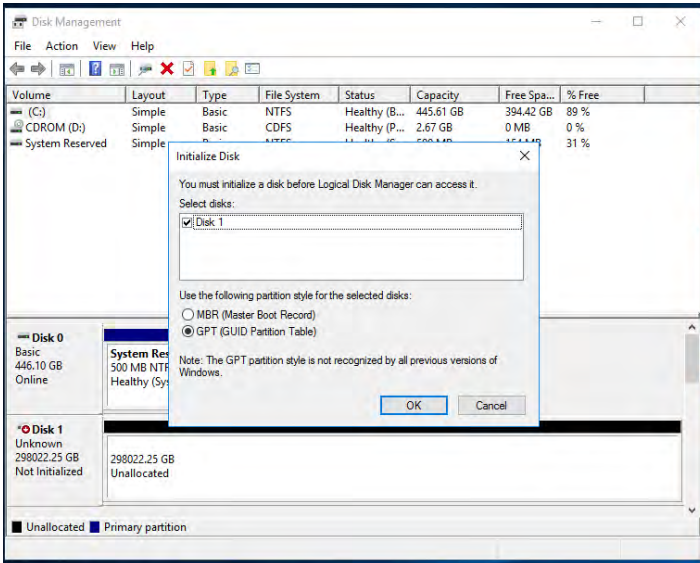
The first step is in the control center.



The second step is in the Local Security Policy console.



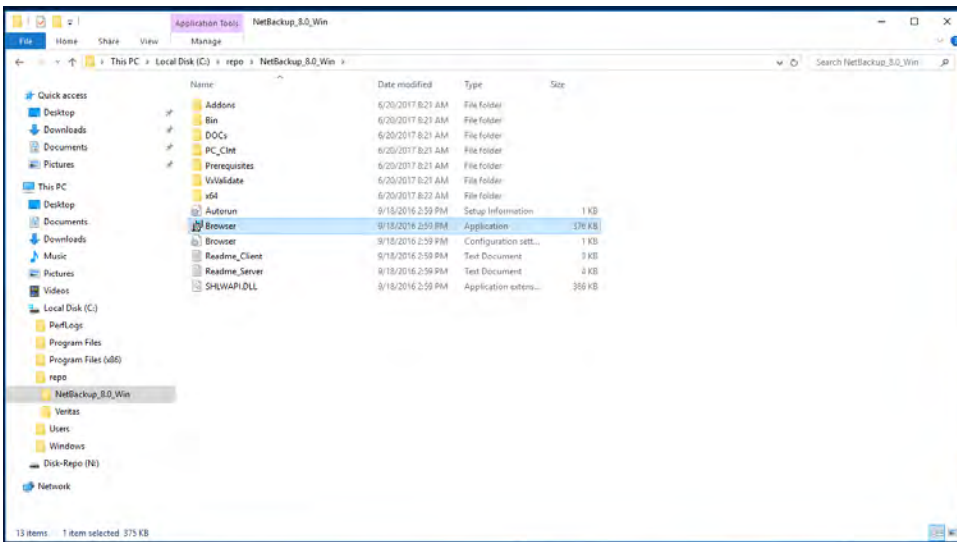
Next initialize the LUN for the NetBackup storage unit in the Disk Management console. The system described here uses the globally unique ID (GUID) partition table and the Microsoft Resilient File System (ReFS).



The NetBackup services require Windows group nbwebgrp and user nbwebsvc to exist before the software installation starts. The users can be local users created in the Computer Management console or domain users. The installation discussed here uses the local group and users.

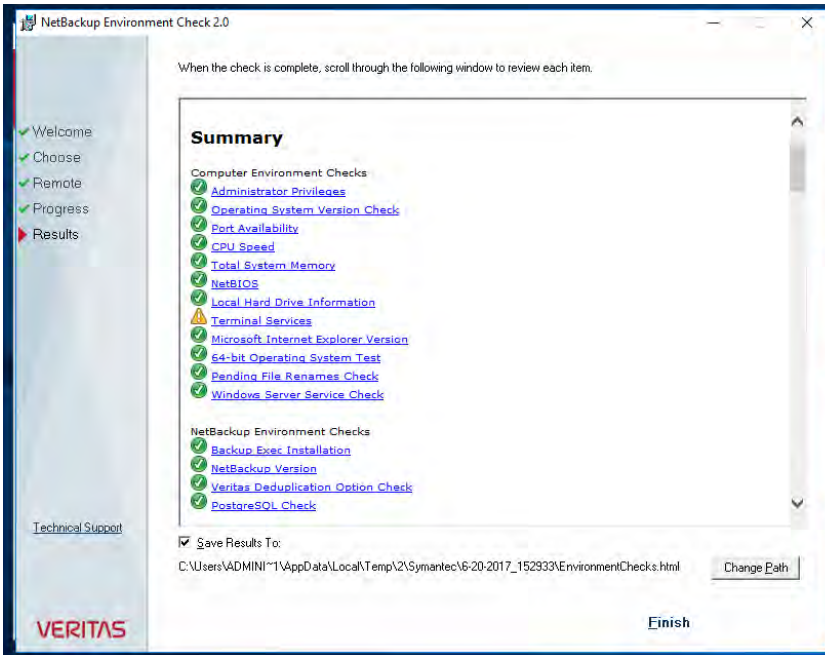
The NetBackup installation process is documented in the Veritas NetBackup80_GettingStarted_Guide. The high-level steps for this installation are presented here.

On the NetBackup_8_0_Windows DVD or directory, start Brower.exe.

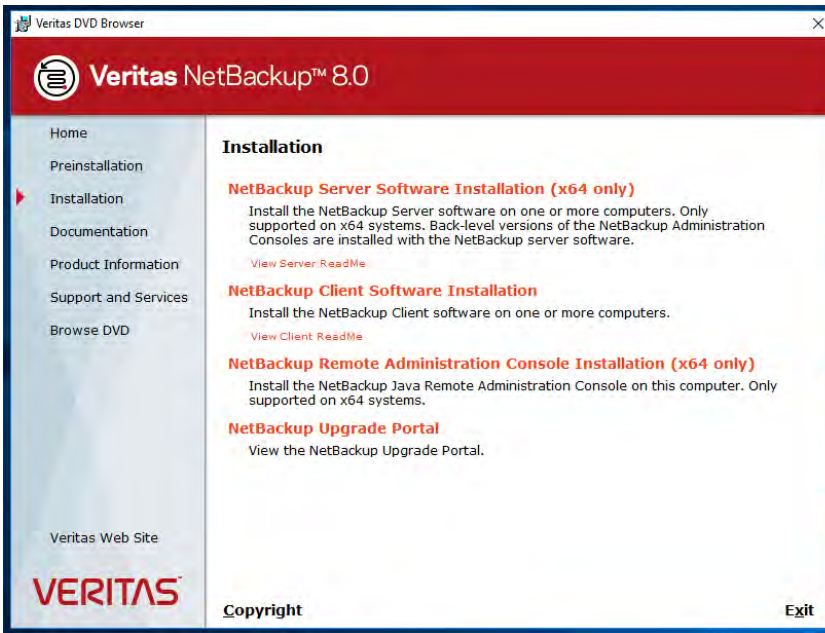


Run the Preinstallation Environment Checker.

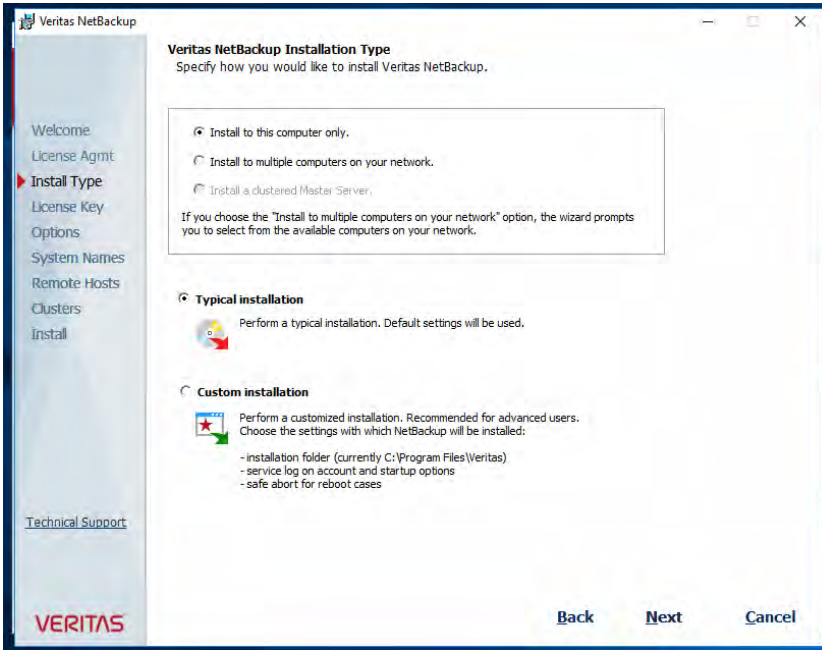




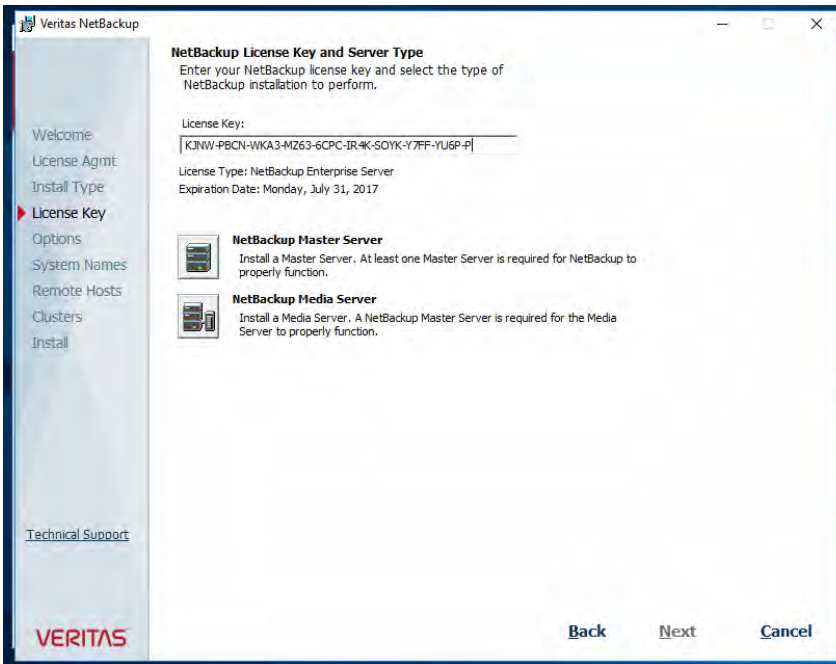
Start the NetBackup server software installation.



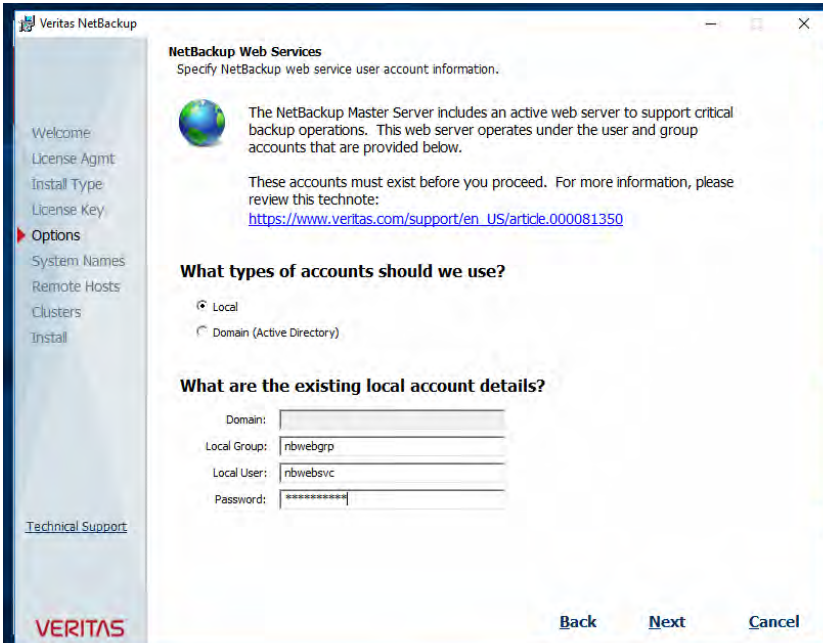
Select “Install to this computer only” and “Typical installation.” Click Next.



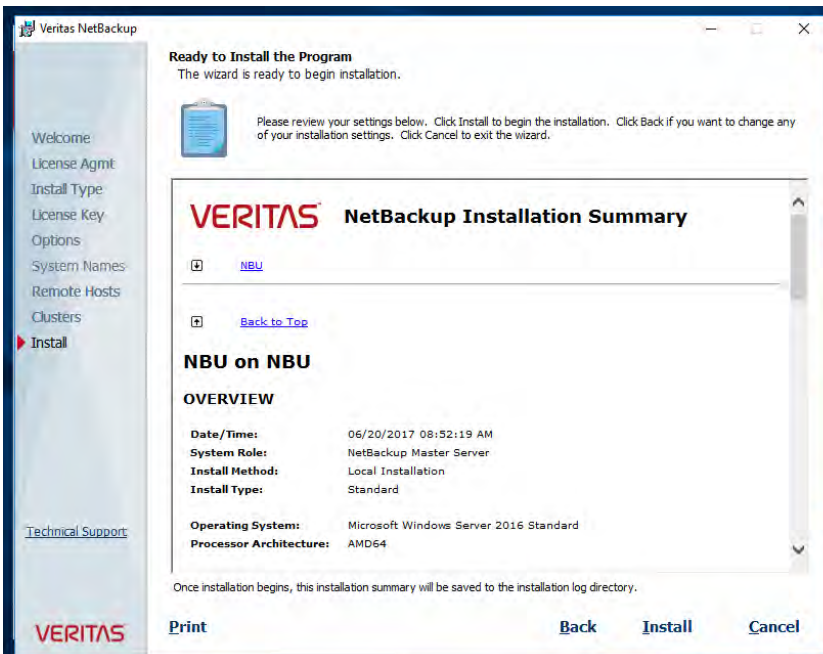
Enter the license key and click NetBackup Master Server.

