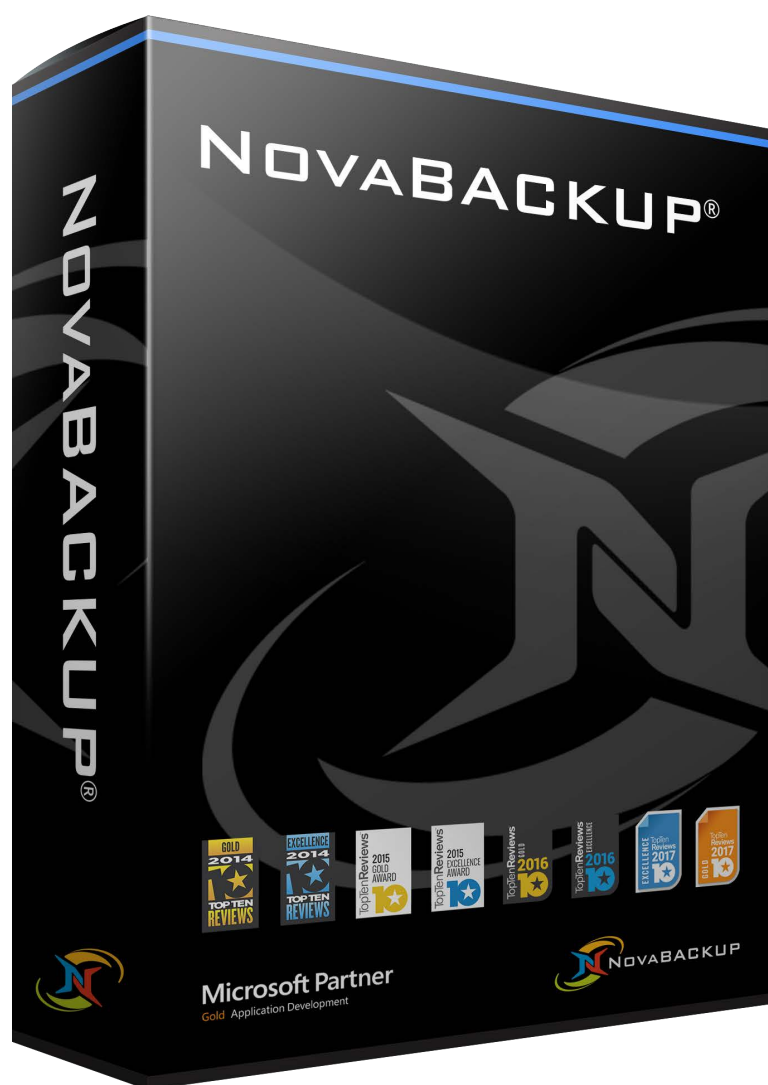




NovaBACKUP User Manual



Features and specifications are subject to change without notice.
The information provided herein is provided for informational and planning purposes only.

TOC

NovaBACKUP System Requirements	7
Installing the Software	8
Command Line Installation	8
Getting To Know the User Interface	9
Launch Button	10
Copy Tab	13
Button Functions	14
"Copy To" Button	14
"Make Folder" Button	14
"Estimate" Button	15
"Schedule" button	15
"Settings" button	15
"Copy" button	15
Backup Tab	15
Backup Job Name	16
Button Functions	17
"Estimate" Button	17
"Schedule" button	17
"Settings" button	17
"Backup To.. " button	17
"Backup" button	17
Restore Tab	18
Button Functions	20
Logs Tab	21

Button Functions	22
Schedule Tab	22
Right-Click Functions	24
Button Functions	24
Device Tab	24
Right-Click Functions	26
Hard Drive, Removable Hard Drives, Networked Drives & Tape:	26
& Tape Devices	26
Internet and Network storage devices	26
Button Functions	26
Status Tab	26
Button Functions	28
"Stop" Button - Stops the currently running job	28
"Pause" Button - Pauses the currently running job - Job remains active	28
"Resume" Button -Resumes the previously paused job	28
The Scheduler	28
Virtual Dashboard	31
Adding a hypervisor	31
Adding a VMware hypervisor	31
Adding a Hyper-V hypervisor	32
Editing a local Hyper-V hypervisor	32
Editing a remote Hyper-V hypervisor	32
Editing a hypervisor	32
Removing a hypervisor	32
Adding a virtual machine	33
Editing a VMware hypervisor	33

