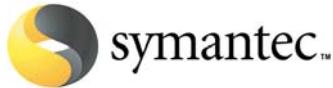


## **NetBackup PureDisk Technical Product Management**

### **PureDisk Remote Office Protection**

#### **Export to NetBackup Feature**

09 May 2007



## Document Information

### Copyright

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### Revision History

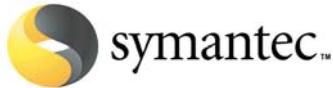
Version	Date	Changes
1.0	May 9, 2007	Initial version.

### Related Documents

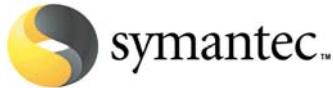
Related documents		
		<p><a href="#"><u>Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide</u></a>, version 6.1.3</p> <p><a href="#"><u>Exporting PureDisk Data to NetBackup</u></a> guide dated February 9, 2007</p>

It is written for NetBackup PureDisk 6.1 MP1A and NetBackup 6.0 MP4 with engineering binaries on Solaris or Windows servers only.

The requirement for engineering binaries drops with NetBackup 6.0 MP5 and will be supported on all NBU platforms.



<b>Copyright .....</b>	2
<b>Revision History .....</b>	2
1    Summary .....	4
2    Introduction.....	4
3    Prerequisites.....	5
3.1    Export prerequisites .....	5
3.1.1    PureDisk environment .....	5
3.1.2    NetBackup environment .....	5
3.2    Restore prerequisites.....	6
4    Configuring PureDisk and NetBackup .....	7
4.1    Configuring PureDisk .....	7
4.1.1    Create PureDisk Storage Pool .....	7
4.1.2    Configure the PureDisk NetBackup export engine .....	7
4.1.3    Install the PureDisk NetBackup export engine.....	8
4.1.4    Activate the PureDisk NetBackup export engine .....	8
4.2    Configuring NetBackup .....	8
4.2.1    Pre-Install .....	8
4.2.2    Install NetBackup Server .....	8
4.2.3    Install NetBackup Client.....	9
5    Exporting PureDisk data .....	11
5.1    Create a NetBackup DataStore type policy.....	11
5.2    Create a PureDisk export policy.....	13
6    Restoring PureDisk data .....	14
6.1    Restore PureDisk export data.....	14
6.2    Restore support .....	16
7    Example Using VMware .....	16
7.1    Set Up Windows XP PureDisk Client on winXPpd .....	16
7.2    Set Up NetBackup Server on nbu60 .....	17
7.3    Set Up PureDisk Server on pdos60 .....	18
7.4    Configure the NetBackup DataStore policy .....	25
7.5    Configure the PureDisk Export to NetBackup policy .....	28
7.6    Run the Export to NetBackup policy .....	33
7.7    Restoring from NetBackup.....	38



## **1 SUMMARY**

PureDisk 6.1 MP1A introduces the Export to NetBackup feature. This paper explains how to use this feature.

I will give a detailed description on how to demonstrate this feature using a VMware environment. The download locations for everything you need are given so you can try this same demonstration in your own VMware environment.

The information here was compiled from the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3 and the [\*Exporting PureDisk Data to NetBackup\*](#) guide dated February 9, 2007.

## **2 INTRODUCTION**

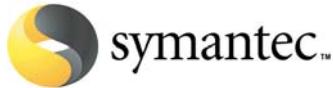
If you want to move your PureDisk backed up files to NetBackup tape or disk the PureDisk Export to NetBackup feature is your ticket. When you export a backed-up Files and Folders data selection from a PureDisk storage pool to NetBackup, NetBackup catalogs the data and writes it to tape or disk in NetBackup's file format. You can use these files for long-term data protection, and if you ever delete the files from the original client or from PureDisk storage, you can restore them from NetBackup.

After you export the PureDisk files to NetBackup, you can log into a NetBackup administration console and treat these files as if they were native NetBackup files. From the administration console, you can generate NetBackup reports, browse the files, and manage the files.

To restore the data that you exported to NetBackup, use the NetBackup restore methods for restoring files.

**Note:** The PureDisk NetBackup export engine lets you export backed-up PureDisk Files and Folders data selections to NetBackup. The NetBackup export engine does not export other PureDisk data selection types (i.e. database backups).

**Note:** The NetBackup engineering binaries for NetBackup will not be necessary in NetBackup 6.0 MP5. This document will be updated at that time.



## **3 PREREQUISITES**

The following sections describe the software, configuration, and licenses you need to have in order to export data from PureDisk to NetBackup and to restore data from NetBackup to PureDisk.

### **3.1 Export prerequisites**

#### **3.1.1 PureDisk environment**

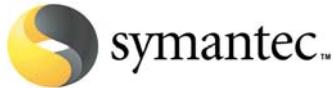
To export data selections from the PureDisk environment, the following is required:

- PureDisk 6.1 MP1A on one or more nodes. This version contains the NetBackup export engine (nbu service). See the [\*Veritas NetBackup PureDisk Remote Office Edition Getting Started Guide\*](#), version 6.1.3, for complete information on PureDisk hardware and software requirements.
  - [PDOS 6.1](#) ([PDOS 6.0](#) only if running in a VMware 32-bit guest)
  - [PureDisk 6.1](#)
  - [PureDisk 6.1 MP1A](#)
- NetBackup Enterprise 6.0 MP4 client software
  - NBU 6.0 for [Unix Client](#) (RedHat Linux version)
  - NBU 6.0 MP4 for [Unix Client](#)
- [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) (Linux RedHat 2.4) on each node that hosts the PureDisk NetBackup export engine service.

#### **3.1.2 NetBackup environment**

The NetBackup master and media server(s) where the PureDisk data is to be exported must contain the following:

- NetBackup Enterprise 6.0 MP4
  - NBU 6.0 Server ([Windows 32-bit](#) or Solaris Sun SPARC)
  - NBU 6.0 MP4 for Server ([Windows](#) or Solaris)



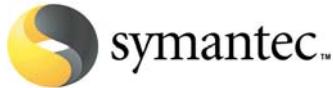
- The appropriate NetBackup server engineering binary:
  - On Windows NetBackup servers, install [NBU\\_60\\_M\\_4\\_PDEWinServer.tar](#).
  - On Solaris NetBackup servers, install [NBU\\_60\\_M\\_4\\_PDESolServer.tar](#).
  - The initial engineering binaries support Windows 32-bit and Solaris Sun SPARC only. However, data can be exported from all supported PureDisk agents.
- A [NBU DataStore license](#). When you export PureDisk data to NetBackup, you use a NetBackup DataStore policy.

## 3.2 Restore prerequisites

To restore files and folders type data selections from NetBackup, the following software is required:

- NBU Enterprise 6.0 MP4 client software
  - NBU 6.0 Client ([Windows](#) or [Solaris](#))
  - NBU 6.0 MP4 for Clients ([Windows](#) or [Solaris](#))
- The appropriate NetBackup client engineering binary:
  - Since [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) must be installed on each node that hosts the PureDisk NetBackup export engine service, these nodes can perform restores as well without additional NetBackup client software.
  - On Windows NetBackup clients, install [NBU\\_60\\_M\\_4\\_PDEWinClient.tar](#).
  - On Solaris NetBackup clients, install [NBU\\_60\\_M\\_4\\_PDESolClient.tar](#).

When you restore this PureDisk data, you perform the restore from NetBackup, and you restore to NetBackup. If necessary, you can use a network transfer method to move the data to the correct PureDisk client. If you want to put the files back under PureDisk control again, use PureDisk to back them up (from the original PureDisk client or an alternate).



## **4 CONFIGURING PUREDISK AND NETBACKUP**

To enable the PureDisk export capability, you need to configure both of the following on the same PureDisk node:

- The PureDisk NetBackup export engine. To configure this, install the PureDisk nbu service on this node. When you install the nbu service, you enable this node to export data from this PureDisk storage pool to a NetBackup environment.
- The NetBackup client software. This is distributed with NetBackup.

You can configure the preceding software on its own, dedicated node, or you can configure this software on a node with other PureDisk components. In a multi-node environment it is possible to configure a node with only the NetBackup client and PureDisk NetBackup export engine. This node can be a low-end machine because it only serves to transfer data. If you have an all-in-one PureDisk environment, you would have to install the NetBackup client on that node along with the PureDisk NetBackup export engine.