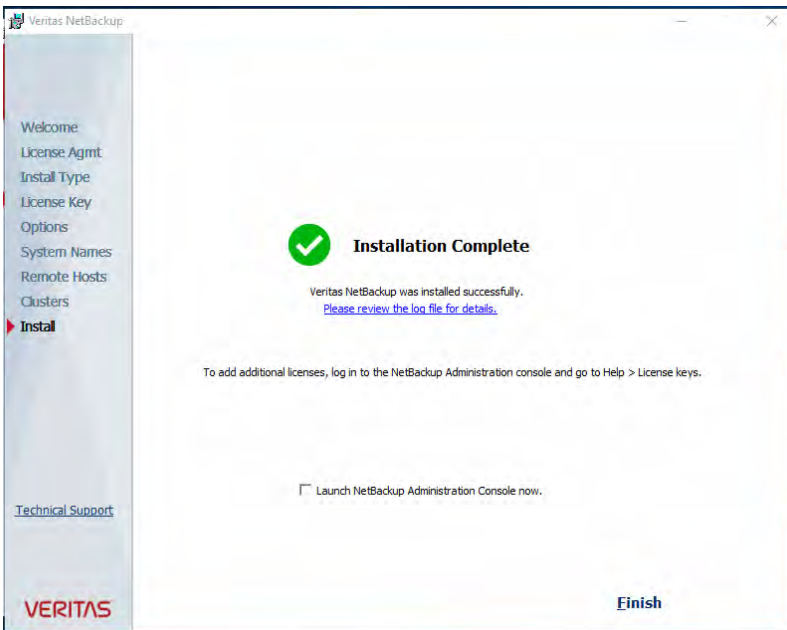


Enter the password specified earlier for the nbwebsvc user.



Click Install to start the software installation.





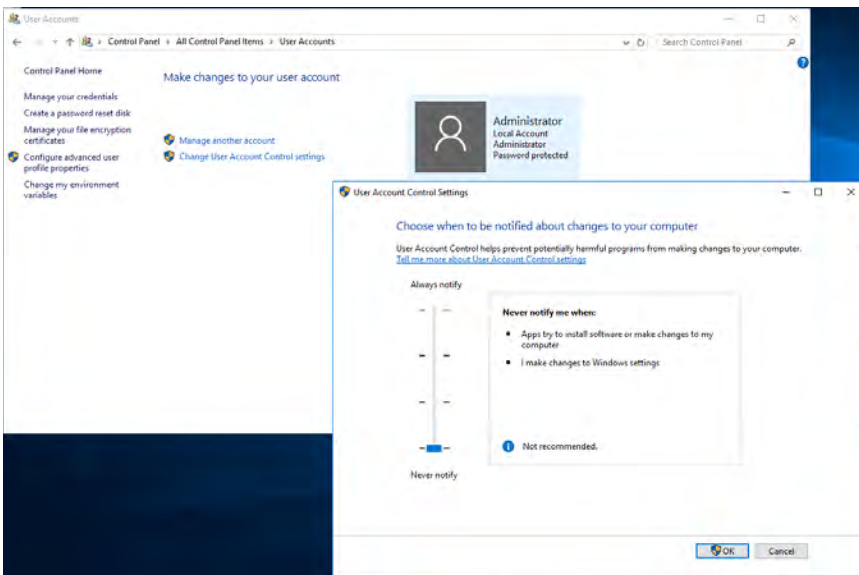
The NetBackup master server installation on the Cisco UCS S3260 Storage Server is now finished. The next step is to define a storage unit on the NetBackup master server or to install a NetBackup media server.

Veritas NetBackup media server installation

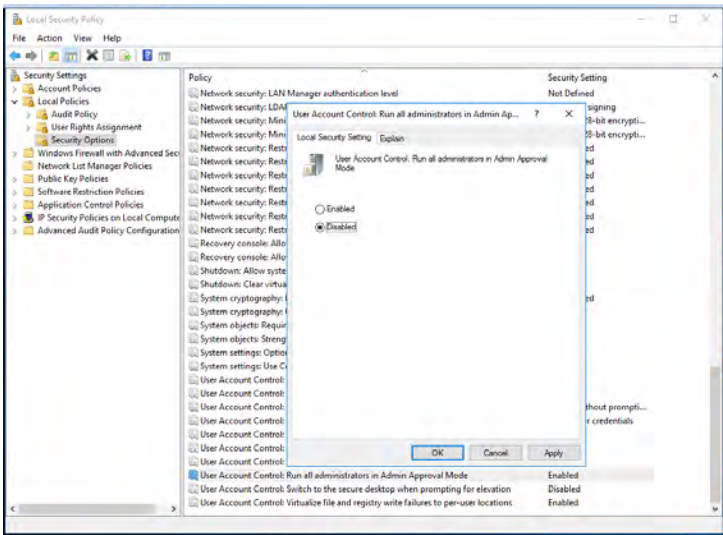
Here are the steps for installing a NetBackup media server on Microsoft Windows Server.

For NetBackup, the user account control settings should be disabled. Detailed documentation is available from Microsoft, but the basic process involves two steps.

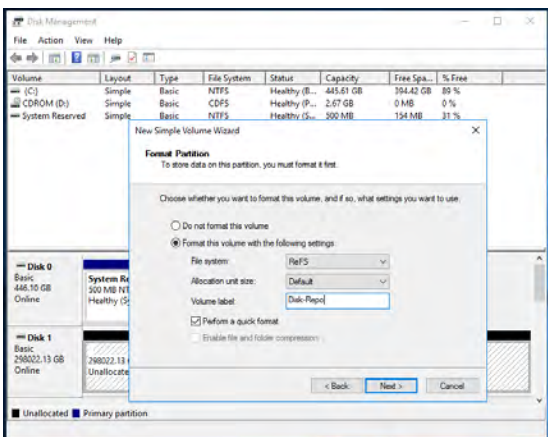
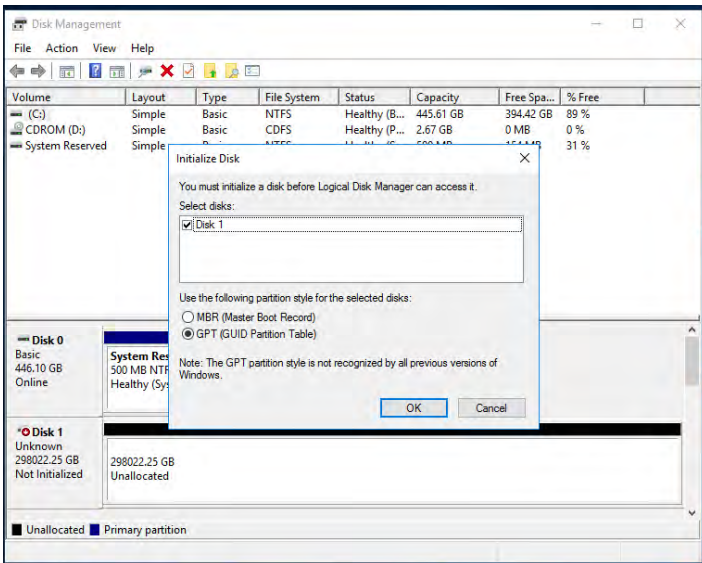
The first step is in the control center.



The second step is in the Local Security Policy console.

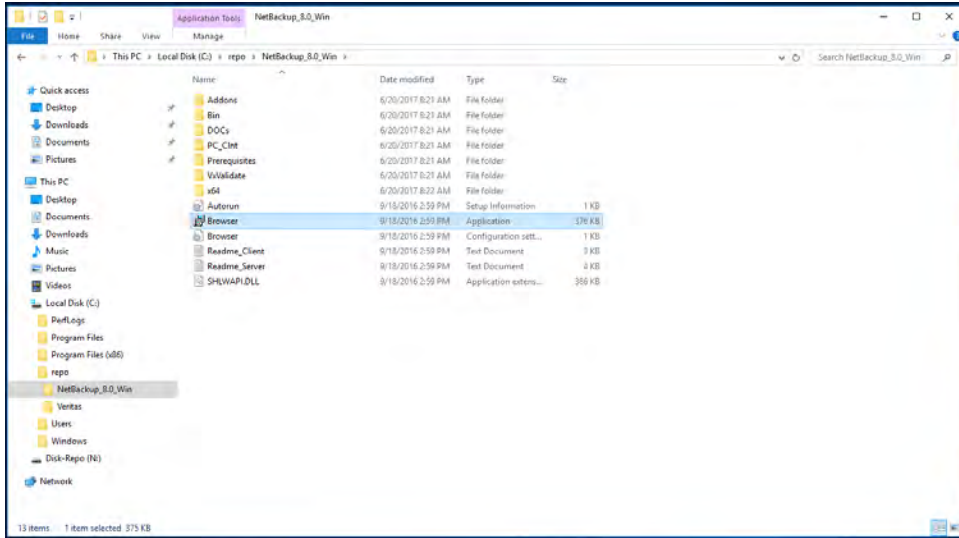


Next initialize the LUN for the NetBackup storage unit in the Disk Management console. The recommended approach is to use the GUID partition table and ReFS.

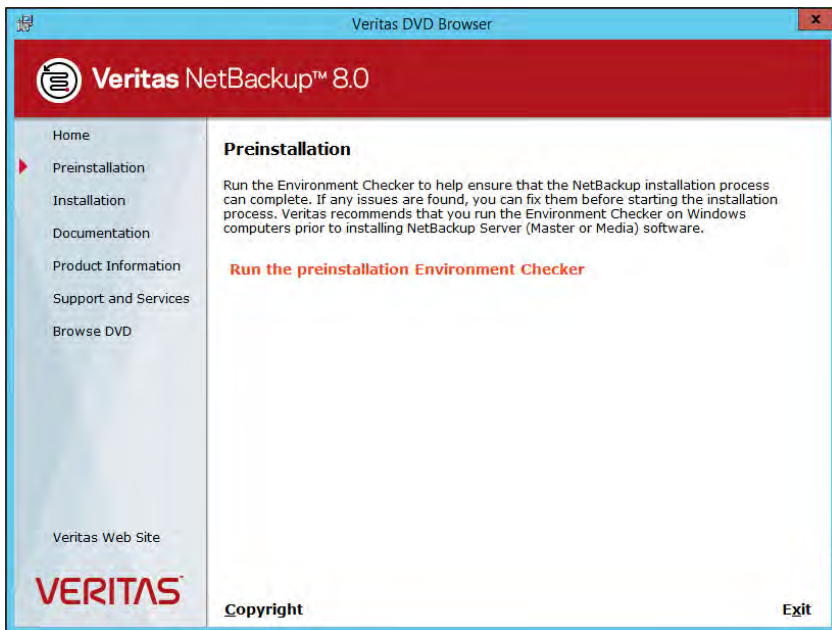


The NetBackup installation process is documented in the Veritas NetBackup80_GettingStarted_Guide. The high-level steps for this installation are presented here.

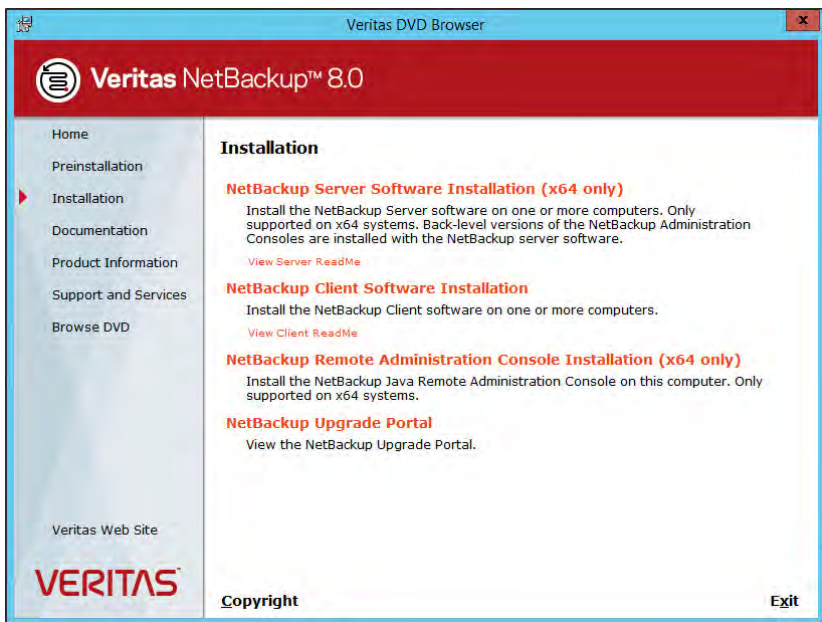
On the NetBackup_8_0_Windows DVD or directory, start Brower.exe.



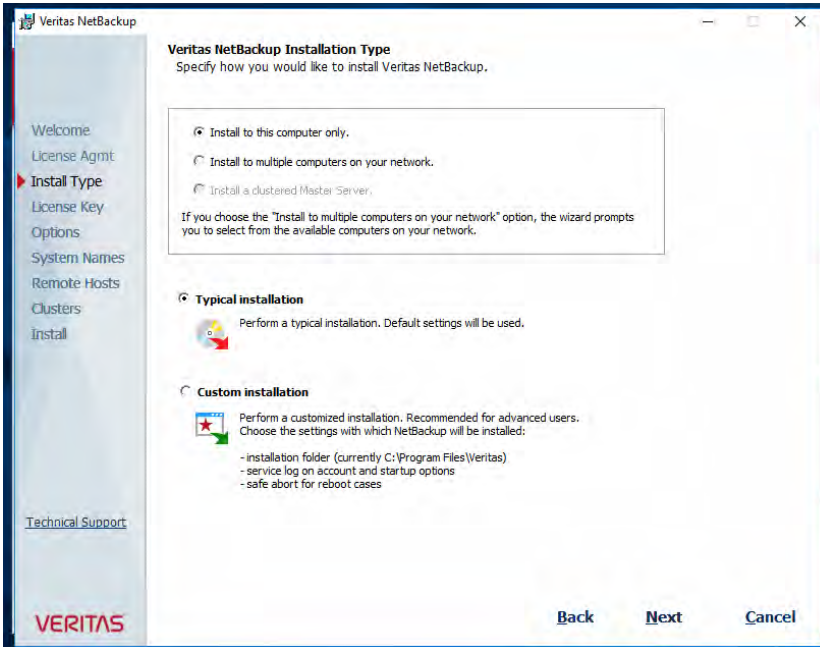
Run the Preinstallation Environment Checker.



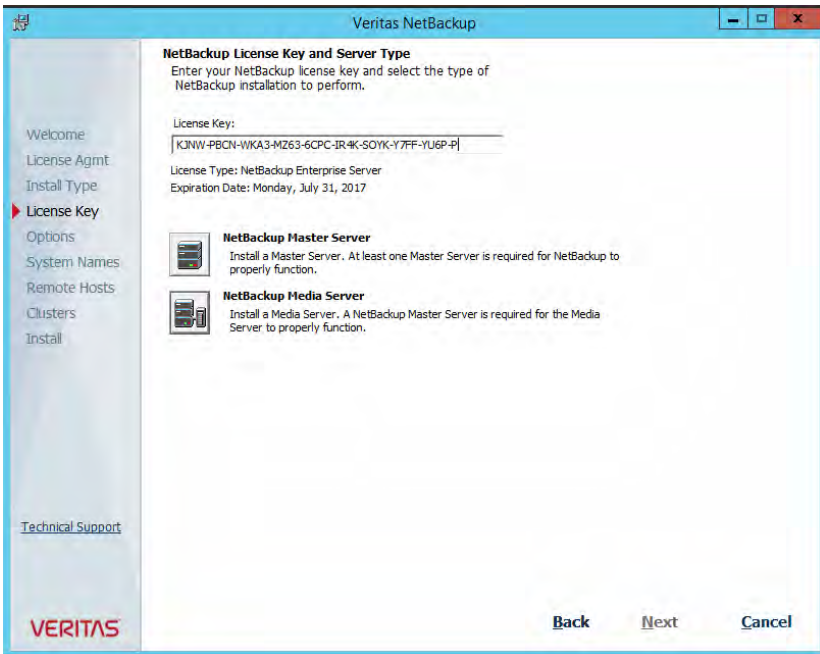
Start the NetBackup server software installation.