Editing a Hyper-V hypervisor	33
Editing a local Hyper-V hypervisor	33
Editing a remote Hyper-V hypervisor	34
Backing up virtual machines	34
Backing up VMware	34
Changed Block Tracking	34
Setting up VMware backups	35
VMware Retention	35
Full	35
Incremental and Differential initial backups	35
Incremental	35
Differential	35
Backing up Hyper-V	36
Setting up Hyper-V backups	36
Hyper-V Retention	36
Recover Previous Backups function	36
Restoring VMware backups	38
Mount (Individual file restore)	38
Restore (Restore to hypervisor)	39
Restoring Hyper-V backups	39
Mount (Individual file restore)	39
Restore (Original Location)	39
Restore (Alternate Location)	39
VMware Replication	40
Changed Block Tracking	40
VMware Replication Retention	40

Setting up VMware replication	40
Hyper-V Replication	41
Requirements	41
Setting up Hyper-V Replication	41
Glossary	41
Backup	41
Changed Block Tracking	41
Replication	42
VMware Replication	42
Hyper-V Replication	42
Retention	42
Run as	42
Image Backup Operation Type	42
Introduction	43
Selection	44
Process	47
Selection	48
Process	50
Boot Disc - Introduction and Selection	51
Install Windows Assessment and Deployment Kit (ADK) components (for Advanced Boot Media mode only)	54
Boot Disc - Install Windows components (Advanced Boot Media mode only)	54
Create Boot Image	56
Write Boot Disc	58
Tools	61
Select Backup Type	62

Select Items for Image Backup	64
Image Backup Destination	65
Completing the Image Backup Job	67
Backup Retention Overview	69
Backup Retention Basic Tab	71
Backup Retention Advanced Tab	73
Program Settings	74
Copy Tab	75
Restore Tab	80
Notification Tab	82
Filters Tab	86
Run As Tab	88
Custom Tab	90
Advanced Options Tab	91
CMon Server Tab	93
VMware Servers Tab	94
Copy Job Options	95
Copy Job Filters	97
Copy Job Notification	98
Copy Job Run As	103
Copy Job Network Credentials	104
Copy Job Custom Commands	105
Backup Job Options	106
Backup Job Filters	109
Backup Job Notifications	110

Backup Job Encryption	115
Backup Job Run As	116
Backup Job Network Credentials	118
Backup Job Custom Commands	119
Restore Job Options	120
Restore Job Filters	122
Restore Job Notification	123
Restore Job Run As	128
Restore Job Network Credentials	129
Restore Job Custom Commands	130
Logs Tab	131
Button Functions	132
Viewing the Logs	132
Summary Reports	133
Filters Tab	136
Online Storage Devices	137
Configuring S3 Storage Device	137
Network Device Overview	138
Network Device Settings	139
xSP Staging Settings	145
File Selection, System State & Registry	148
Registry & System State Backup	150
Importing Backups	153
Scripted Environment Variables	156

NovaBACKUP System Requirements

Requirements that need to be met in order to install and use NovaBACKUP.

View the NovaBACKUP 19.5 System Requirements PDF document [here](#) to know the specific system requirements that the NovaBACKUP software requires to be in place before it can be utilized for installation, backup and restore operations.

Specific requirements exist for NovaBACKUP to be able to function properly with the installed Microsoft Operating System version and service pack level, Microsoft Hyper-V version and service pack level, Microsoft Exchange version and service pack level, Microsoft SQL version and service pack level, and VMware version.

Installing the Software

Installing from downloaded file:

To install NovaBACKUP locate the downloaded installer .exe file and right-click on the Setup-NB*.exe program and then select "Run as administrator". It is required to be logged in to Windows with an Administrator account for the software installation. You may need to temporarily disable Anti-Virus & Anti-Malware real-time scanner and Firewall software for the install - How-to [here](#).

Command Line Installation

Installing NovaBACKUP software from command line:

NovaBACKUP client Installer fails on activation of either trial or licensed version; workaround install via command line. View this NovaBACKUP Knowledge Base article [here](#).