To increase export performance in a multi-node PureDisk environment, it is possible to install multiple export engine services on multiple PureDisk nodes. This will allow you to export multiple data selections in parallel.

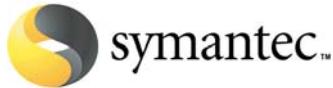
### **4.1 Configuring PureDisk**

#### **4.1.1 Create PureDisk Storage Pool**

1. Install PDOS
2. Install PD 6.1
3. Apply PD 6.1 MP1A

#### **4.1.2 Configure the PureDisk NetBackup export engine**

- Use `edit_topology.sh`
- Choose 5 to edit a node
- Choose 2 to edit the services
- Re-enter all the necessary services + nbu service
- Save the new topology



#### 4.1.3 Install the PureDisk NetBackup export engine

Run `add_NBU_onNode.sh` to add the new NetBackup export engine:

```
linux:/opt/pdinstall # ./add_NBU_onNode.sh <IP>
```

Where `<IP>` is the IP address of the node. See "Configuring the PureDisk node" in the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3.

#### 4.1.4 Activate the PureDisk NetBackup export engine

Enable the export engine by selecting **Activate NetBackup export engine** in the **Topology** tab. See "Activating a new component or service" in the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3.

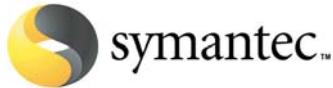
### 4.2 Configuring NetBackup

#### 4.2.1 Pre-Install

- Make sure the NBU master and media servers are reachable by their hostnames from the PureDisk NetBackup export engine node(s) and vice versa
- If DNS is not configured, edit:
  - `/etc/hosts` on the PureDisk NetBackup export engine node(s) and add the hostname and IP of the NBU master and media servers
  - `C:\WINDOWS\system32\drivers\etc\hosts` on the NBU master and media servers and add the hostname and IP of the PureDisk NetBackup export engine node(s) and the NBU master and media servers

#### 4.2.2 Install NetBackup Server

1. Install NBU 6.0 master and media server(s) on [Windows 2003](#) or Solaris. For more information about how to install the NetBackup server, see the *NetBackup Installation Guide* for your platform.
2. Apply NBU 6.0 MP4 to the NBU 6.0 master and media server(s).



3. Install the appropriate NetBackup server engineering binary on each master and media server.
  - a. On Windows NetBackup servers, install [NBU\\_60\\_M\\_4\\_PDEWinClient.tar](#).
  - b. On Solaris NetBackup servers, install [NBU\\_60\\_M\\_4\\_PDESolServer.tar](#).

#### 4.2.3 Install NetBackup Client

1. Install the [NetBackup Linux RedHat 2.4](#) client on each node that hosts the PureDisk NetBackup export engine service.

Both the PureDisk NetBackup export engine service and the NetBackup client need to be running together on the same node or nodes.

**Note:** We recommend the use of multiple export engine nodes. You increase your scalability and allow multiple exports of different data selections in parallel.

When you install the NetBackup Linux RedHat 2.4 client, you might see the following message:

```
No [x]inetd process found.
```

You can ignore this message. The next step in this procedure starts the xinetd daemon.

For more information about how to install the NetBackup client, see the *NetBackup Installation Guide for UNIX and Linux*.

2. On the PureDisk node(s) you want to configure, make sure that the xinetd daemon is running.

Enter the following command to determine if xinetd is running:

```
# ps -aef | grep xinetd
```

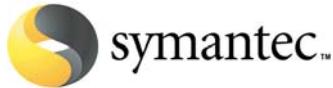
If it is not running, enter the following command:

```
# /etc/init.d/xinetd start
```

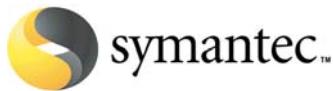
To ensure that the xinetd daemon starts after you reboot the system, type the following command:

```
# chkconfig xinetd on
```

3. Apply [NBU 6.0 MP4](#) on each node that hosts the PureDisk NetBackup export engine service.



4. Install [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) (Linux RedHat 2.4) on each node that hosts the PureDisk NetBackup export engine service.
5. To restore data selections from NetBackup you can:
  - a. Perform the restore from a PureDisk NetBackup export engine node. Since this node has the [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) patch installed, it can perform restores as well without additional NetBackup client software.
  - b. Restore from a Windows NetBackup client if you have the [NBU\\_60\\_M\\_4\\_PDEWinClient.tar](#) patch installed.
  - c. Restore from a Solaris NetBackup client if you have the [NBU\\_60\\_M\\_4\\_PDESolClient.tar](#) patch installed.



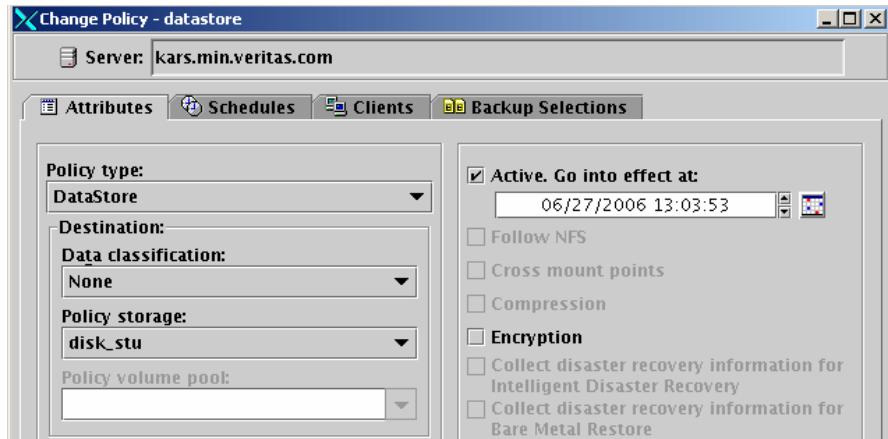
## **5 EXPORTING PUREDISK DATA**

After you have configured PureDisk and NetBackup to work together, you can begin to export PureDisk data. Make sure that PureDisk has backed up the data selections you want to export before you initiate the export. The export process copies the data selections to NetBackup, but it leaves the data on the content routers intact.

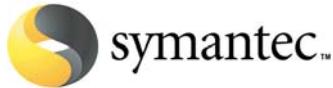
See the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3, for information on performing a point-in-time export to NetBackup. This is a one-time export of a backed up PureDisk data selection to NetBackup and every export will be a full export.

### **5.1 Create a NetBackup DataStore type policy**

1. Open the NetBackup Administration Console. Select the master server that controls the media server that will perform the export.
2. Select the Policies wizard, then **Actions > New > New Policy**. The Add a New Policy dialog appears.
3. Enter a name for the policy. This name is entered in the Parameters tab in the PureDisk export policy.
4. Complete the tabs in the Add New Policy dialog.
  - a. Attributes tab



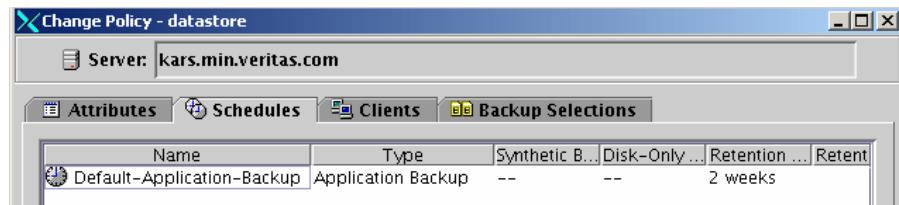
Select DataStore as the policy type. (The DataStore policy type selection appears if the DataStore license key is installed.) The compression and multiple data streams attributes are not supported for export because they are not supported upon restore. In order to



run multiple streams, multiple export engines are required.

The policy must be active for the export to work.

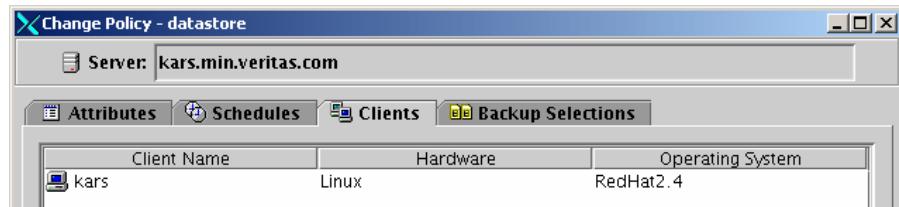
b. Schedules tab



By default, a DataStore policy type uses an Application Backup schedule. The start window for an Application Backup type is open every day for 24 hours.