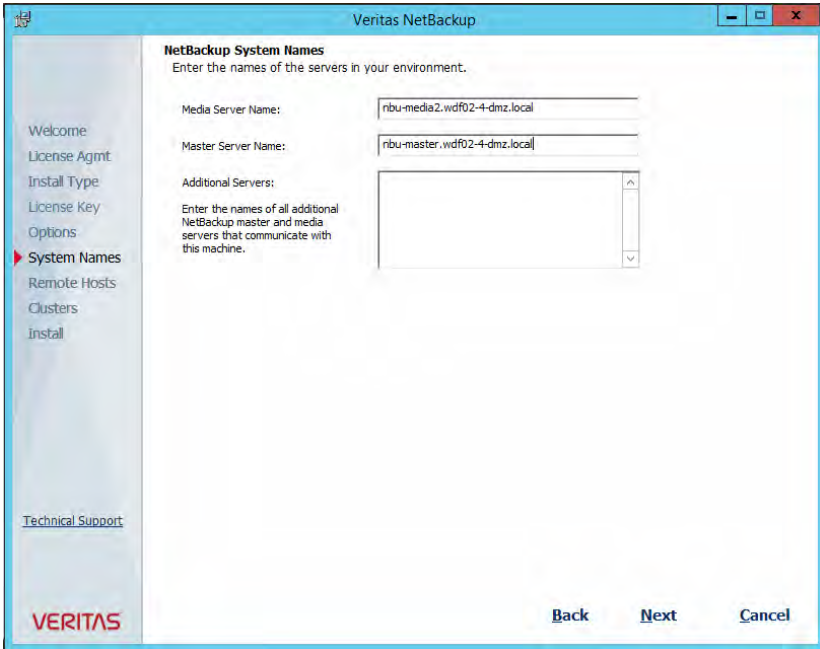
Select “Install to this computer only” and “Typical installation.” Click Next.



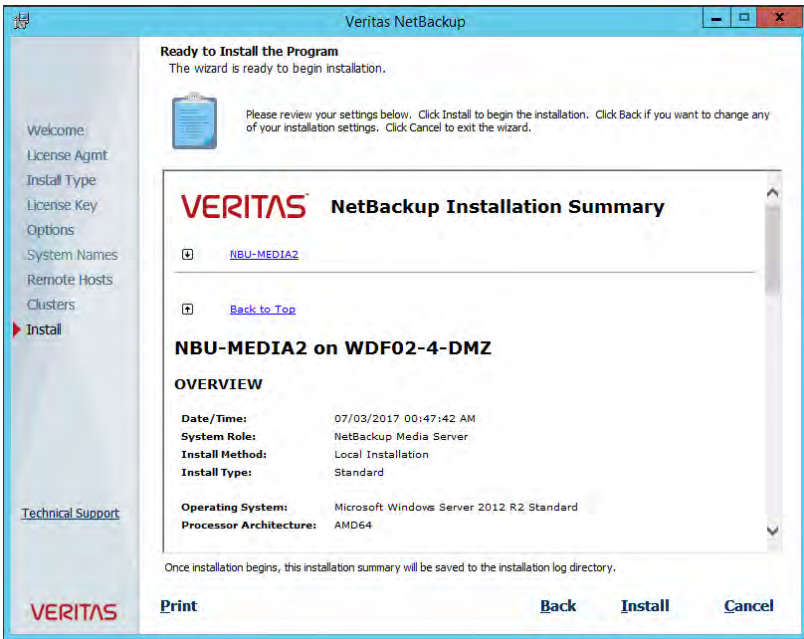
Enter the license key and click NetBackup Media Server.

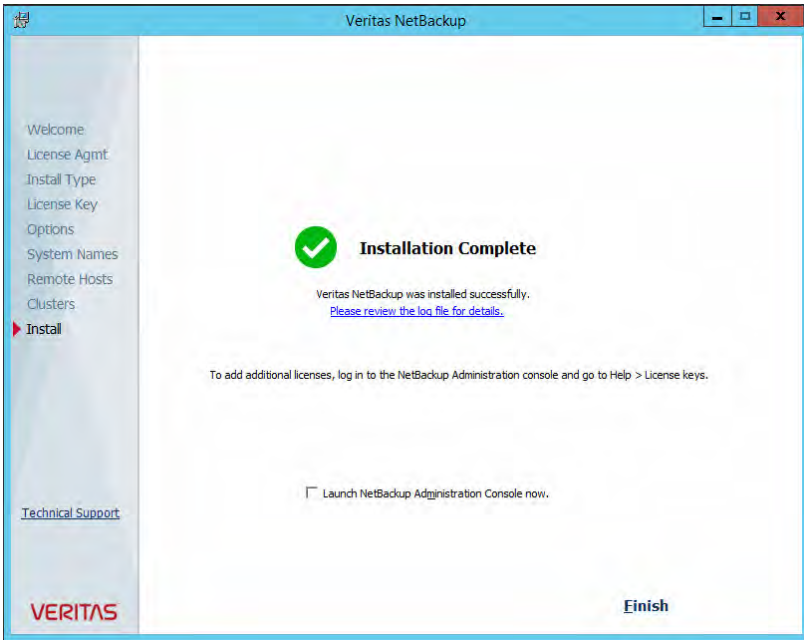


Verify that all server names are listed and add more in the Additional Servers pane if installation of more NetBackup media servers is planned or to allow access from the NetBackup Administration Console installed on another system.

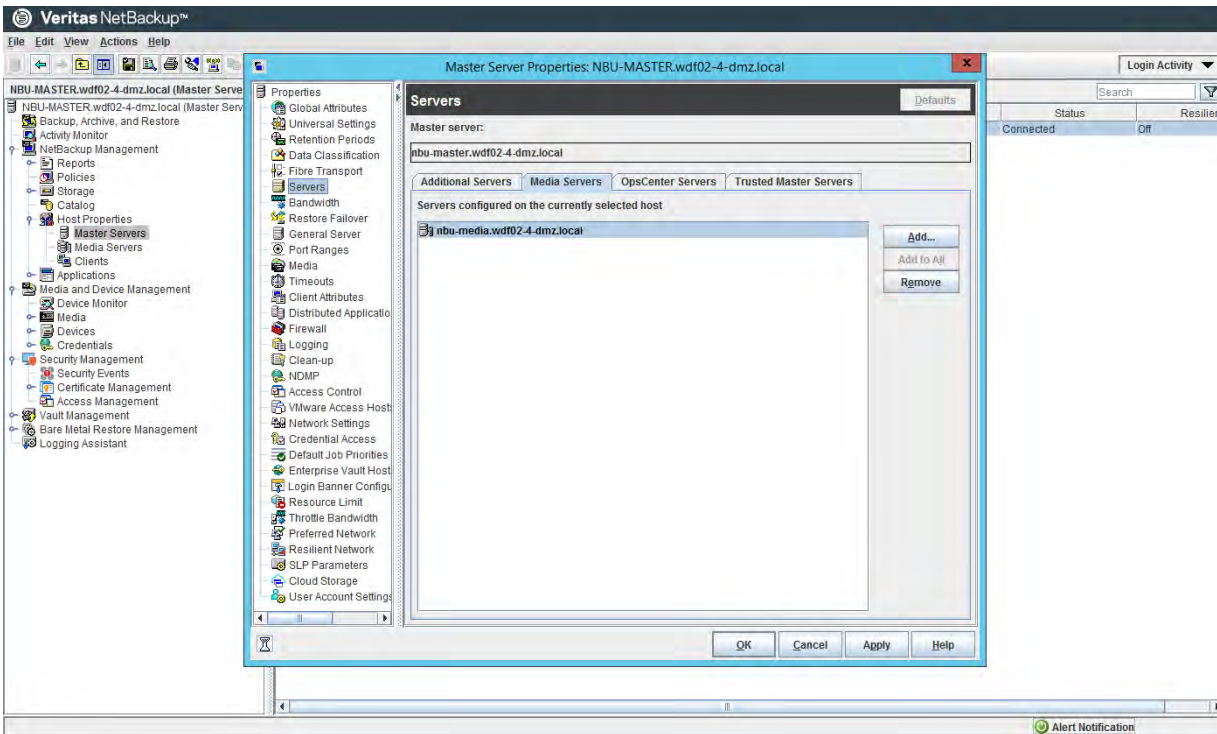


Click Install to start the software installation.

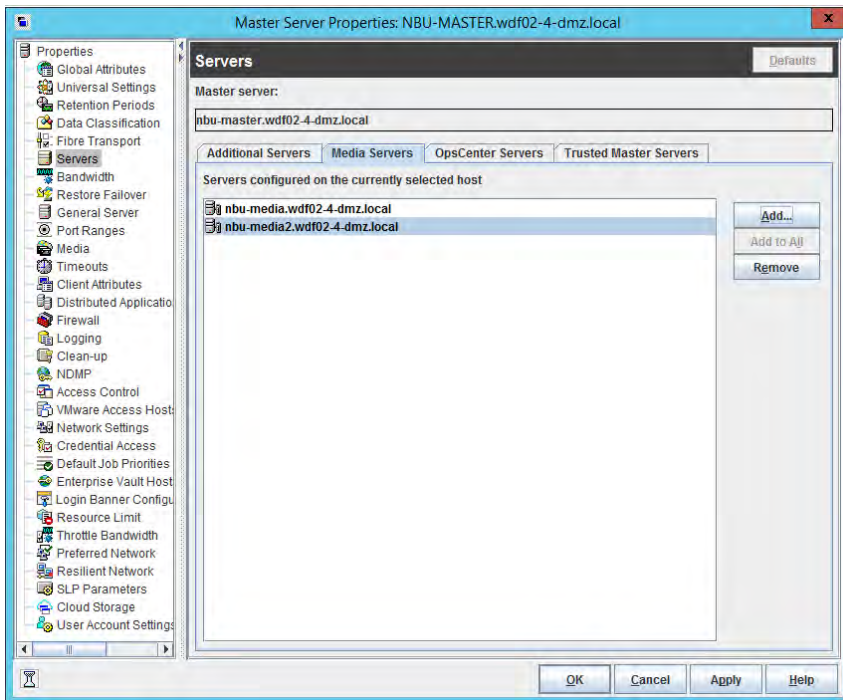




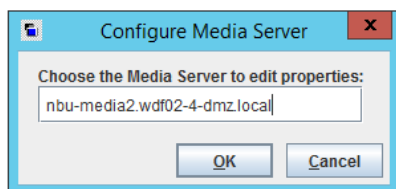
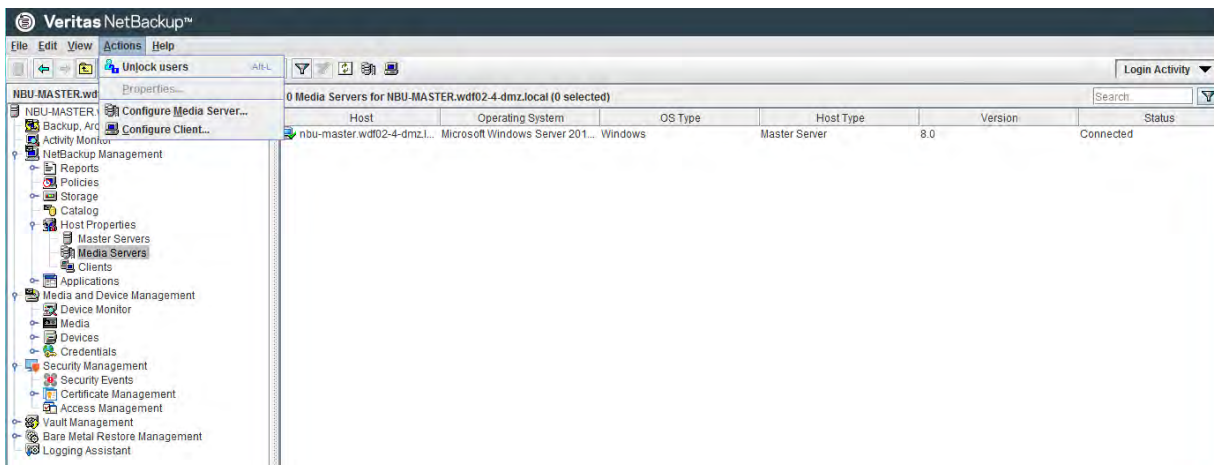
After the installation of the NetBackup media server software is complete, open the NetBackup Administration Console. Open the Properties pane for the NetBackup master server, choose Servers > Media Servers, and click Add.



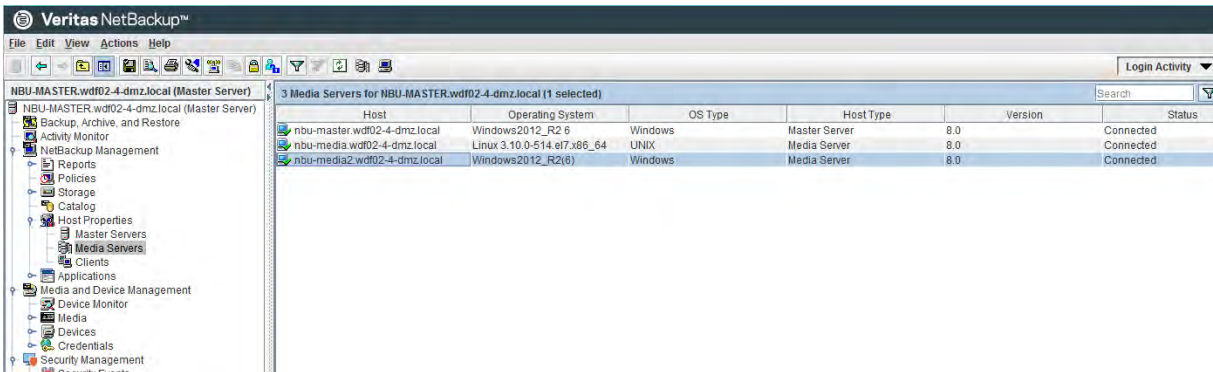
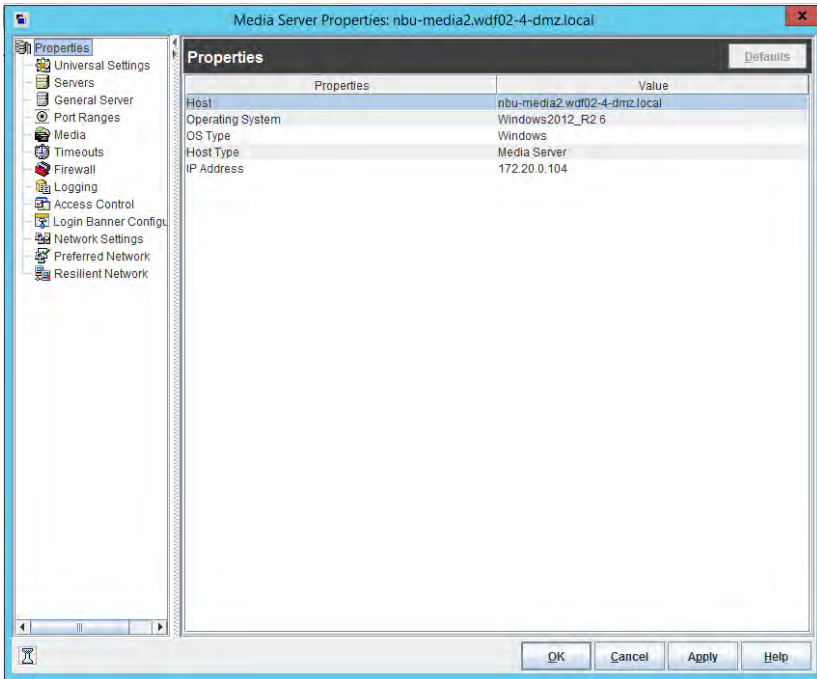
Enter the name of the new NetBackup media server and click OK.