NovaBACKUP client Installer fails on activation of either trial or licensed version. This is most likely due to a [.NET Framework related issue - troubleshooting steps are in our KB here](#), on your system. Here are the two workaround steps to attempt to get NovaBACKUP client to install:

1. Install NovaBACKUP client (Setup-NB-xx.exe) via a silent command line, using the following instructions from [another KB article](#):

If that does not work then attempt a command line installation of NovaBACKUP software via an **Administrative Command Prompt, this method will bypass the activation phase of the Setup program but you will later have to activate the software after loading NovaBACKUP:**

On the same PC, start an **Administrative Command Prompt** by right-clicking on Command Prompt and do "Run as Administrator" on it and then issue this command after changing to the folder where the Setup program is located first and this example assumes your Setup program is named "Setup-NB*.exe", if your Setup program is named something different then make sure you take note of the file name for the Setup .exe program to change it in the first portion of the command line that you will be issuing to the Administrative Command Prompt below. The first line of this command assumes that your Setup-NB*.exe downloaded setup program, typically this would be located in your own user's Downloads folder, so the first command shows you how to change to your own user's Downloads folder:

```
cd\Users\Your.User.Name\Downloads
```

After changing to the correct folder where NovaBACKUP's Setup-NB*.exe is located, then issue this command:

```
Setup-NB*.exe /Log /q /noreboot /ComponentArgs "Backup Client":"/q /prop REBOOT=ReallySuppress /log c:\Quiet_Install_Setuplog.txt"
```


Paste that entire command in directly, starting with "Setup-NB". Make sure to change the first "Setup-NB*.exe" part of that command to match the file name of the setup .exe installer that you downloaded so that the above command can work.

When that task runs you can see that it is running by looking at your Windows Task Manager and in the Processes or Details area look for "Setup-NB-*.exe" in the list of processes running and when it is done it will no longer list that processes as being active when it is done running.

Now look for the NovaBACKUP desktop shortcut to see if it was created after that install completed. If it is in fact listed then the software is installed. Now you can launch the software and attempt activation directly from the program.

2. Then open the NovaBACKUP client software and follow the prompts that will come up just after launching the application to register the software.

Getting To Know the User Interface

The User Interface

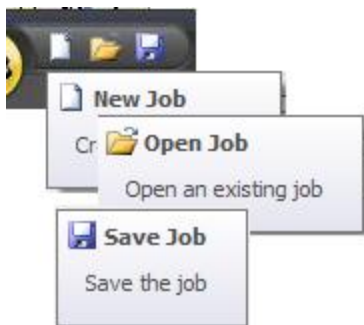
The user interface consists of a single main screen. At the top of this screen you'll find the "Launch Button", "Quick Access Toolbar" and a set of seven tabs.

Launch Button



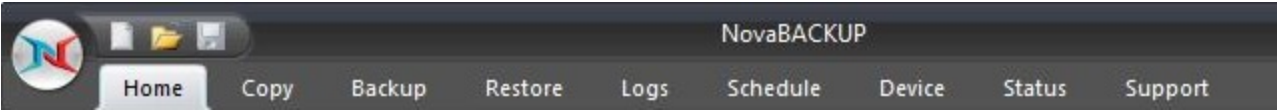
The Launch Button is in the top-left corner of NovaBACKUP. It provides fast access to files and frequently used commands. From here, you can quickly create a new job, open, run and save an existing job, or import previous backup jobs.

Quick Access Toolbar



From here, simply click on the appropriate icon to create a new job, open an existing job or save the current job.