**Note:** The default schedule can be adjusted or a new schedule can be created, but the start window must coincide with the PureDisk export policy start window.

c. Clients tab



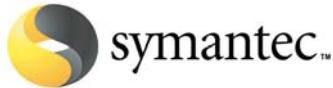
In the Clients tab, add the name of the PureDisk export engine node(s). (Multiple PureDisk export engine nodes can indicate the same NetBackup DataStore policy. Add the export engine nodes in the Clients tab as needed.)

Do not include the name of the originating PureDisk clients.

d. Backup Selections tab

No entries are required on the Backup Selections tab.

5. Save and close the policy.



## 5.2 Create a PureDisk export policy

See the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3, for information on creating an export policy.

As part of the policy creation, note that a NetBackup policy name is entered on the Parameters tab in the export policy. This is the NetBackup DataStore type policy configured for the PureDisk export. See "[Create a NetBackup DataStore type policy](#)" above.

A screenshot of a software interface titled "Parameters". The tab bar at the top includes "General", "Data selections", "Scheduling", "Metadata", and "Parameters", with "Parameters" being the active tab. Below the tabs, there are two configuration fields: "NetBackup Policy Name:" with an empty text input box, and "PureDisk to NetBackup Export Engine:" with a dropdown menu containing the value "10.80.139.45".

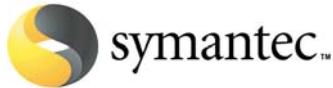
Enter the name of the DataStore policy in the NetBackup Policy Name box (See step 3 of "[Create a NetBackup DataStore type policy](#)"). Select the PureDisk to NetBackup Export Engine.

If no NetBackup policy name is entered, NetBackup tries to determine which policy to use.

The PureDisk policy determines when the export runs. The NetBackup policy must be set up for the export to work.

Additional comments on exports:

- Exports are single-streamed
- One Storage Pool can have multiple PureDisk NetBackup export engines
- Only one export job at a time can run per export engine
- Simultaneous export jobs can run over multiple export engines
- Multiple exports can export to the same NBU DataStore policy



## **6 RESTORING PUREDISK DATA**

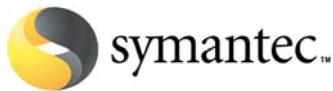
Use the NetBackup client interface, Backup, Archive, and Restore, to restore the PureDisk export data to a PureDisk engine node, a Windows NBU client, or a Solaris NBU client. The system to which the data selections are restored must contain the NetBackup 6.0 MP4 client software and the NetBackup engineering binary to support the export engine.

After the data is restored to the NetBackup client or PureDisk engine node, use a network transfer method to move the files to individual PureDisk clients.

See the [\*Veritas NetBackup PureDisk™ Remote Office Edition Administrator's Guide\*](#), version 6.1.3, for more information on restoring from NetBackup.

### **6.1 Restore PureDisk export data**

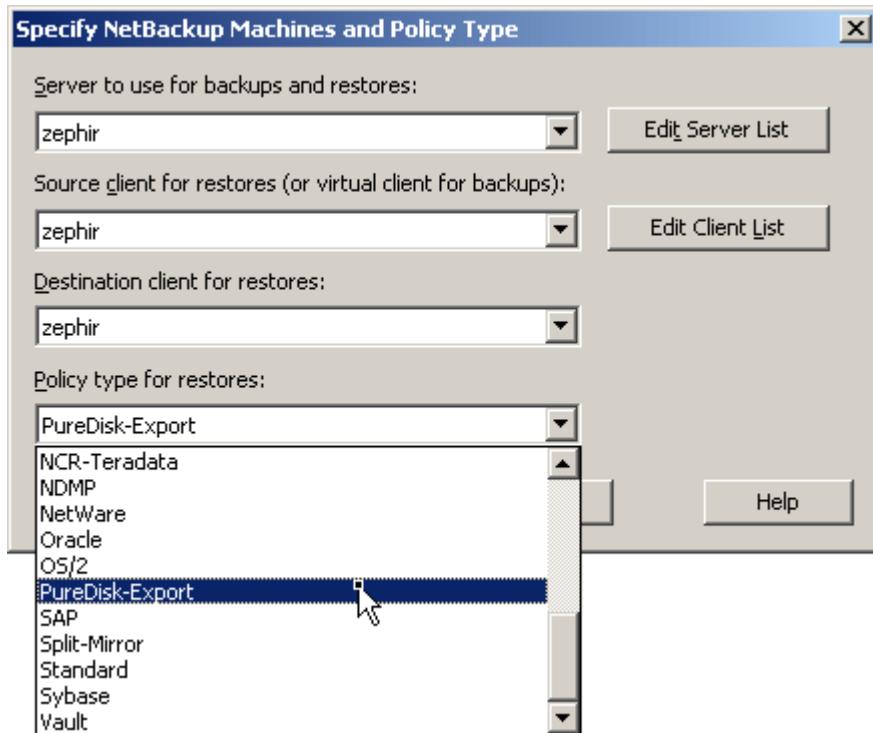
1. Open the NetBackup Backup, Archive, and Restore interface on the restore client.
2. Select **File > Specify NetBackup Machines and Policy Types**.



3. In the Specify NetBackup Machines and Policy Types dialog, select the PureDisk-Export policy type to display the export data available for restore.

**Note:** In this release, the PureDisk-Export policy type selection appears only in the Windows restore dialog. The Java version does not display the PureDisk-Export selection.

Although the NetBackup job runs as a DataStore policy type, the job is catalogued as a PureDisk-Export policy type under the name of the PureDisk client.



In the "Server to use for backups and restores" box, select the NetBackup server where the PureDisk backup data was exported to.

In the "Source client for restores (or virtual client for backups)" box, add the original PureDisk client name the data was originally backed up from.

In the "Destination client for restores" box, select the NetBackup client to restore the data to. Here you can choose any NetBackup client that has the necessary patches installed.

In the "Policy type for restores" box, select *PureDisk-Export* as the policy type. This selection appears only in the Windows restore dialog.

4. Select a backup to restore from the NetBackup History.
5. Restore the files to the selected client as you would restore from a user-directed backup.



## 6.2 Restore support

NetBackup can restore only what PureDisk supports as part of its backups. For example, PureDisk does not provide access control list (ACL) support beyond UNIX file or directory permissions, so NetBackup cannot restore ACLs. See the PureDisk documentation for complete details.

Additional comments on restores:

- While Windows and UNIX security information can be restored, one limitation exists regarding restores to an alternate client for UNIX files: NetBackup backs up both the user ID and user name, but PureDisk backs up only the user ID. In non-PureDisk export backups, during a restore to an alternate client, a user name can map to a different user ID. NetBackup performs a search for the user name and changes the user ID appropriately. For PureDisk export backups this ability is lost, since the user name is not available. Files that are restored could belong to a different user.
- Windows files can be restored to UNIX systems and UNIX files can be restored to Windows systems. However, security information is lost when restoring Windows files to UNIX.

## 7 EXAMPLE USING VMWARE

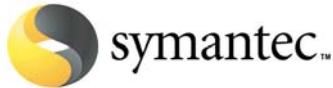
My example VMware environment consists of three virtual machines:

- pdos60 – running PDOS 6.0.2.4 (6.0 GA) + PureDisk 6.1.1.24 (PD 6.1 MP1A) – this is the all-in-one PureDisk server and PureDisk NetBackup export engine node
- nbu60 – running Windows 2003 SP2 + NetBackup 6.0 MP4 – this is the NetBackup master/media server and restore client
- winXPpd – running Windows XP Professional SP2 – this is the PureDisk client

### 7.1

#### Set Up Windows XP PureDisk Client on winXPpd

If you don't have a Windows XP virtual machine, you can optionally download this [Windows 2003](#) virtual machine and use it as a client.



Once you have PureDisk configured, install an agent on winXPpd and configure it to be backed up. Back it up.