In the main window, open the Actions menu and choose Configure Media Server. Enter the media server name and click OK.



Configure the media server properties as required and click OK.



The NetBackup media server installation on the Cisco UCS S3260 server is now finished. The next step is to define a storage unit on this system.

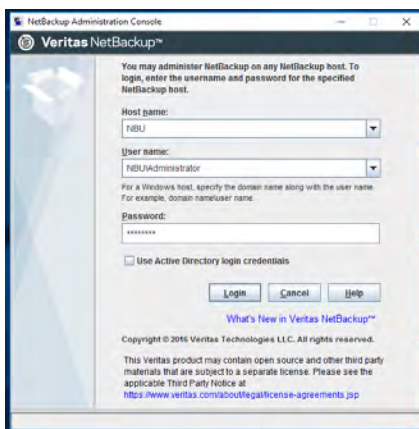
Storage unit configuration

This section describes the process for configuring the storage unit.

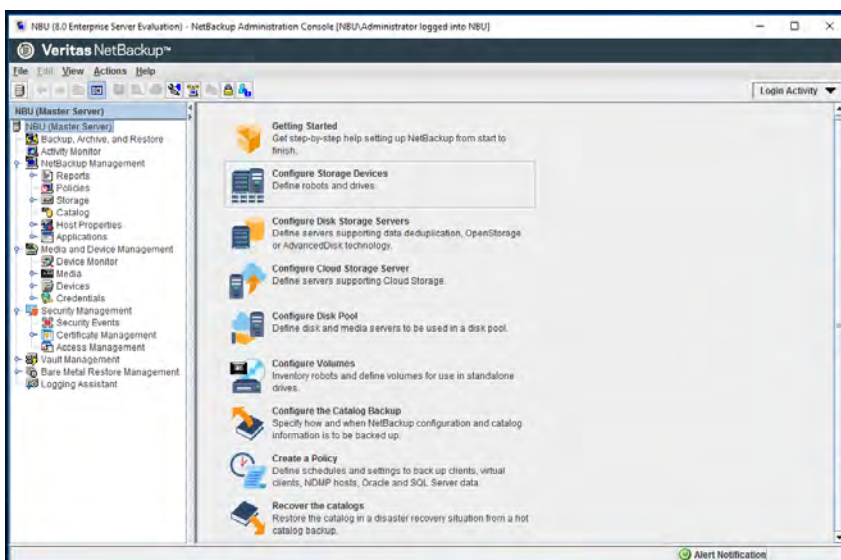
Basic disk storage unit

You use the NetBackup Administration Console to configure a storage unit.

Start the NetBackup 8.0 Administration Console from the Start menu by choosing Apps. Log on with a valid user name.

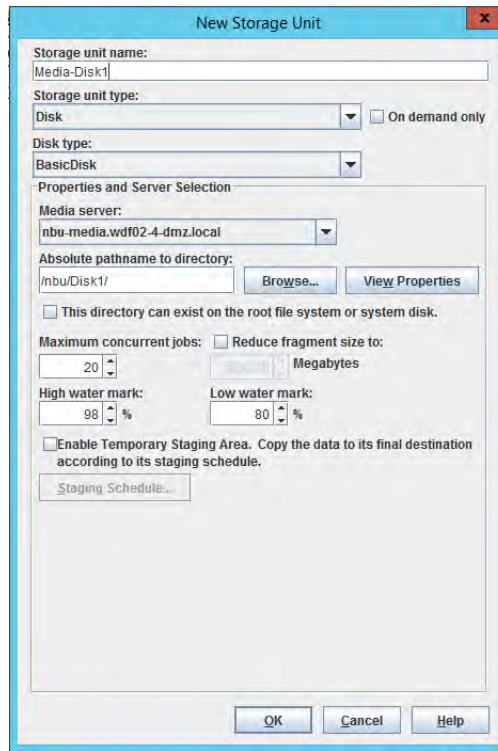
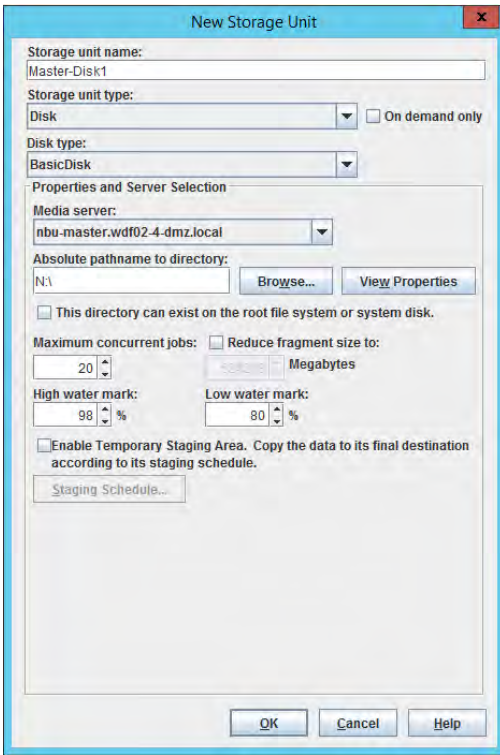


The NetBackup Administration Console opens and displays the screen with the configuration wizards.

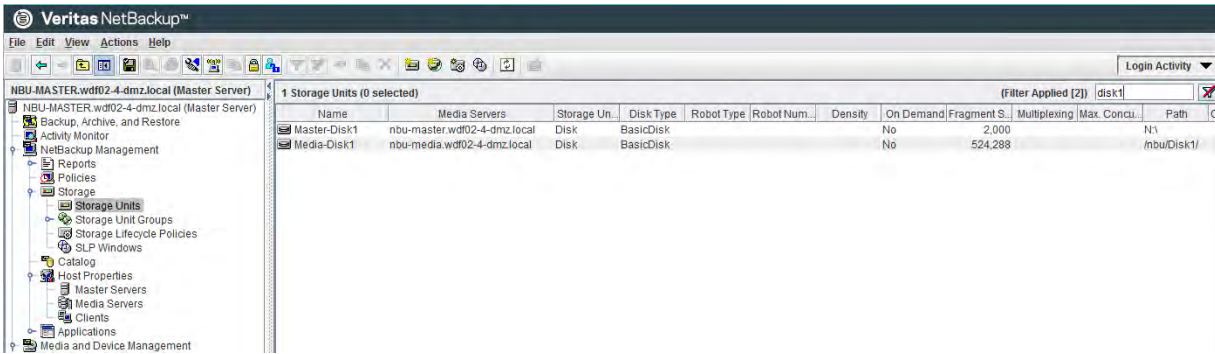


In the selection tree at the left, choose NetBackup Management > Storage > Storage Units and select New Storage Unit.

- Enter a storage unit name and select BasicDisk as the disk type.
- Select the media server for this storage unit and enter the absolute path name to the RAID 6 LUN (in the following example, a Microsoft Windows system is shown on the left, and a Linux system is shown on the right).
- Increase the maximum concurrent jobs to 10 or more.



Click OK.

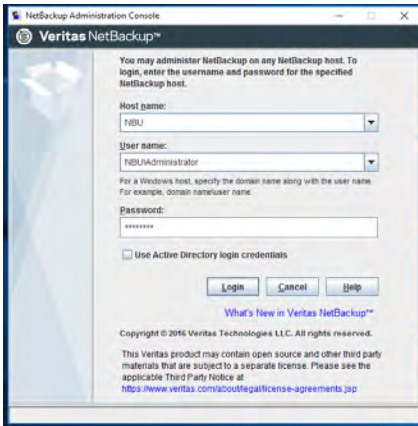


Deduplication storage unit

The deduplication storage pool and storage unit are not available for every backup type or for backup jobs configured with Any Available as the policy storage. If only one media server is available, you should use BasicDisk or Advanced Disk, or configure BasicDisk and Deduplication Storage Unit on the same server.

You use the NetBackup Administration Console for this configuration.

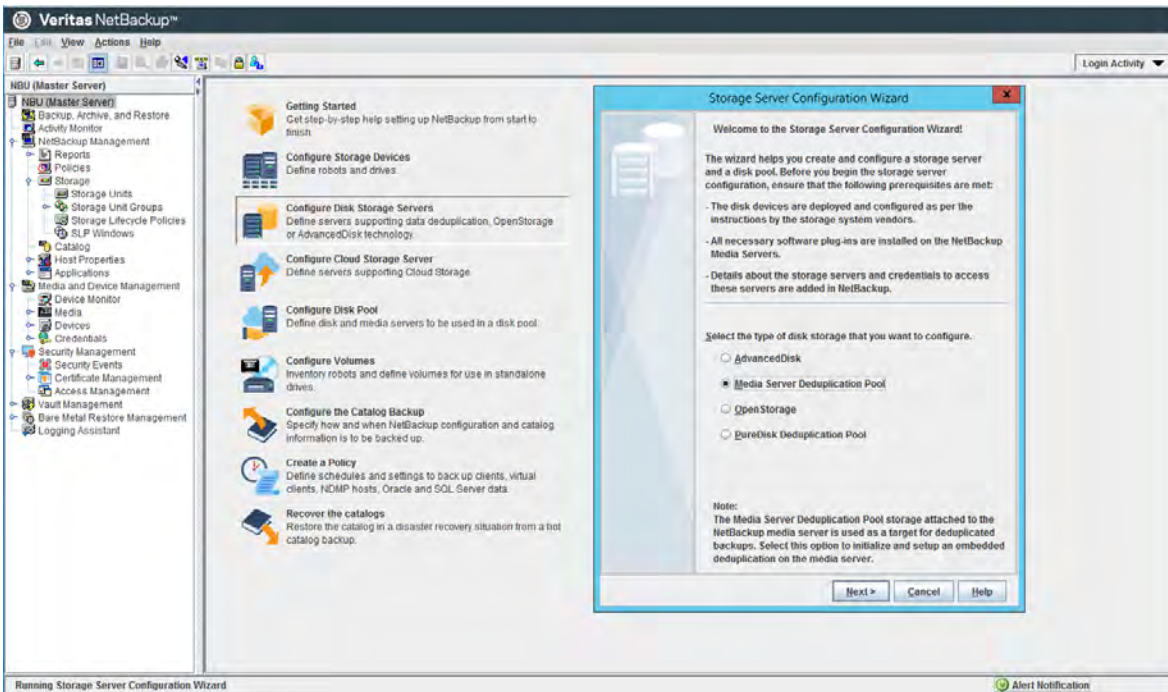
Start the NetBackup 8.0 Administration Console from the Start menu by choosing Apps. Log on with a valid user name.



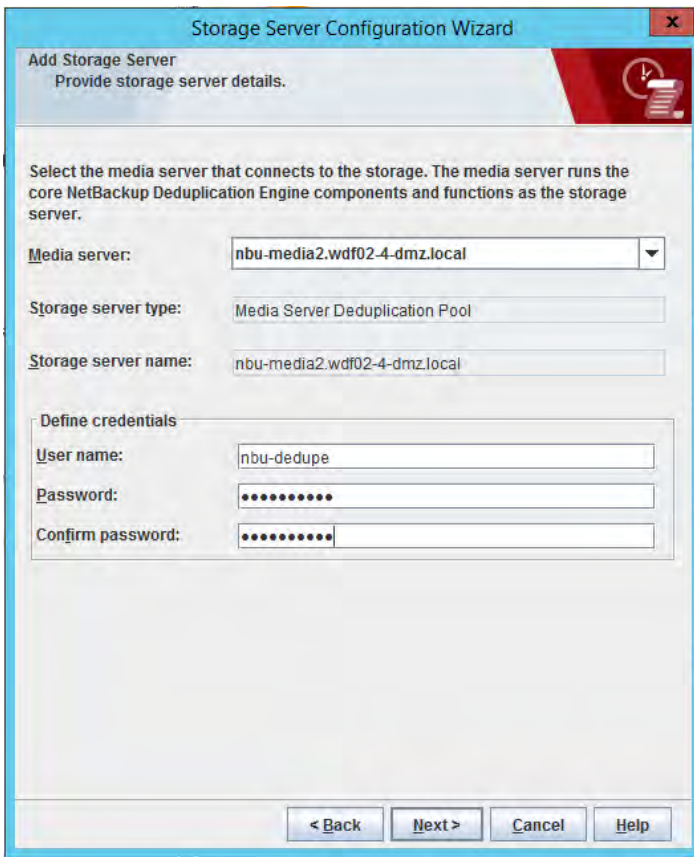
The NetBackup Administration Console appears and displays the screen with the configuration wizards.

Click Configure Disk Storage Servers.

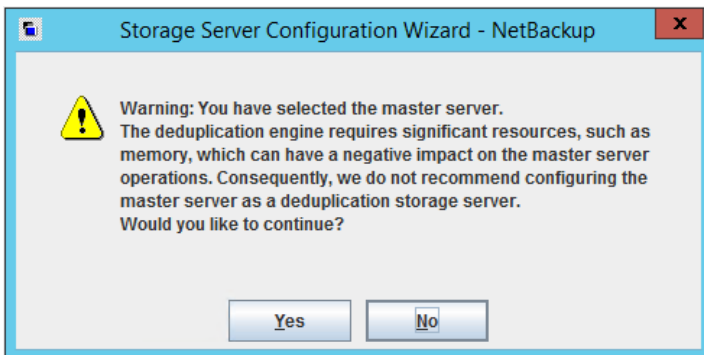
Select Media Server Deduplication Pool.