Tabs



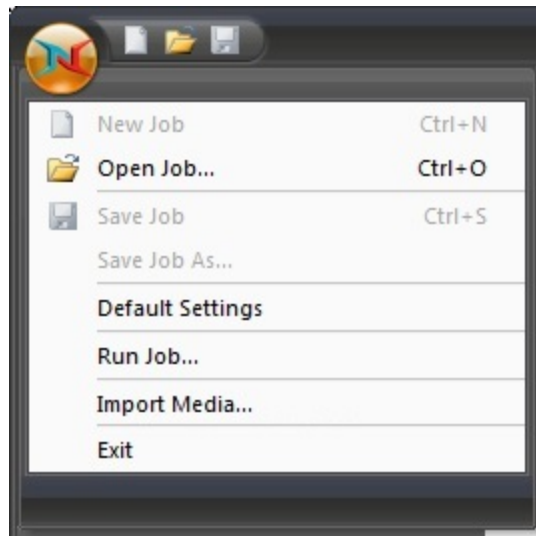
The Home tab contains convenient information about your previous and next scheduled backup as well as useful shortcuts and the "Quick Select" feature. The Backup tab allows you to select files and folders to backup. Similarly, the Copy tab allows you to select files and folders to be copied to another destination. The Restore tab enables you to make selections in order to restore files and folders. The Schedule tab provides a means to schedule backup jobs to run at a future time/date. The Logs tab provides access to logs for previously run jobs. The Device tab provides a means to configure and view backup devices. The Status tab give you a method to view the progress of the currently running job.

The file lists in the Backup, Copy and Restore tabs look very similar to the Windows Explorer, which makes it familiar and easy to use. Selected files can be browsed by expanding the drives or network resources in the tree view display on the left-hand side. Next to each folder and file is a check box. These are used for adding and removing files from the selection list.