## 7.2 Set Up NetBackup Server on nbu60

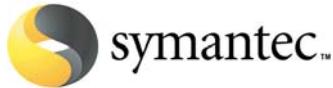
You can optionally download this [Windows 2003](#) virtual machine.

1. Edit c:\WINDOWS\system32\drivers\etc\hosts on nbu60 and add the hostname and IP of pdos60 and nbu60
2. Mount [NBU-6.0.iso](#) to nbu60 and install a NBU 6.0 master and media server.
3. Copy [NB\\_60\\_4\\_M.winnt.intel\\_285941.exe](#) to nbu60 and install it:
  - a. Extract NB\_60\_4\_M.winnt.intel\_285941.exe by double-clicking it
  - b. Double-click setup.exe
4. Copy the engineering binary [NBU\\_60\\_M\\_4\\_PDEWinServer.tar](#) to nbu60 and install it:
  - a. Bring the NBU services down

```
<installpath>\NetBackup\bin\bpdown.exe
```
  - b. Create a copy of the \bin and \share directories

```
<installpath>\VERITAS\NetBackup>xcopy /s /i bin bin-save  
<installpath>\VERITAS\NetBackup>xcopy /s /i share share-save
```
  - c. Unzip [NBU\\_60\\_M\\_4\\_PDEWinServer.tar](#)  
Copy the extracted \bin and \share directories to  
`<installpath>\VERITAS\NetBackup\`
  - d. Bring the NBU services up

```
<installpath>\NetBackup\bin\bpup.exe
```
5. I created a disk storage unit for my back up destination.



## 7.3 Set Up PureDisk Server on pdos60

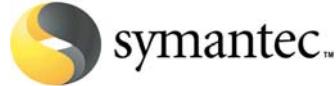
You can optionally download this [PureDisk 6.1 MP1A](#) virtual machine. This will allow you to skip steps 1-3.

1. Mount [PureDisk-6.0.iso](#) to pdos60 and install PDOS 6.0.2.4.
2. Mount [puredisk-6.1.0.35.iso](#) to pdos60 and install PureDisk 6.1.0.35 (PureDisk 6.1 GA).
3. Mount [NB\\_PDE\\_61\\_MP1A\\_287416.iso](#) to pdos60 and install PureDisk 6.1 MP1A (PureDisk 6.1.1.24).
4. Configure the PureDisk NetBackup Export Engine

```
pdos60:/opt/install # ./edit_topology.sh
```

```
PUREDISK REMOTE OFFICE: Topology Wizard  
-----  
  
1: Edit node system configuration  
2: Edit storagepool details  
3: Show topology summary  
4: Add a node  
5: Edit a node  
6: Delete a node  
7: Save topology  
8: Quit  
: -
```

Choose 5 to Edit a node and press Enter



PUREDISK REMOTE OFFICE: Topology Wizard

```
Node number 1 (192.168.64.11)                                ENABLED

Services:
-StoragePool Authority
-Metabase Server
-Metabase Engine
-Content Router
-CIFS Gateway
-NetBackup Gateway

Password: root

--> Please enter the number of the node you want to edit : _
```

Enter the node number, 1 in our case, and press Enter

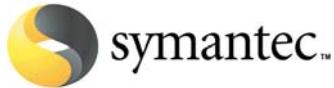
```
-StoragePool Authority
-Metabase Server
-Metabase Engine
-Content Router
-CIFS Gateway
-NetBackup Gateway

Password: root

1: Edit ip/hostname
2: Edit services
3: Edit password
4: Enable node
5: Disable node
6: Back

: _
```

Choose 2 to Edit services and press Enter  
Re-enter all the necessary services + nbu service

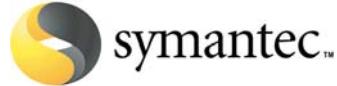


```
-CIFS Gateway  
-NetBackup Gateway  
  
Password: root  
  
1: Edit ip/hostname  
2: Edit services  
3: Edit password  
4: Enable node  
5: Disable node  
6: Back  
  
: 2  
  
Current service(s): spa,mbs,mbe,cr,cifs,nbu  
--> Please enter the new service(s) for node 1 : spa,mbs,mbe,cr,cifs,nbu_
```

Press Enter

```
-StoragePool Authority  
-Metabase Server  
-Metabase Engine  
-Content Router  
-CIFS Gateway  
-NetBackup Gateway  
  
Password: root  
  
1: Edit ip/hostname  
2: Edit services  
3: Edit password  
4: Enable node  
5: Disable node  
6: Back  
  
: _
```

Choose 6 to go Back and press Enter



PUREDISK REMOTE OFFICE: Topology Wizard

- ```
1: Edit node system configuration  
2: Edit storagepool details  
3: Show topology summary  
4: Add a node  
5: Edit a node  
6: Delete a node  
7: Save topology  
8: Quit
```

: -

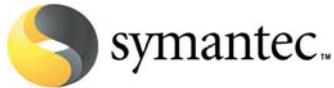
Choose 8 to Quit

PUREDISK REMOTE OFFICE: Topology Wizard

```
WARNING: all unsaved data will be lost.  
Do you want to save before quitting? (yes/no)
```

-

Type yes and press Enter



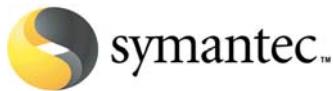
PUREDISK REMOTE OFFICE: Topology Wizard

```
Please wait while saving topology..... done
- Encryption of topology.ini -
Your 'topology.ini' file contains passwords. It is strongly recommended to encrypt this file.
(You will be able to decrypt the file at any time using: '/opt/pdinstall/enc_topology.sh -d')
Type 'yes' to encrypt your 'topology.ini' file,
type 'no' to skip the encryption (e.g.: you want to run 'install_newStoragePool' now):
```

Type no to skip the encryption and press Enter

PUREDISK REMOTE OFFICE: Topology Wizard

```
Please wait while saving topology..... done
- Encryption of topology.ini -
Your 'topology.ini' file contains passwords. It is strongly recommended to encrypt this file.
(You will be able to decrypt the file at any time using: '/opt/pdinstall/enc_topology.sh -d')
Type 'yes' to encrypt your 'topology.ini' file,
type 'no' to skip the encryption (e.g.: you want to run 'install_newStoragePool' now):
no
You can encrypt the file at any time using: '/opt/pdinstall/enc_topology.sh -e'
pdos60:/opt/pdinstall # _
```



## 5. Install the PureDisk NetBackup Export Engine

```
pdos60:/opt/pdinstall # ./add_NBU_onNode.sh <ip-addr-new-node1>
```

where

<ip-addr-new-node1> is the IP address of your PureDisk server

## 6. Activate the PureDisk NetBackup Export Engine

Go to "Topology" in the PureDisk UI and activate the export engine service

The screenshot shows the Microsoft Internet Explorer browser displaying the Veritas NetBackup PureDisk Remote Office Edition interface. The title bar reads "Veritas NetBackup PureDisk™ Remote Office Edition - Microsoft Internet Explorer". The address bar shows the URL "https://pdos60/spa/gui/index.php?select=a:4:{i:0;i:0;i:1;i:2;i:0;i:3;i:3;}".

The main window has a yellow header with the Symantec logo. Below the header, there is a navigation menu with links: Data management, Data selection templates, Workflows, Events, Topology (which is currently selected), Configuration, Help, About, Log out, and Logged in as root.

The left sidebar is titled "Administration" and contains three options: Edit NetBackup export engine, Activate NetBackup export engine, and Deactivate NetBackup export engine. The "Edit NetBackup export engine" option is highlighted.

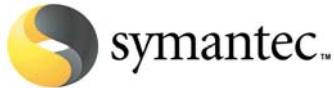
The central pane is titled "Topology" and shows a hierarchical tree structure under "World". The "testHome" node is expanded, showing its children: 192.168.64.11 (id: 74000000), Database engine, Database server, Content router, and NetBackup export engine. The "NetBackup export engine" node is also expanded, showing its children: CIFS Interface.

On the right side of the screen, there is a "Maintenance jobs" section with a search bar and a message: "Find: [ ] Status [ ] Find now Clear. No items found under current selection."

The bottom of the screen shows the Windows taskbar with icons for Start, Activity Monitor, and Backup, Archive, and Re... The system tray shows the date and time as 2:46 PM.