Select the NetBackup media server used for the deduplication pool and define the new credentials for the deduplication database.



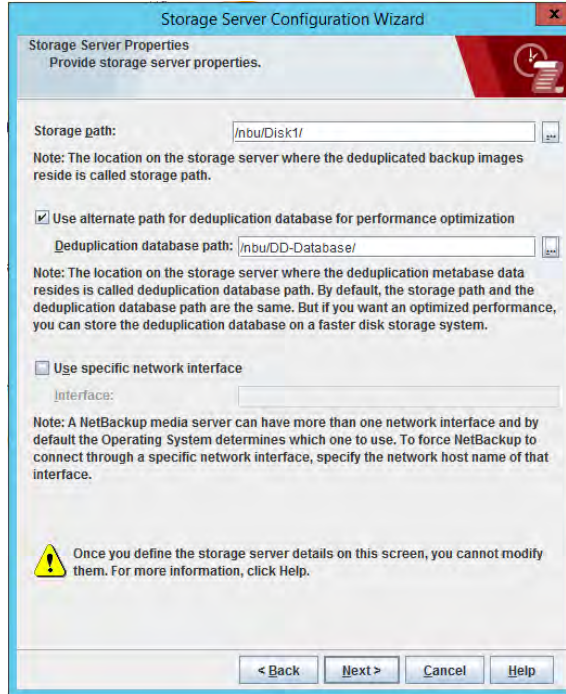
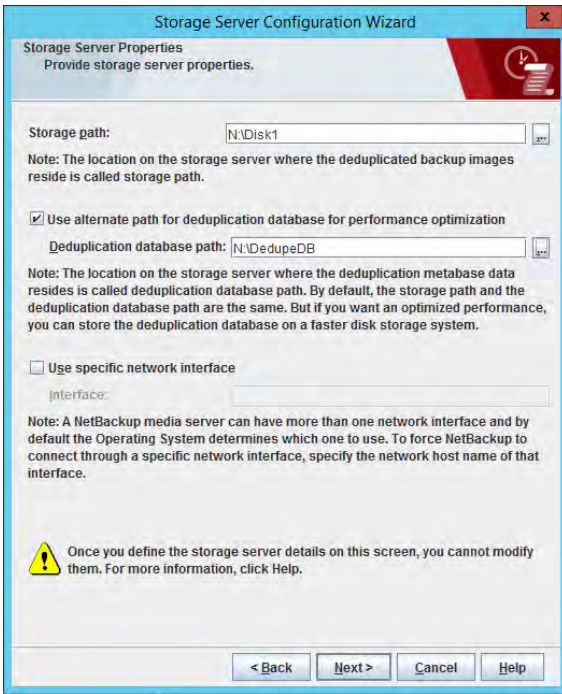
If only one server is used as the master server and the media server, a warning appears.



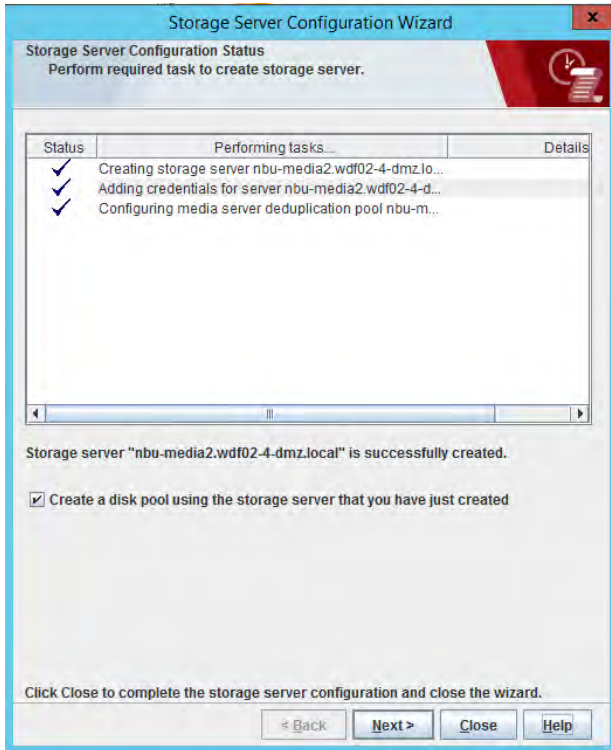
Specify the absolute path name for the RAID 6 LUN as the storage path.

Select “Use alternate path for deduplication database” and specify a separate path either on the same RAID 6 LUN or on the flash storage LUN.

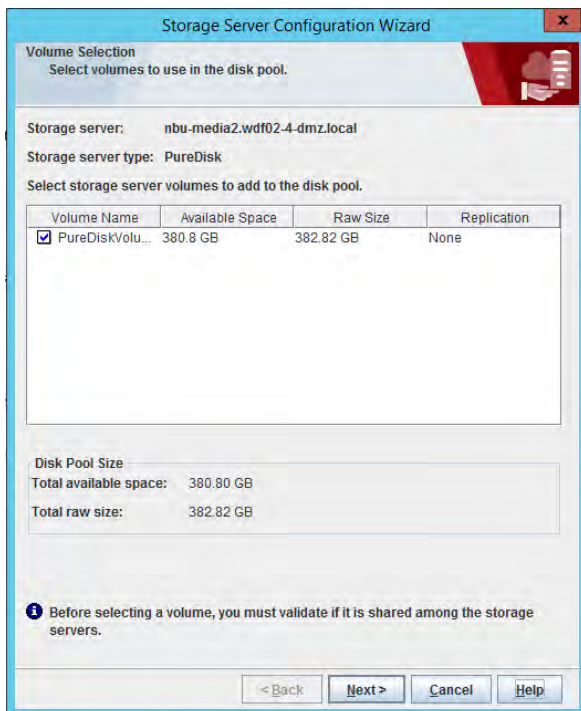
In the following example, a Microsoft Windows system is shown on the left, and a Linux system is shown on the right.



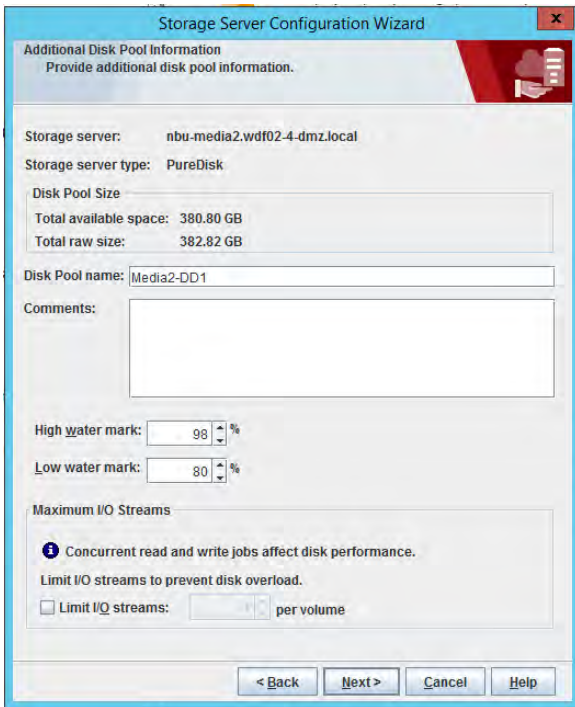
Select "Create a disk pool" if this option is not already selected. Then click Next.



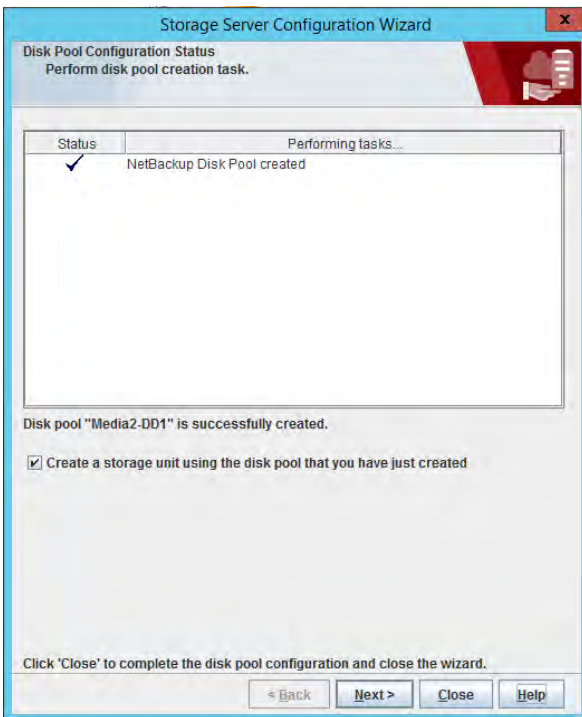
Select the storage server volume that was created by the wizard in the first step.



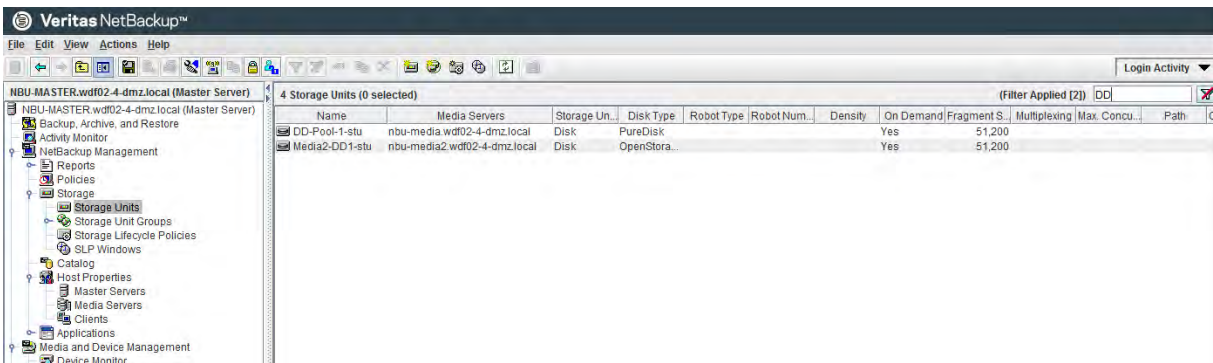
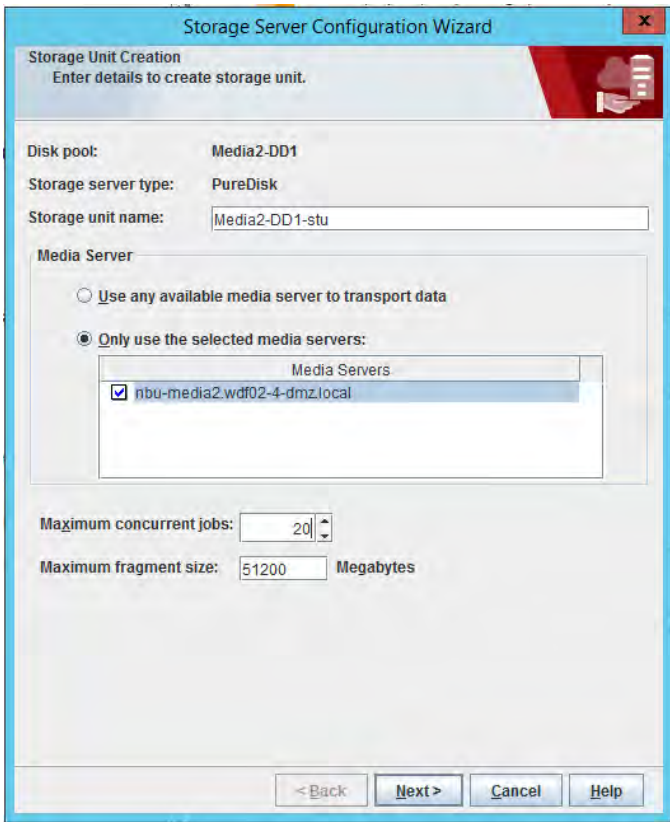
Enter a name for the disk pool.



Select "Create a storage unit" if this option is not already selected. Then click Next.



Enter a storage unit name, select the local server as the only media server, and increase the maximum number of concurrent jobs to 10 or more.

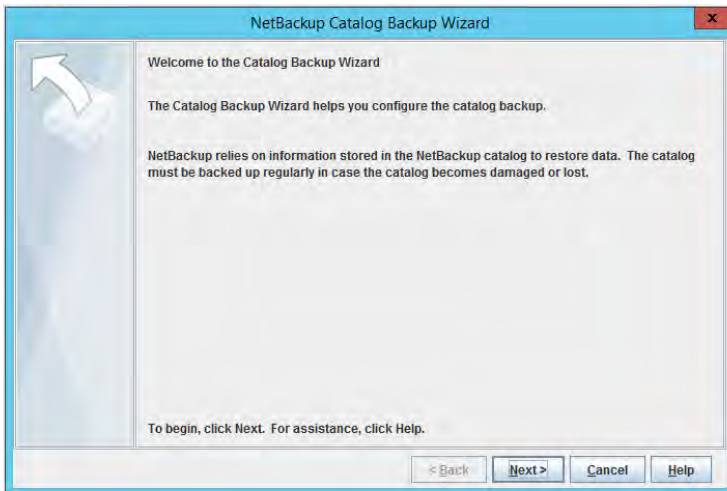


The deduplication storage unit is now configured and ready to use.

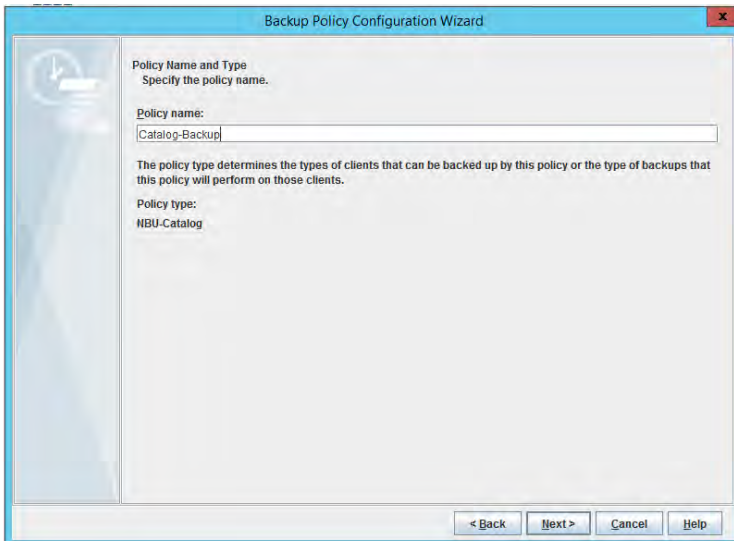
Veritas NetBackup Catalog backup policy

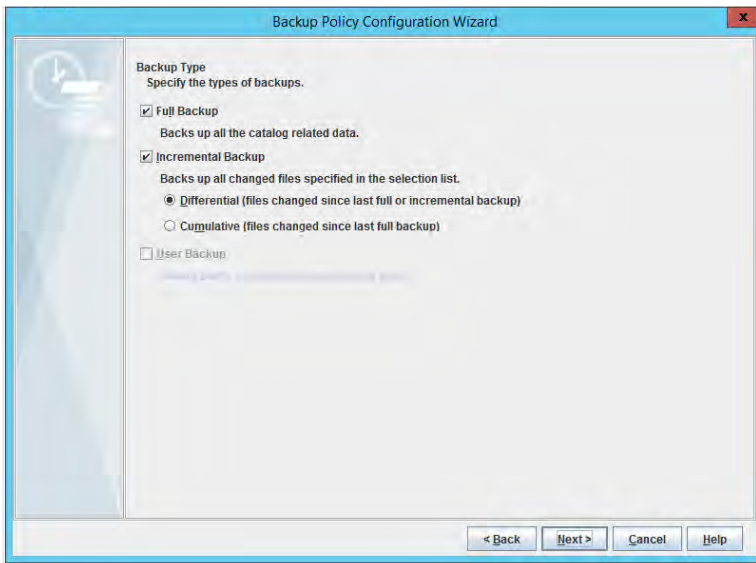
The NetBackup Catalog is the most important part of a NetBackup domain. It contains all the information about the configurations and the data that is backed up and where the backed-up data is located. To be able to restore the catalog in the event of a disaster or corruption of the catalog, a regular backup process is essential.