Note: The name of the currently selected job is listed at the top of the NovaBACKUP program window.

Launch Button

The Launch Button is in the top-left corner of NovaBACKUP. It provides fast access to files and frequently used commands. From there, you can quickly create a new job, open, run and save an existing job, or import previous backup sets.



Item	
Detail	
New Job	This will allow you to create a new job based on the tab selected.
Open Job	This will allow you to open a previously saved job.
Save Job	This will allow you to save the current job.
Save	This will allow you to save the current job using a different name.

Job As

*Default
Settings*

Default Settings.

Run

Job

This will allow you to run a previously saved job

*Import
Media*

This will allow you to import backup jobs that do not appear in the Restore View. These backup jobs are usually created with previous installations of or from other computers running NovaBACKUP.

*Recent
Files*

List

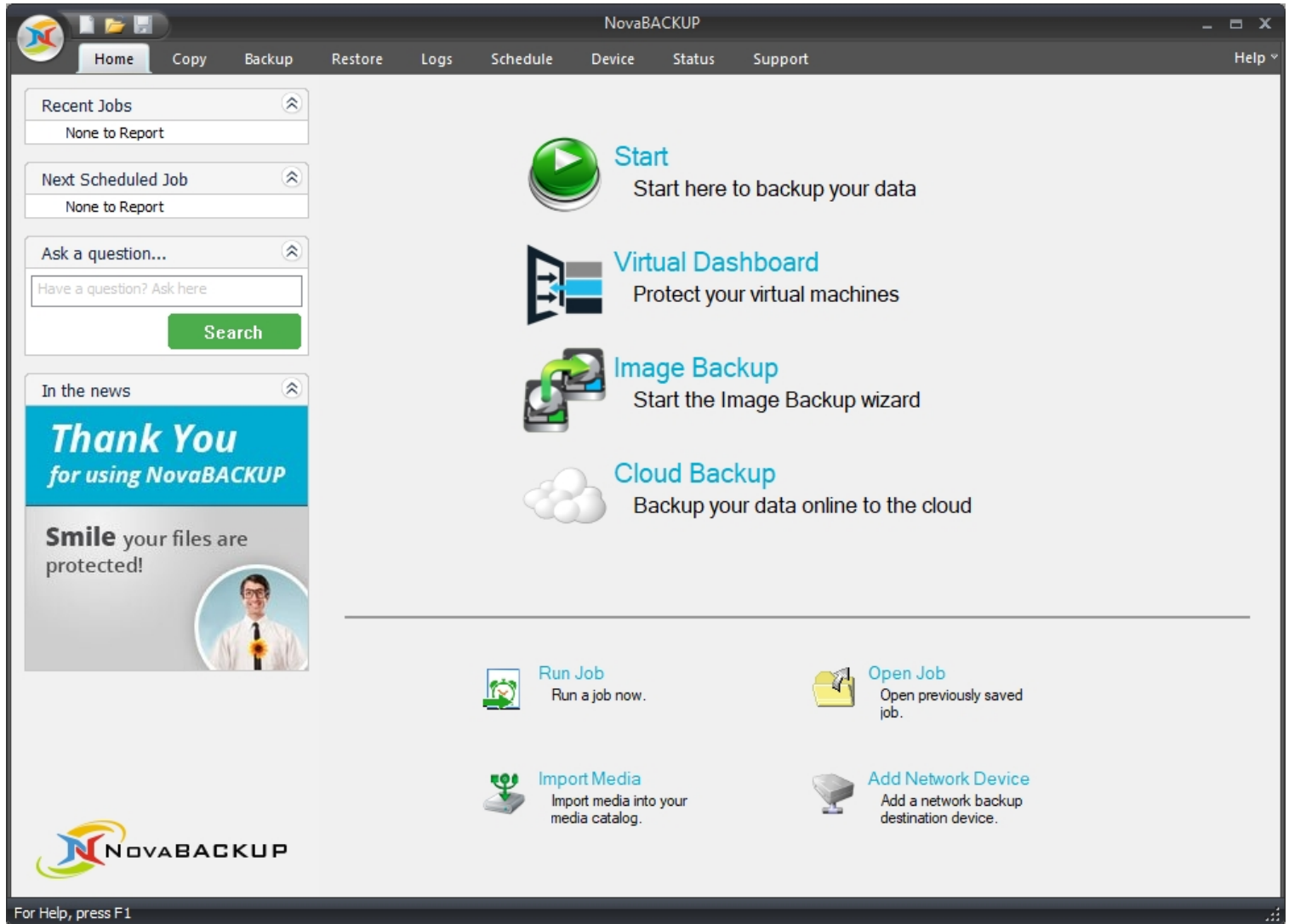
From this list, you can select a recently used job.