## 7. Install the NBU 6.0 client on pdos60

- Edit /etc/hosts on pdos60 and add the hostname and IP of nbu60
- Verify you can ping nbu60 from pdos60 and vice versa
- Mount [NB\\_60\\_CLIENTS.iso](#) to pdos60



- d. Run the NBU Client installer

```
pdos60:/opt/pdinstall # ./media/cdrom/install

VERITAS Installation Script
Copyright 1993 - 2005 VERITAS Software Corporation, All Rights Reserved.

Installing NetBackup Client Software

NOTE: To install NetBackup Server software, insert the appropriate
NetBackup Server cdrom.

Do you wish to continue? [y,n] (y) _
```

Press Enter to continue, press Enter to install the client

```
pdos60:/opt/pdinstall # ./media/cdrom/install

VERITAS Installation Script
Copyright 1993 - 2005 VERITAS Software Corporation, All Rights Reserved.

Installing NetBackup Client Software

NOTE: To install NetBackup Server software, insert the appropriate
NetBackup Server cdrom.

Do you wish to continue? [y,n] (y)
Do you want to install the NetBackup client software for this client? [y,n] (y)

OS Level Options
-----
1. IBMzSeriesLinux2.4.21
2. RedHat2.4
q To quit from this script

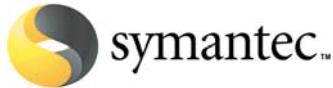
If your Operating System is a newer level than those listed,
choose the highest level.

Enter Choice [1 - 2] _
```

Select 2 for the RedHat2.4 client and press Enter

- e. Copy [NB\\_CLT\\_60\\_4\\_M\\_285952.tar](#) to pdos60, untar, and install:

```
pdos60:~/mp4 # ./Vrts_pack.install
```



- f. Copy [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) to pdos60, untar, and install:

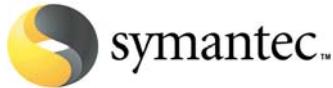
```
pdos60:~ # mkdir /usr/openv/save  
pdos60:~ # cp -rp /usr/openv/netbackup/bin /usr/openv/save/bin  
pdos60:~ # cp -rp /usr/openv/lib /usr/openv/save/lib  
pdos60:~ # cd /
```

- g. Extract the files from [NBU\\_60\\_M\\_4\\_PDERedHatClient.tar](#) to /:

```
pdos60:/ # tar -xf NBU_60_M_$PDERedHatClient.tar
```

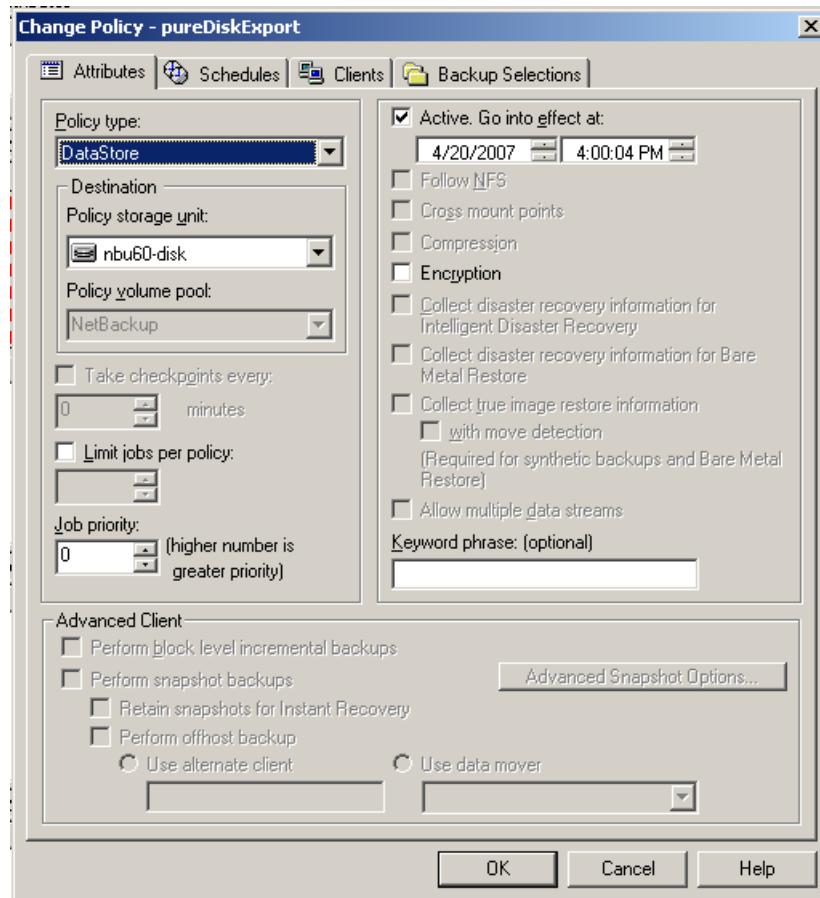
## 7.4 Configure the NetBackup DataStore policy

1. Open the NetBackup Administration Console on nbu60
2. Select the Policies wizard, then **Actions > New > New Policy**. The Add a New Policy dialog appears.
3. Enter `pureDiskExport` in the Policy name box. For this example I have unchecked the Use Backup Policy Configuration Wizard box. Click OK.

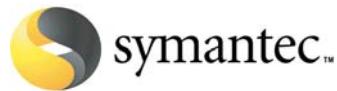


4. Complete the tabs in the Add New Policy dialog.

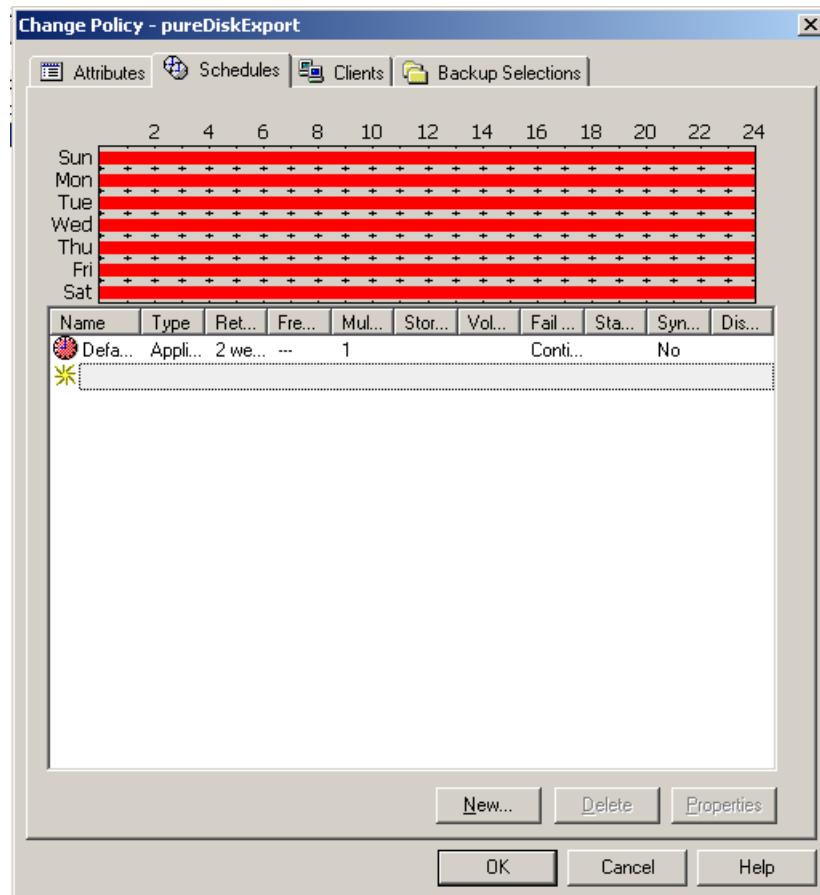
a. Attributes tab



Select DataStore for the **Policy type**. Select the disk storage unit you created for the **Policy storage unit**. Insure the **Active** box is checked.