In the Configuration Wizard overview window, open Configure the Catalog Backup.

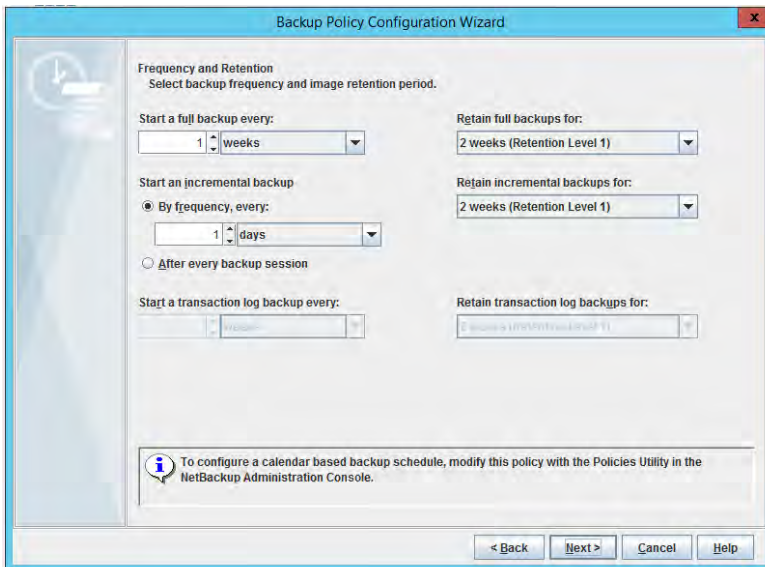


Enter an obvious name such as Catalog-Backup for the NetBackup Catalog backup policy

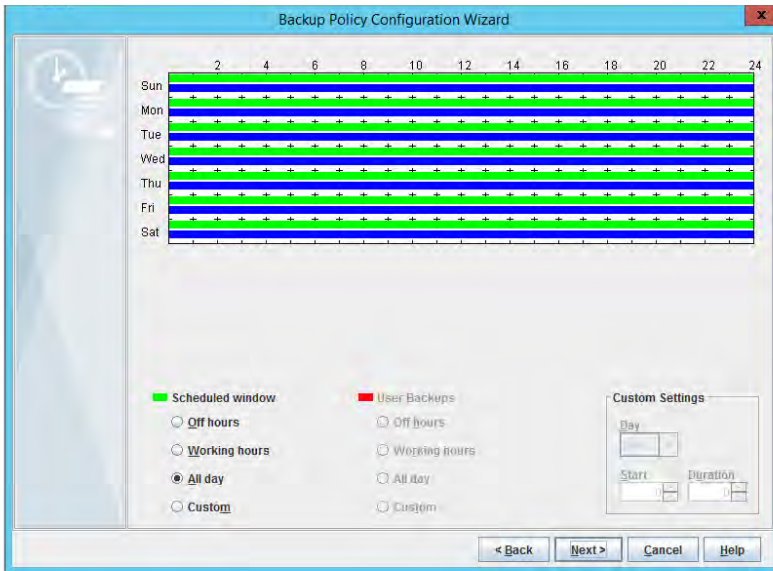




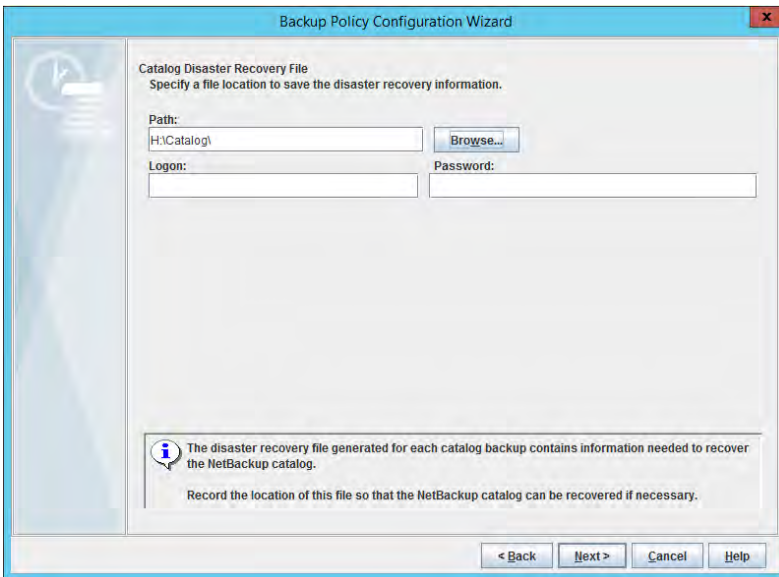
Change the frequency and retention level as required for your landscape.

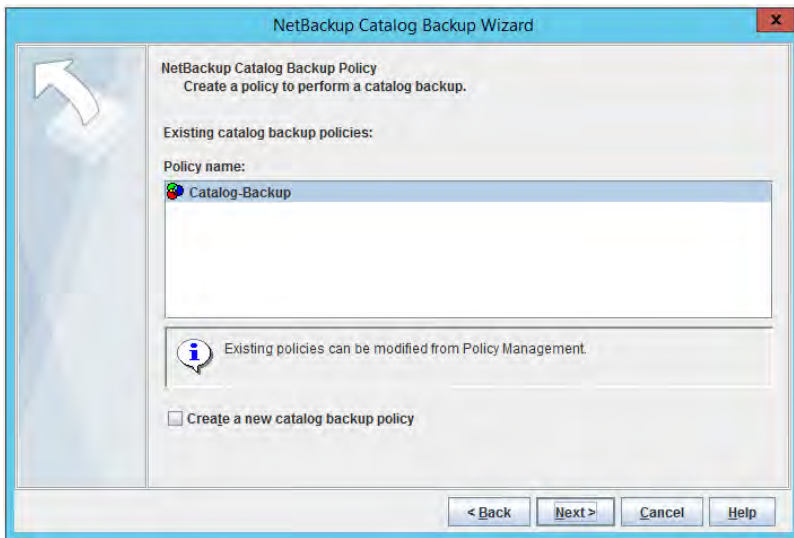


Allow NetBackup Catalog Backup to run all day.



Specify a location for the Catalog Disaster Recovery file, if possible on a remote storage unit.





The NetBackup Catalog backup policy configuration is now complete.

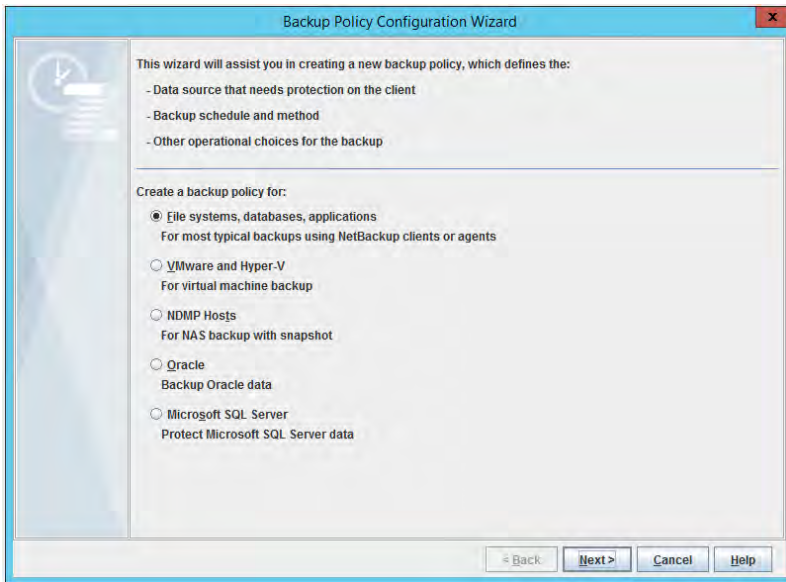
Backup policy

This section discusses the processes for configuring Windows and Linux OS backup policy.

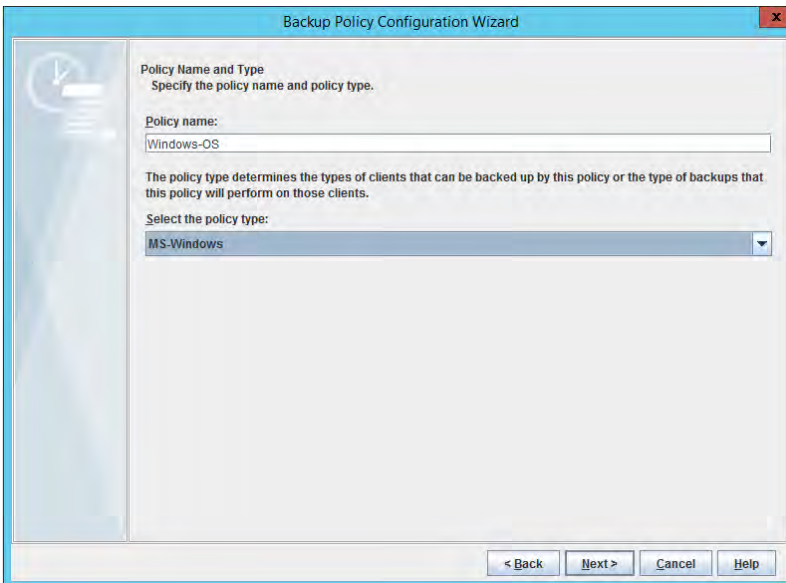
Microsoft Windows OS backup policy

In the Configuration Wizard overview window, open Create a Policy.

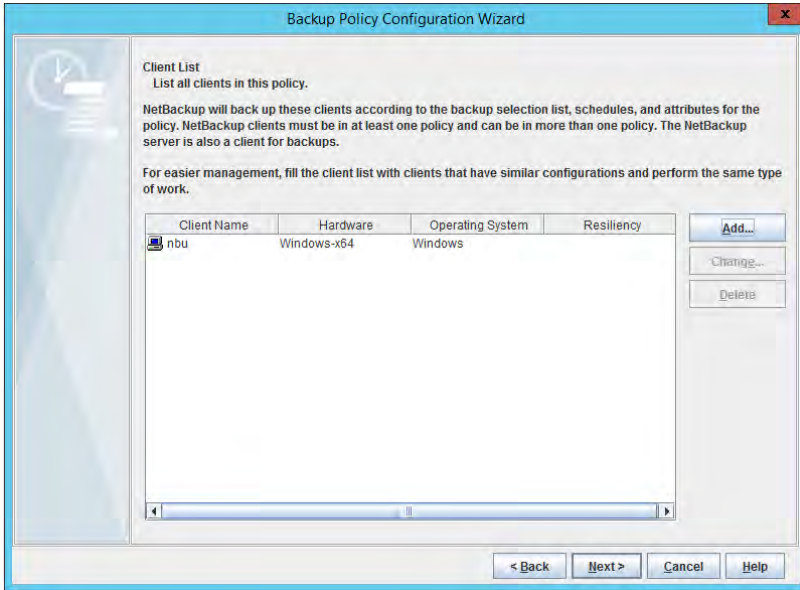
In the Backup Policy Configuration Wizard, select File systems, databases, applications.



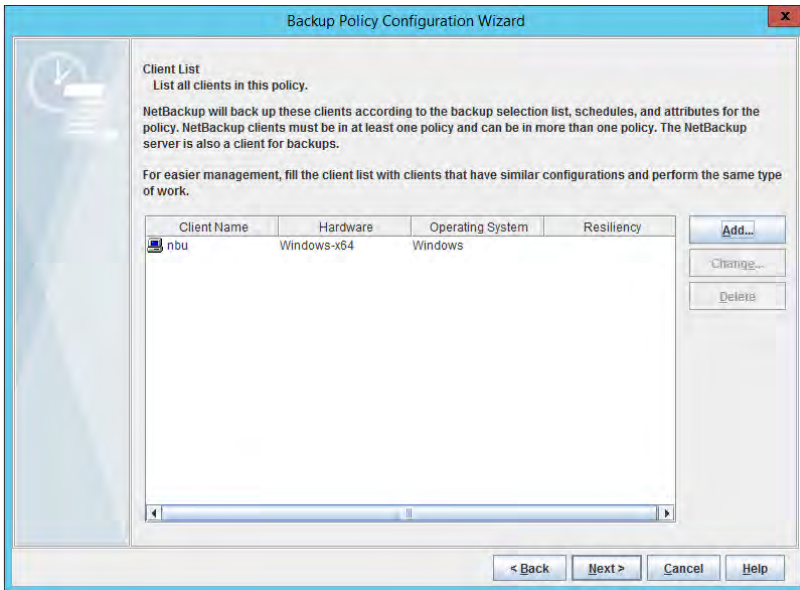
Enter an obvious name such as Windows-OS for this backup policy.



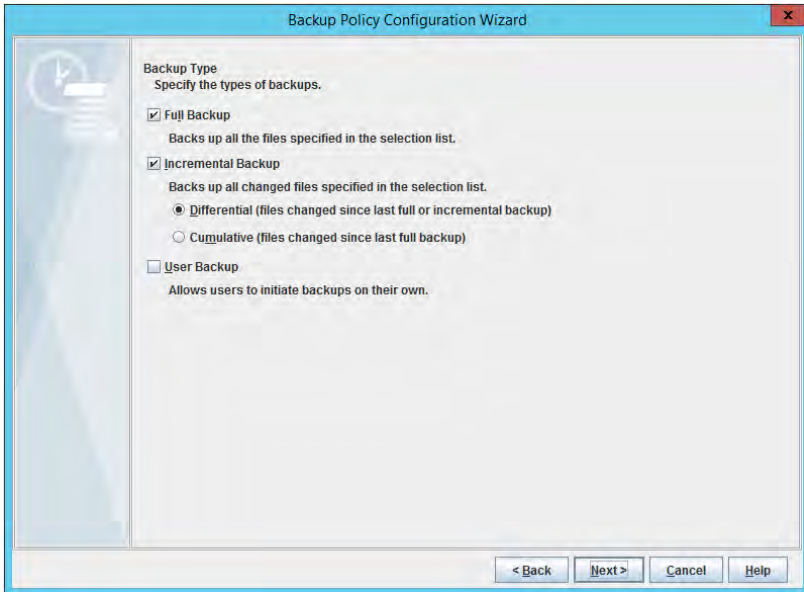
Add all clients to be backed up. Currently, in this example, only the master server is available.