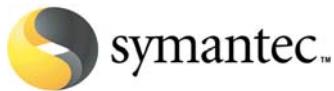


b. Schedules tab

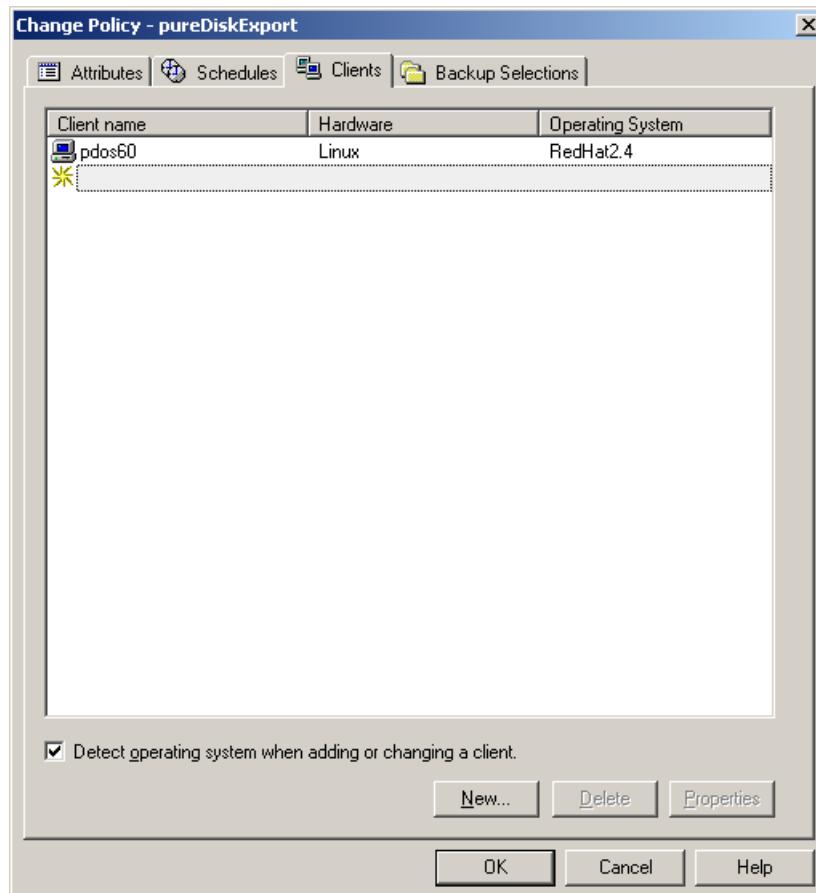


This is how it looks by default.

**Note:** The default schedule can be adjusted or a new schedule can be created, but the start window must coincide with the PureDisk export policy start window.



c. Clients tab



In the Clients tab add pdos60

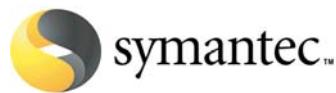
d. Backup Selections tab

Nothing is required in this tab.

e. Click **OK**.

## 7.5 Configure the PureDisk Export to NetBackup policy

1. I assume you have installed a PureDisk agent on winXPpd by this point and have backed it up.



2. Through the PureDisk UI click the **Workflows** tab, click **Data Management Policies**, and click **Export To NetBackup**. Under Administration, click **Create policy**.

The screenshot shows the Veritas NetBackup PureDisk Remote Office Edition interface in Microsoft Internet Explorer. The title bar reads "Veritas NetBackup PureDisk™ Remote Office Edition - Microsoft Internet Explorer". The address bar shows the URL "https://pdos60/spa/gui/index.php?select=a:3:{i:0;i:0;i:1;i:1;i:2;i:2;}".

The main window has a yellow header with the Symantec logo. Below the header, there are several tabs: Data management, Data selection templates, **Workflows**, Events, Topology, Configuration, Help, About, Log out, and Logged in as root.

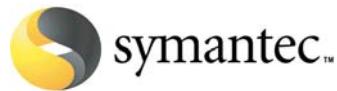
The left sidebar under "Administration" has a "Create policy" button. The main content area displays a tree view of workflows:

- Workflows
  - Backup Policies
    - MS Exchange Backup
    - MS SQL Backup
    - Files and Folders Backup
    - System State and Services Backup
  - Data Management Policies
    - Data Removal
    - Replication
    - Export To NetBackup**
  - Storage Pool Management Policies
    - MB Garbage Collection
    - CR Garbage Collection
    - Rerouting
    - Data Mining
    - Maintenance
    - Data Selection Removal
    - Disaster Recovery Backup
  - Restore Workflows
    - Files and Folders Restore
    - MS Exchange Restore
    - MS SQL Restore
    - System State and Services Restore
  - Miscellaneous Workflows
    - Import Replicated Data Selection
    - Update Routing Tables
    - Config File Update
    - Agent Update

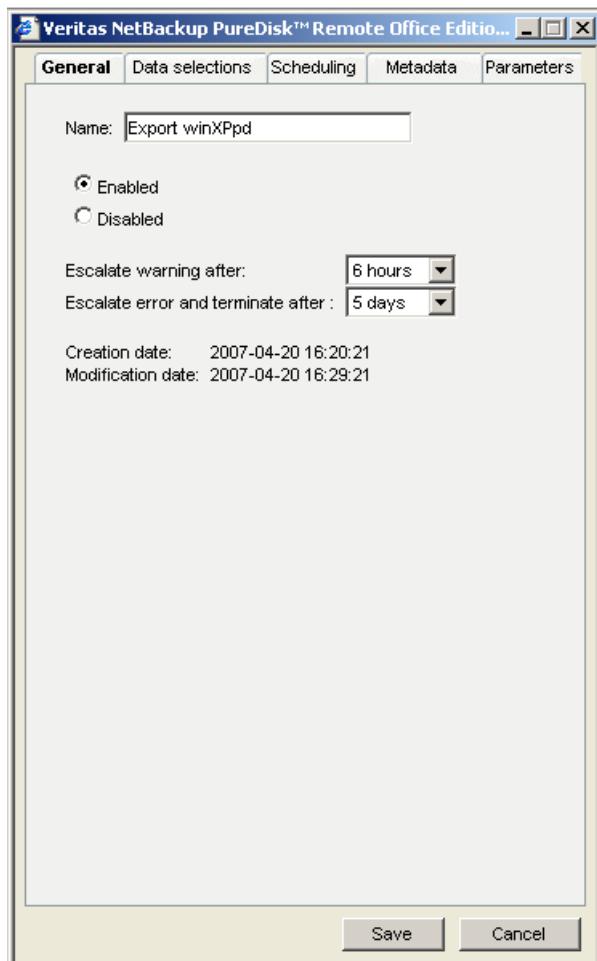
To the right of the tree view is a table titled "Jobs" showing five entries:

| Details | Status              | Agent           | Description | Creation date |
|---------|---------------------|-----------------|-------------|---------------|
| winXPpd | Export To NetBackup | 2007-04-23 16:3 |             |               |
| winXPpd | Export To NetBackup | 2007-04-23 15:2 |             |               |
| winXPpd | Export To NetBackup | 2007-04-23 15:1 |             |               |
| winXPpd | Export To NetBackup | 2007-04-23 15:0 |             |               |
| winXPpd | Export To NetBackup | 2007-04-20 16:2 |             |               |

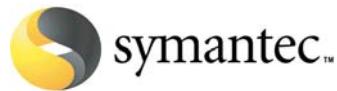
At the bottom of the interface, there is a toolbar with icons for Start, Task View, and other system functions. The status bar shows "Local intranet" and the time "4:15 PM".



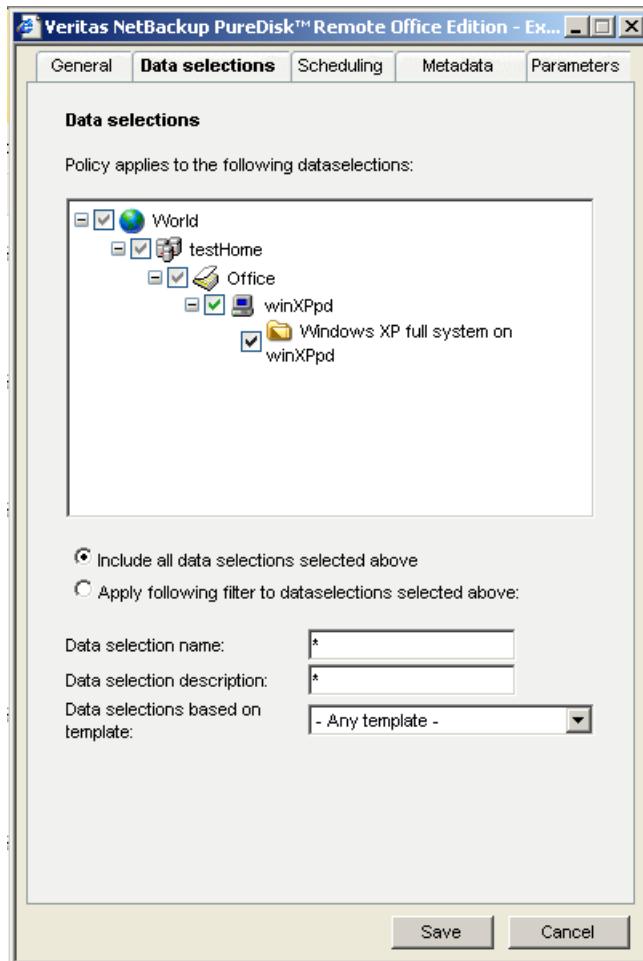
### 3. General tab



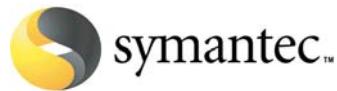
Enter the name for the policy in the Name box. Remember to Enable it.



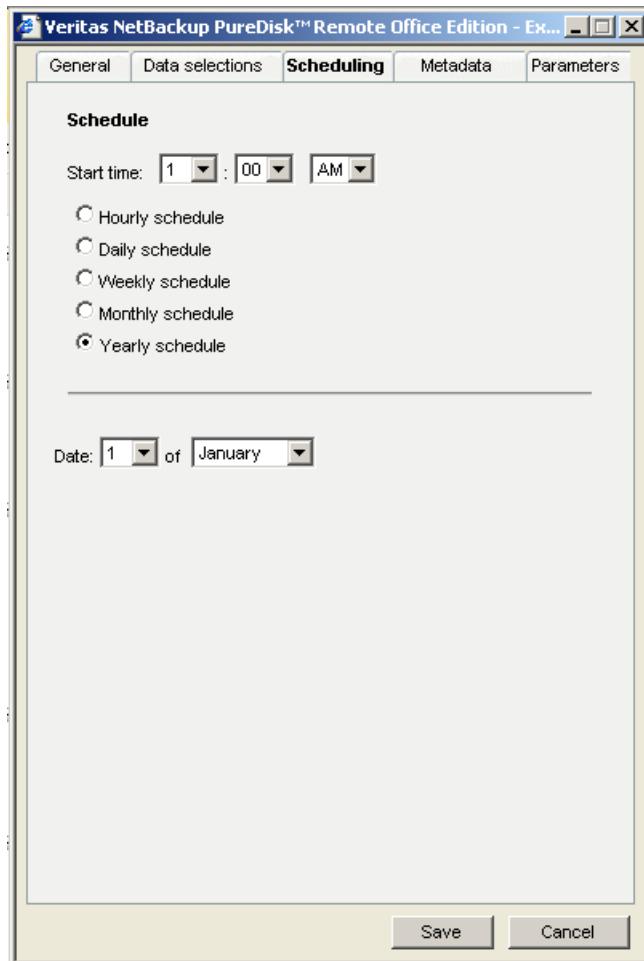
#### 4. Data selections tab



Choose your data selection(s)



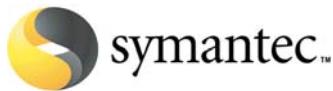
## 5. Scheduling tab



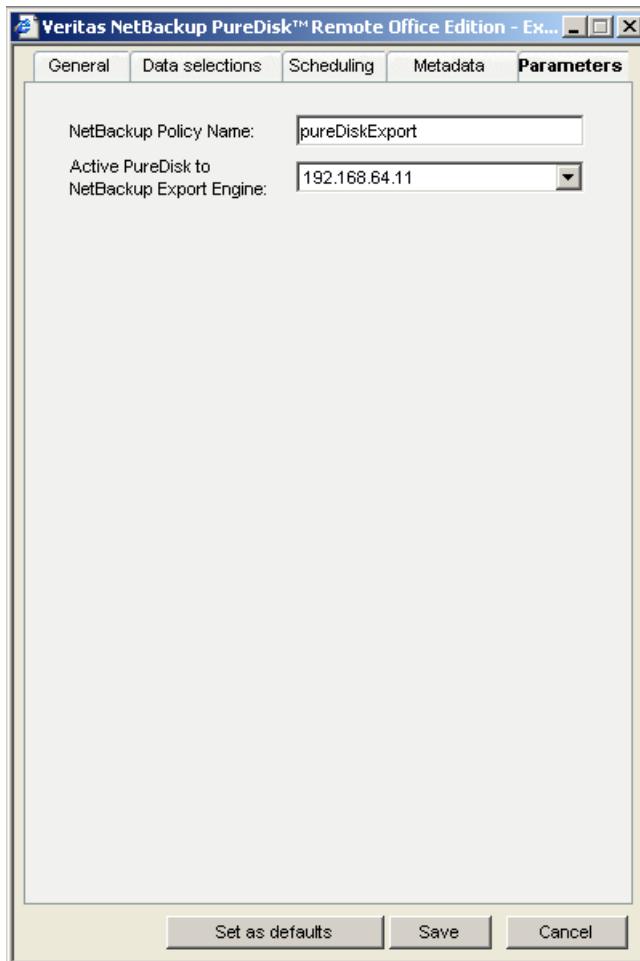
Choose your schedule. Since you will most likely be manually running this policy, a yearly schedule is fine.

## 6. Metadata tab

You can optionally apply filters to the policy. I haven't.



## 7. Parameters tab



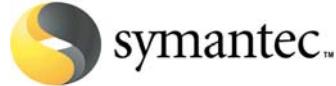
Enter `pureDiskExport` in the NetBackup Policy Name box. This is the policy name for the NetBackup DataStore policy created in step 3 of "[Configure the NetBackup DataStore policy](#)."

Enter the IP address for `pdos60` in the Active PureDisk to NetBackup Export Engine box.

Click on Save.

## 7.6 Run the Export to NetBackup policy

1. In the PureDisk click the **Workflows** tab
2. In the middle pane, expand **Export to NetBackup**



3. Select the policy you want to run. For this example it will be **export winxppd**.

4. In the left pane, click **Run policy now**.

The screenshot shows the Veritas NetBackup PureDisk Remote Office Edition interface in Microsoft Internet Explorer. The title bar reads "Veritas NetBackup PureDisk™ Remote Office Edition - Microsoft Internet Explorer". The menu bar includes File, Edit, View, Favorites, Tools, and Help. The address bar shows the URL "https://pdos60/spa/gui/index.php?select=a:4:{i:0;i:0;i:1;i:2;i:3;i:0;}".

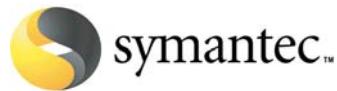
The main content area has a yellow header with the Symantec logo. Below it, there are tabs: Data management, Data selection templates, **Workflows**, Events, Topology, Configuration, Help, About, Log out, and Logged in as: root.

The left sidebar under "Administration" has the following options: Edit policy, Delete policy, Copy policy, Add policy escalation, Delete policy escalation, and **Run policy now**.