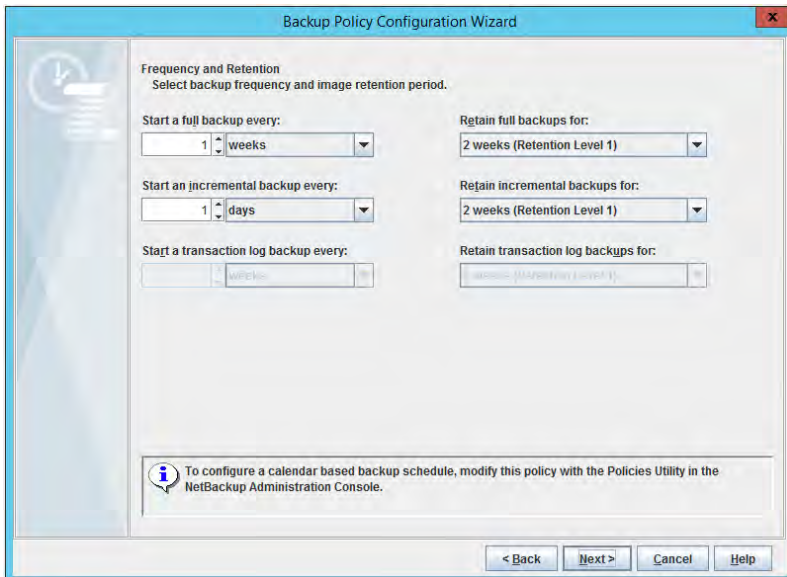
Many backup selection options are available, and the best option depends on the local situation. The easiest option for protecting the Windows OS and local files is to use the ALL_LOCAL_DRIVES directive. With this setting, all drives, the repository, and other system components are backed up. To exclude application data, use the Exclude list in the client properties. Another option is to use C: and the directive Shadow Copy components:\ if Windows is always installed on drive C:.



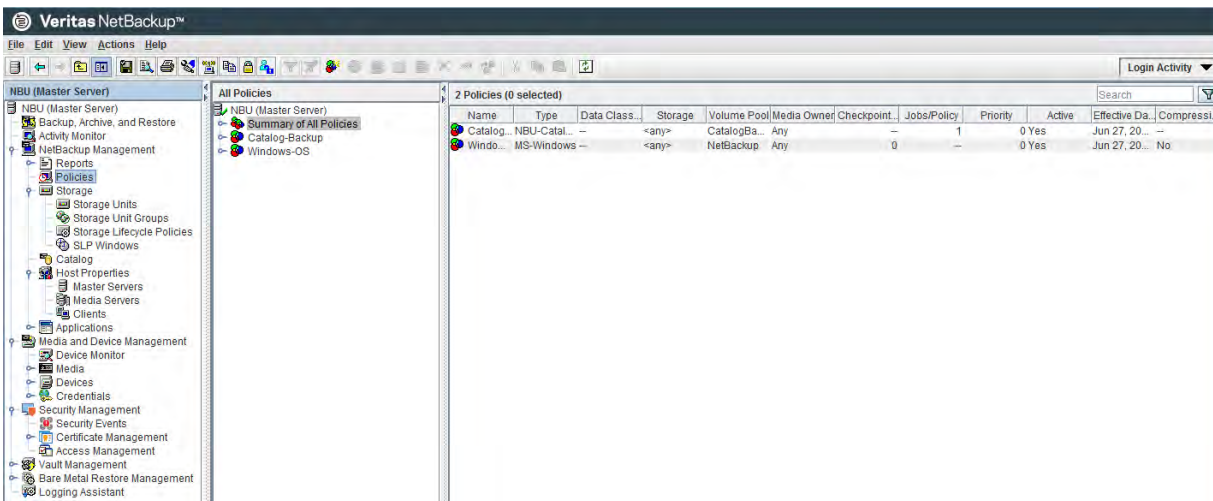
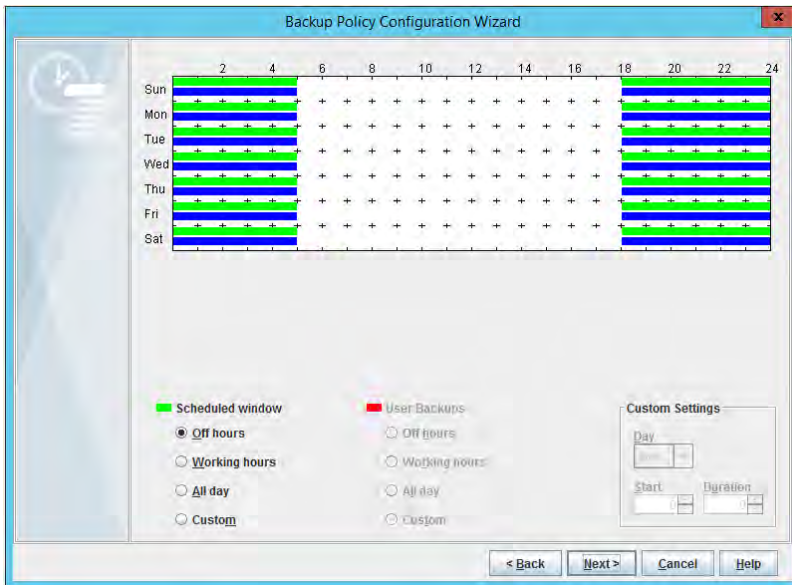
Leave the backup type unchanged.



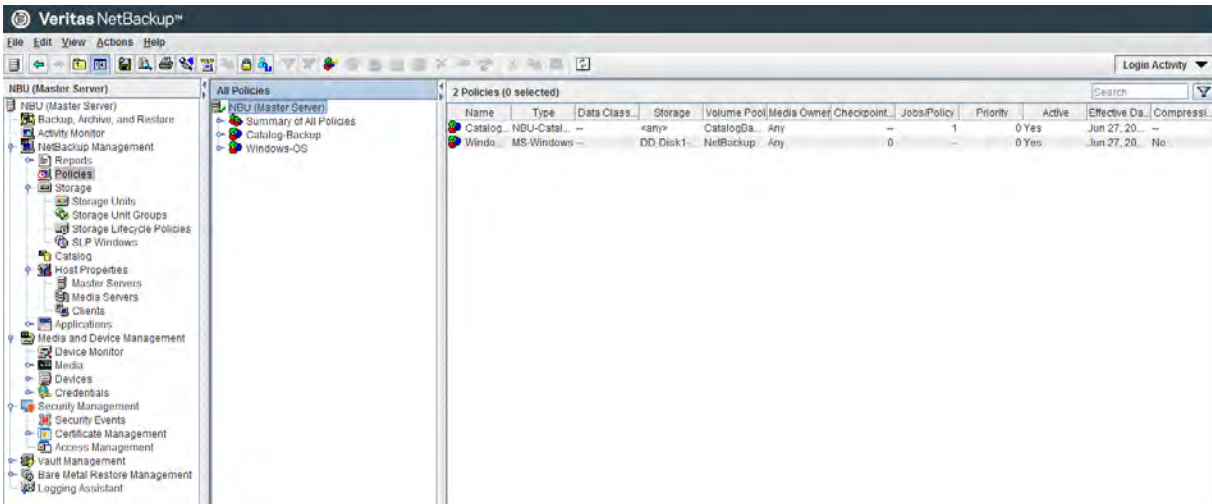
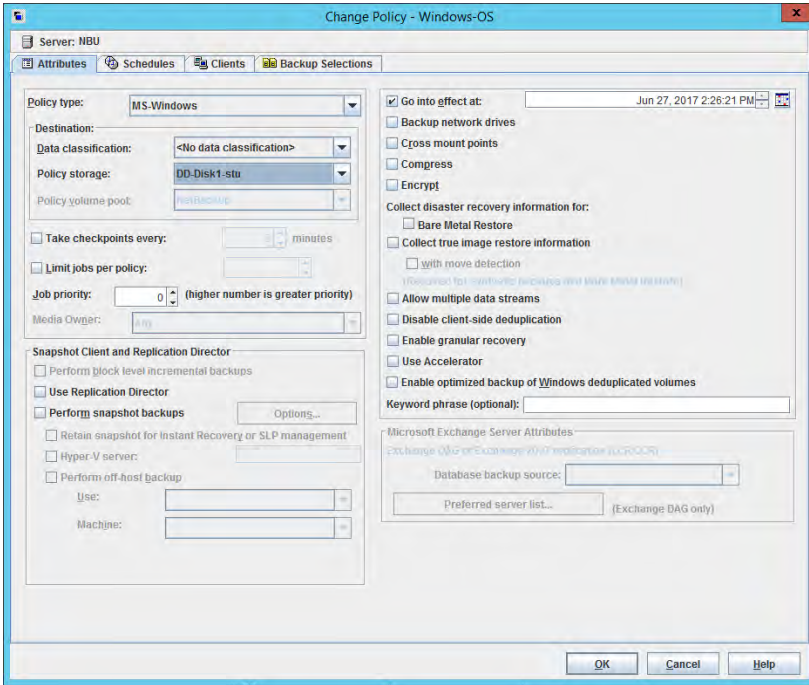
Specify the frequency and retention period as required for your landscape.



Change the backup window to times that best fit your landscape.



If a deduplication storage unit is used for the backup policy, change the policy storage in the policy properties.



After the backup policy definition is complete, initiate a manual backup to see if everything works as expected.

In the Activity Monitor, you can see the progress and final status of every backup job. The configuration is successful if the backup jobs finish with a status of 0 or 1.

Job Id	Type	State	State Details	Status	Job Policy	Job Sched.	Client	Media Server	Start Time	Elapsed Ti.	End Time	Storage Unit	Attempt	Operation
15	Image Cle...	Done		0					Jun 27, 20...	00:00:00	Jun 27, ...			
14	Backup	Done		0	Windows-OS Full		nbu	nbu	Jun 27, 20...	00:04:24	Jun 27, ...	DD-Disk1-stu	1	
13	Backup	Done		0	Windows-OS Full		nbu	nbu	Jun 27, 20...	00:01:22	Jun 27, ...	DD-Disk1-stu	1	
12	Backup	Done		0	Windows-OS -		nbu	nbu	Jun 27, 20...	00:04:37	Jun 27, ...	DD-Disk1-stu	1	
11	Backup	Done		0	Windows-OS Full		nbu	nbu	Jun 27, 20...	00:05:34	Jun 27, ...	DD-Disk1-stu	1	
10	Backup	Done		0	Windows-OS Full		nbu	nbu	Jun 27, 20...	00:02:06	Jun 27, ...	DD-Disk1-stu	1	
9	Backup	Done		0	Windows-OS -		nbu	nbu	Jun 27, 20...	00:05:40	Jun 27, ...	DD-Disk1-stu	1	

Backup Policy Configuration Wizard

Catalog Disaster Recovery File
Specify a file location to save the disaster recovery information.

Path:

Logon: Password:

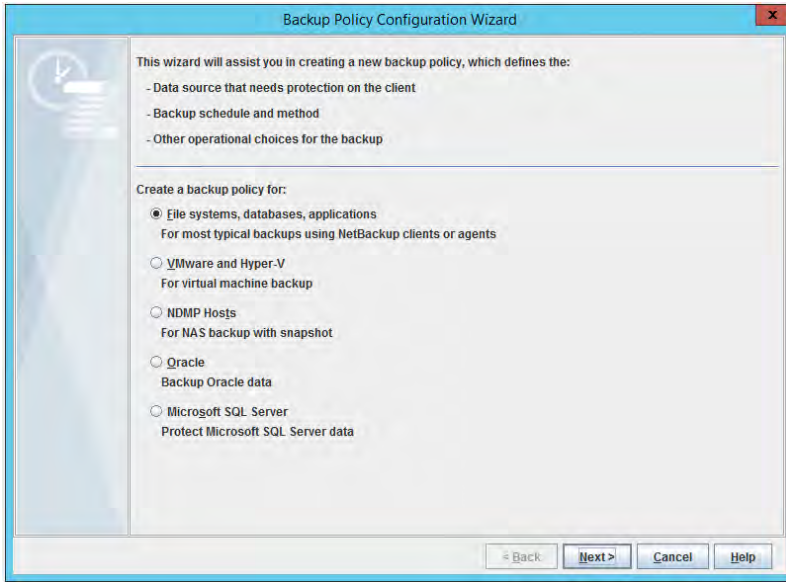
i The disaster recovery file generated for each catalog backup contains information needed to recover the NetBackup catalog.
Record the location of this file so that the NetBackup catalog can be recovered if necessary.

< Back Next > Cancel Help

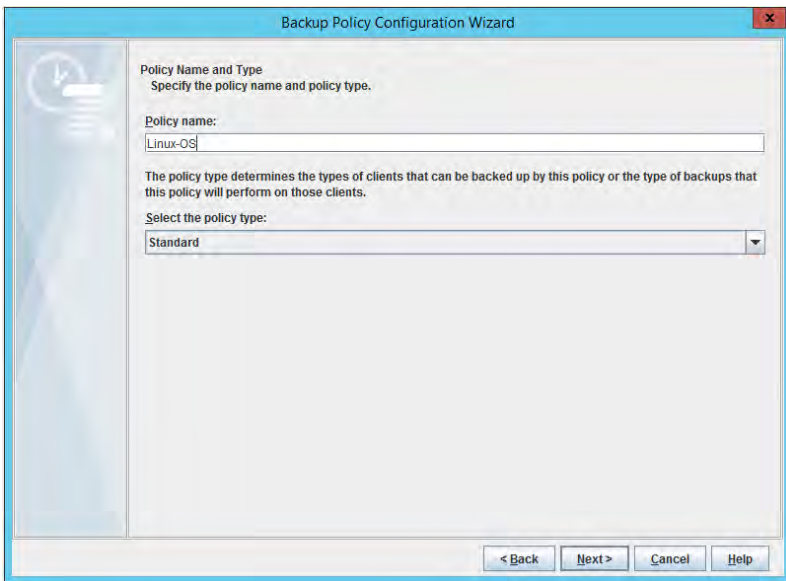
Linux OS backup policy

To test your system, a backup policy is required. A Linux OS backup is required for the NetBackup hosts, so start by configuring this backup.