The central pane displays a tree view of workflows:

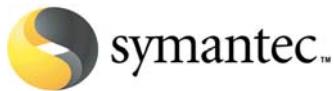
- Workflows
  - Backup Policies
    - MS Exchange Backup
    - MS SQL Backup
    - Files and Folders Backup
    - System State and Services Backup
  - Data Management Policies
    - Data Removal
    - Replication
    - Export To NetBackup**
      - export winxppd**
  - Storage Pool Management Policies
    - MB Garbage Collection
    - CR Garbage Collection
    - Rerouting
    - Data Mining
    - Maintenance
    - Data Selection Removal
    - Disaster Recovery Backup
  - Restore Workflows
    - Files and Folders Restore
    - MS Exchange Restore
    - MS SQL Restore
    - System State and Services Restore
  - Miscellaneous Workflows
    - Import Replicated Data Selection
    - Update Routing Tables
    - Config File Update
    - Agent Update

<<First page <Previous page Page 1 of 1 Next page>> Last page>>



5. This is how the export job looked in PureDisk:





Veritas NetBackup PureDisk™ Remote Office Edition - Job - Microsoft Internet Explorer

General Details Statistics Joblog

**Job details**

| Status                           | Description                                                                 |
|----------------------------------|-----------------------------------------------------------------------------|
| <input type="radio"/>            | <input checked="" type="checkbox"/> Create a POList of files to be exported |
| <input checked="" type="radio"/> | <input checked="" type="checkbox"/> Export the files                        |
| <input type="radio"/>            | <input checked="" type="checkbox"/> mark job as success                     |
| <input type="radio"/>            | <input checked="" type="checkbox"/> exit job                                |

Last refresh: 2007-04-26 17:11:20

**Job step details**

|                                 |
|---------------------------------|
| Start time: 2007-04-26 17:03:17 |
| Stop time: 2007-04-26 17:10:29  |

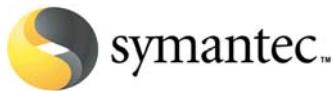
Normal

```
### NetBackup Export Parameters ###  
Data selection id : 2  
Data source client : winXppd  
Export agent : 192.168.64.11  
NetBackup version : NetBackup-RedHat2.4  
6.0MP4  
NetBackup Policy : pureDiskExport  
  
*** Export completed successfully (19866 P0  
processed, 2.83 GB) ***  
  
### NetBackup Export Statistics ###  
Duration : 0 days, 00:06:59  
Items Exported : 19866 (2.83 GB)  
Export Speed : 6.91 MB/sec  
Processing Speed : 47.38 Items/Sec  
Files exported : 17748  
Directories exported : 2118  
Hard Links exported : 0  
Symbolic Links exported : 0  
Device Files exported : 0  
  
*** Stop Executing ExportFilesToNBU ***
```

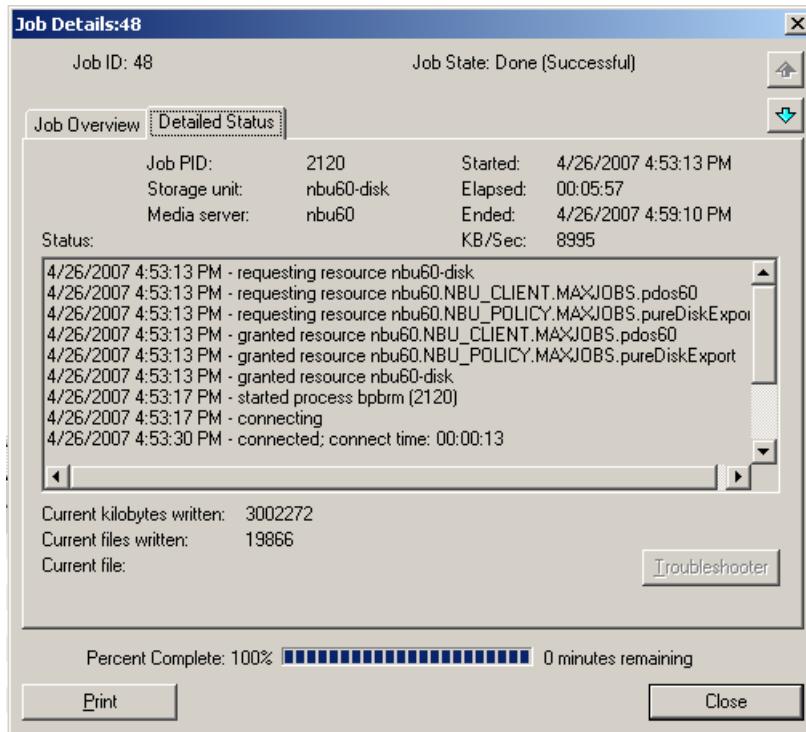
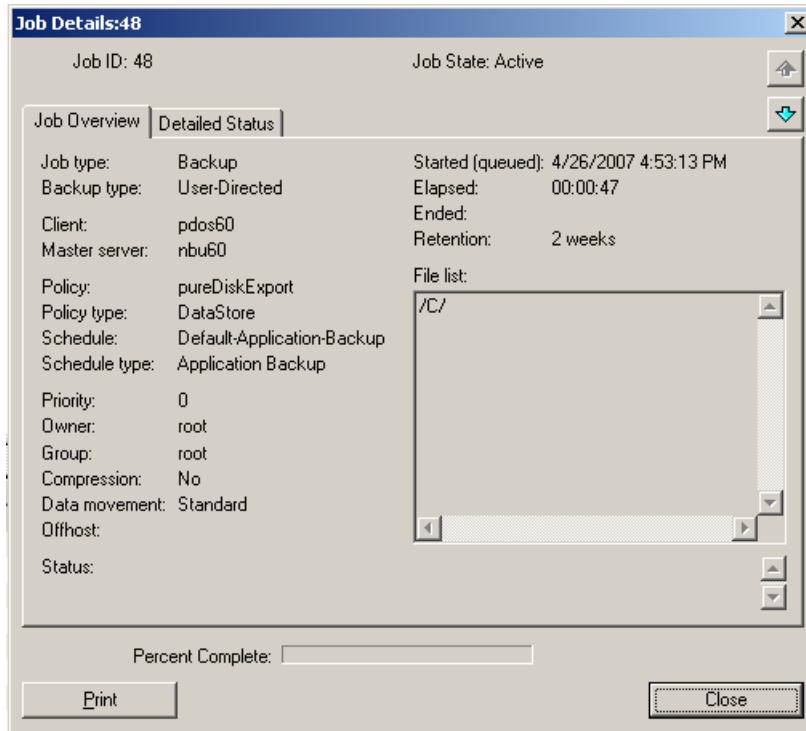
Close

2.83 GB was exported to NBU at 6.91 MB/sec.

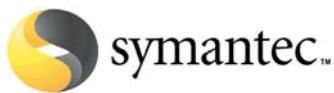
The PureDisk VM is on one external eSATA drive, and the NetBackup VM is on a separate external eSATA drive. They are connected to my ThinkPad T60P via an Express/54 card.



6. This is how the NBU job looked like from NBU:

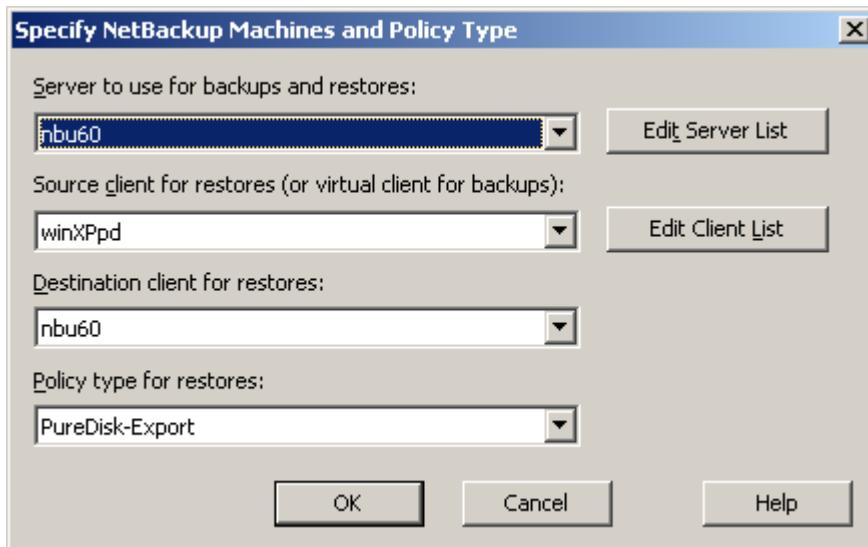


The NBU job wrote 3,002,272 KB in 5m 57s for a throughput of 8,995 KB/sec.

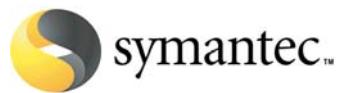


## 7.7 Restoring from NetBackup

1. Open the NetBackup Backup, Archive, and Restore interface on nbu60.
2. Select **File > Specify NetBackup Machines and Policy Types**.
3. In the Specify NetBackup Machines and Policy Types dialog:



- a. Select nbu60 for Server to use for backups and restores.
- b. Select winXPpd as the Source client for restores.
- c. Select nbu60 as the Destination client for restores.
- d. Select **PureDisk-Export** as the Policy type for restores.
- e. Click **OK**.



4. Pick what you want to restore.