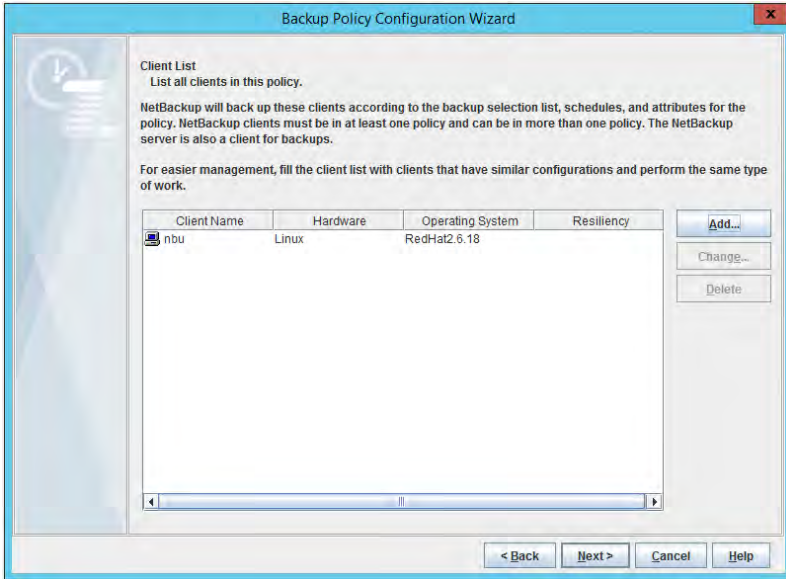
In the Configuration Wizard, select File systems, databases, applications.



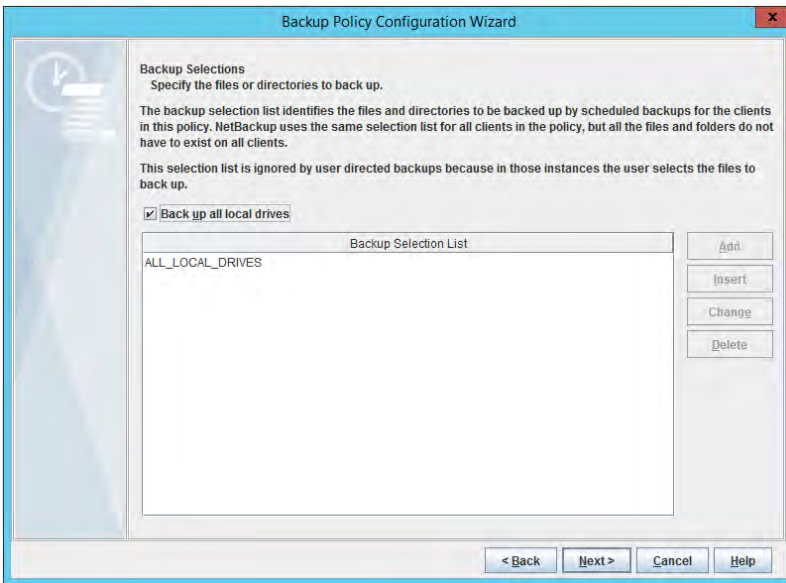
Enter an obvious name such as Linux-OS for this backup policy.



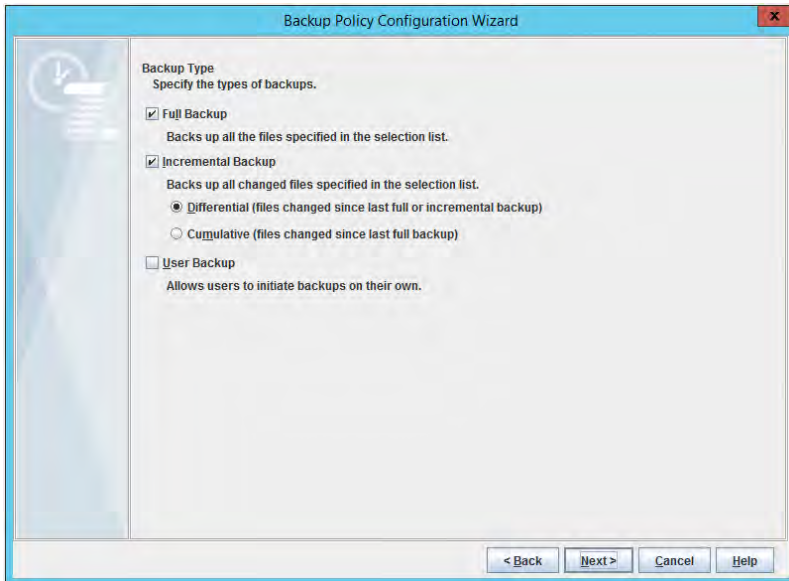
Add all clients to be backed up. Currently, in this example, only the master server is available.



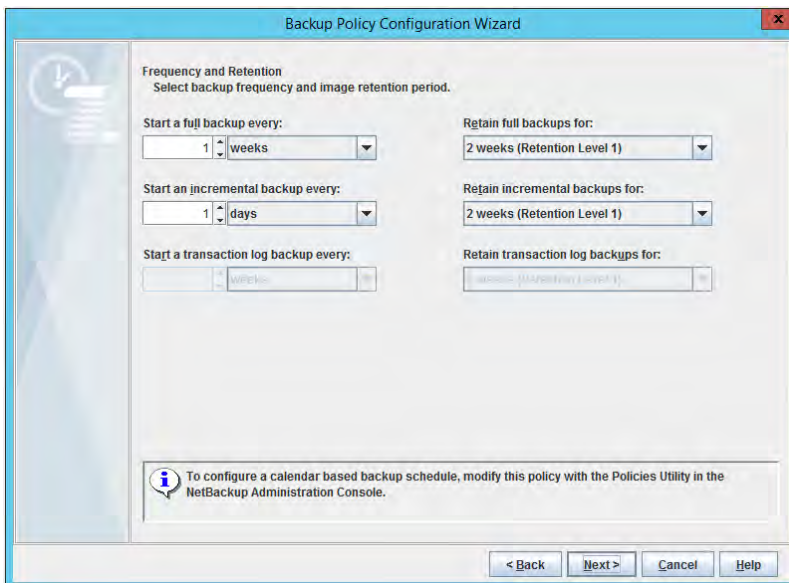
The backup selection you choose depends on the local situation. The easiest option for protecting the Linux OS and local files is to use the ALL_LOCAL_DRIVES directive. To exclude application data, use the Exclude list in the client properties.



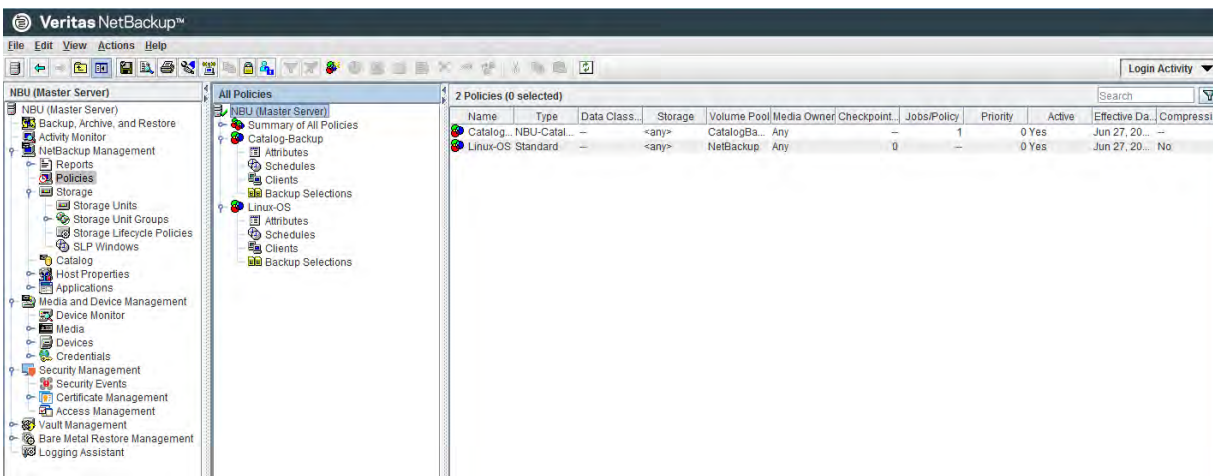
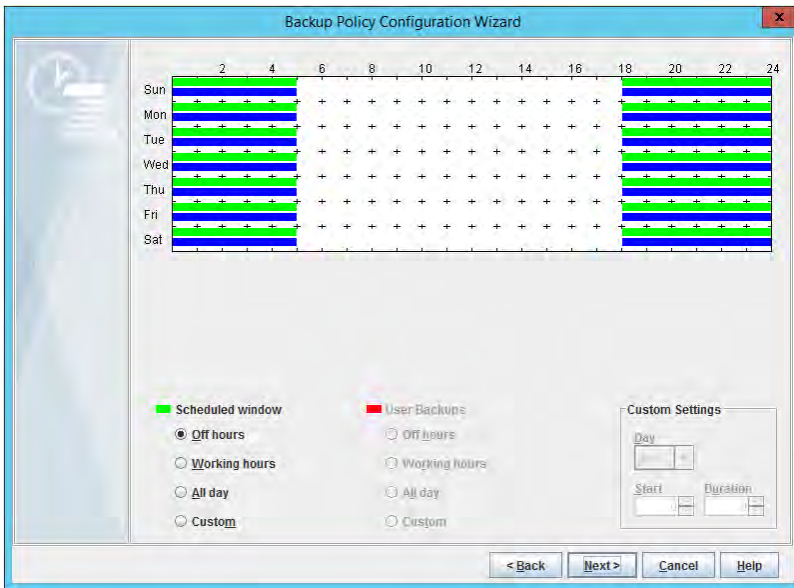
Leave the backup type unchanged.



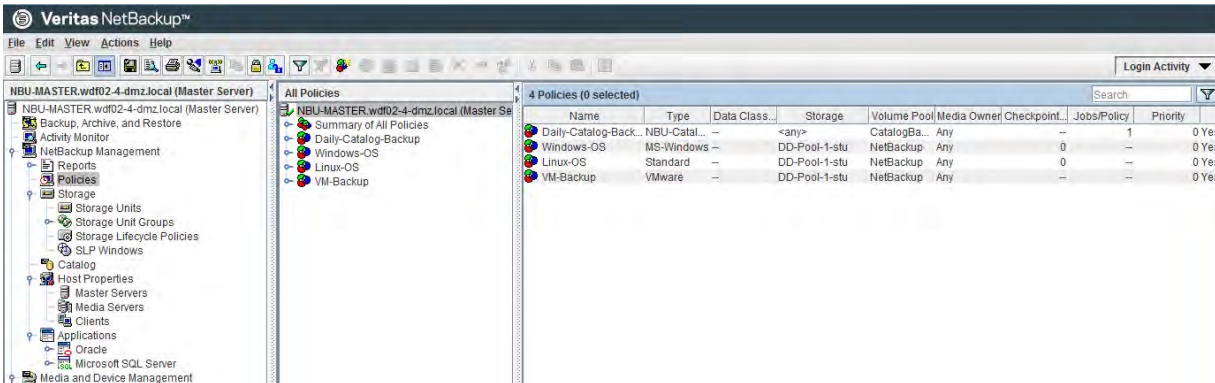
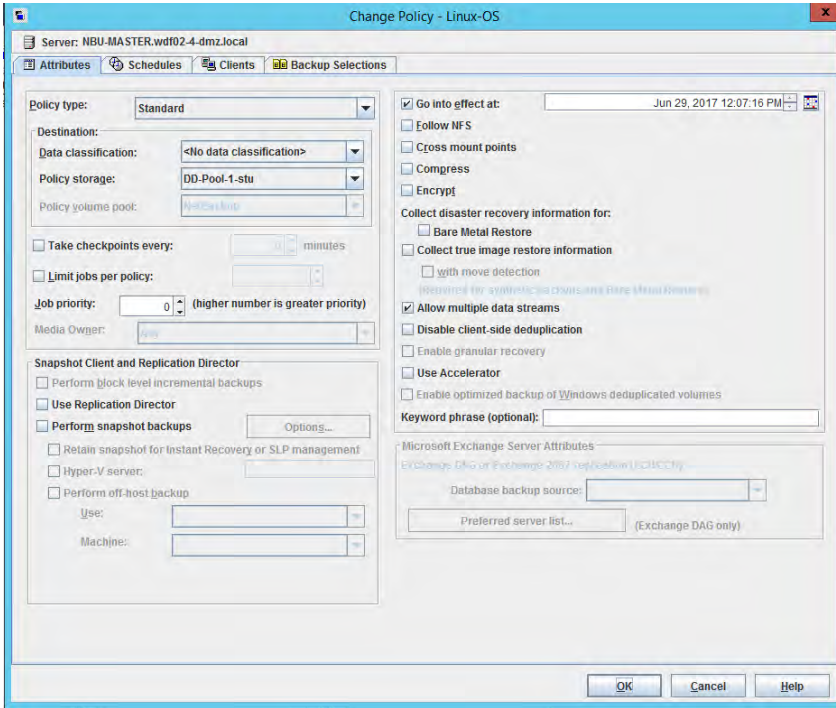
Specify the frequency and retention period as required for your landscape.



Change the backup window to the times that are best for you.



In the policy properties, select the new deduplication storage unit.



After the backup policy is defined, initiate a manual backup to see if everything works as expected.

In the Activity Monitor, you can see the progress and final status of every backup job. The configuration is successful if the backup jobs finish with a status of 0 or 1.

The screenshot displays the Veritas NetBackup Activity Monitor interface. The main window shows a list of 123 jobs. The status bar at the top indicates: 17 Queued, 2 Active, 0 Waiting for Retry, 0 Suspended, 0 Incomplete, 104 Done, and 0 selected. The job list includes columns for Job Id, Type, State, State Details, Status, Job Policy, Job Sched., Client, Media Server, and Storage Unit. Most jobs are in a 'Queued' state with a status of 'Limit has bee...'. A few jobs are in 'Active' or 'Done' states.

Job Id	Type	State	State Details	Status	Job Policy	Job Sched..	Client	Media Server	Storage Unit	S
389	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
388	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
387	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
386	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
385	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
384	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
383	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
382	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
381	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
380	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
379	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
378	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
377	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
376	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
375	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
374	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
373	Backup	Queued	Limit has bee...	Linux-OS	Full		nbu-media.wdf02-4-dmz.local			Jur
372	Backup	Active		Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
371	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
370	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
369	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
368	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
367	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
366	Backup	Done		0 Linux-OS	Full		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
365	Backup	Active		Linux-OS	-		nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur
361	Image Cleanup	Done		0						Jur
360	Backup	Done		0 VM-Backup	Differential...	172.20.1.52	nbu-media.wdf02-4-dmz.local	nbu-media.wdf02-4-dmz.local	DD-Pool-1-stu	Jur

For more information

For additional information, see the following:

- [Cisco UCS S3260 Storage Server](#)
- [Cisco UCS 6000 Series Fabric Interconnects](#)
- [Cisco UCS Manager](#)
- [Achieve Optimal Network Throughput on the Cisco UCS S3260 Storage Server \(Cisco white paper\)](#)
- [Veritas NetBackup](#)

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