Exit

This exits the application.

Home Tab

On this tab, you will find the task window on the left containing summary information on the most recent and next scheduled operations, the link to configure global settings and display the help file.



Left panel items:

Click on any of the "Recent Tasks" items to open the corresponding log file for review.

Click on any of the "Next Scheduled Task" items to open the corresponding schedule to view or edit.

Main selections:

Start

Start here to backup your data.

Virtual Dashboard

The Virtual Dashboard is where all VMware and Hyper-V backups that are capable of restoring individual files take place. It is also the center of VMware and Hyper-V replication operations. These backups are not the same as backups that are done through the Backup tab.

Image Backup

The Image Backup selection opens the screen from where an image backup or restore operation can be performed, or image backup jobs can be created and scheduled.

Cloud Backup

Click Cloud Backup to setup a cloud backup device through our network of selected partners.

Utilities:

Run Job- Clicking this link allows you quickly select a specific Backup, Copy or Restore task to run. After making your selection, click "Run" and the specific task will be performed immediately.

Open Job -Select this link to open a previously save Backup, Copy or Restore job permitting the job to be updated, saved or run.

Import Media- This link launches the Import Media function allowing you to add details for media not already saved to the current NovaBACKUP database. For example, media from another system or installation of NovaBACKUP.

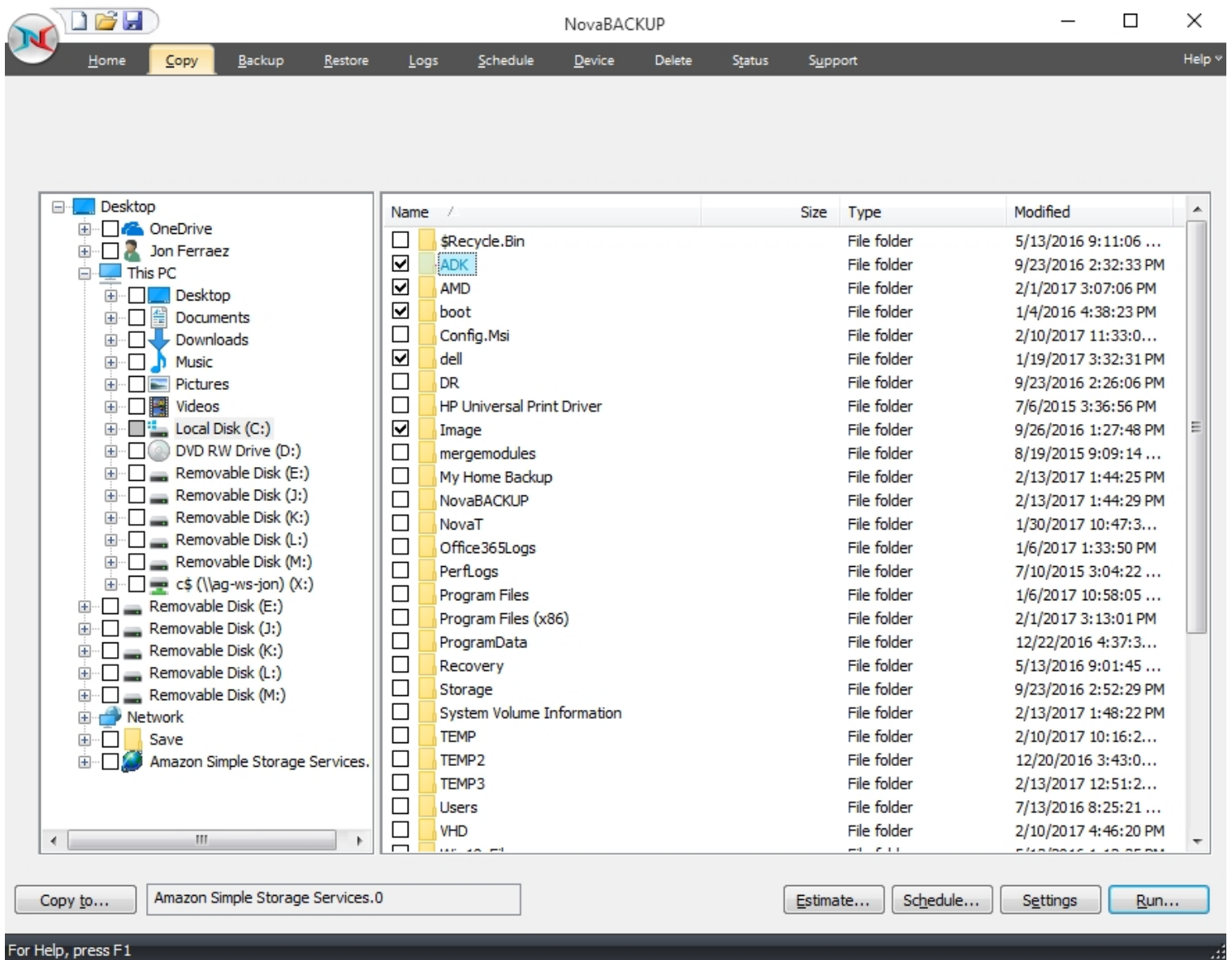
Add Network Device – Click this link to create a new network storage device. Once the device is created you can manage the device as well as all other deices by clicking the device tab.

Copy Tab

From here, you can create a job that will copy the files/folders you specify from one location to another. The different options available allow you to adjust the copy job to your specific needs.



What are copy jobs? Copy jobs are combinations of directories and files that are selected as well as any of the options (including filters) that go along with that specific copy job. Copyjobs differ from backup jobs in that they result in the exact same set of files being "copied" or transferred to the destination device including: Hard Disk, Network Drive, and online storage. Note: Copy jobs DO NOT permit the use of tape.



Button Functions

"Copy To" Button

Click this button to display a dialog showing all available devices. From here, select the destination device and/or path you want to use for this job

"Make Folder" Button

By highlighting an existing path and clicking this button, you are able to create a new, empty folder

"Estimate" Button

This will allow you to find out the estimated number of files and size of the current copy job. Once selected a "Estimate" box will appear with the following information:

Files

This indicates the Count (number of files) and Size (In Gigabytes) that you have selected for the job. This is especially helpful if the size of a copy is an issue when attempt to copy files to external devices with limited space such as USB Devices.

Folders

This indicates the number of folders that you have selected for the job.

"Schedule" button

[This button](#) is used for the schedule options. Within this window, you will be able to schedule the job as well as name it. You have various scheduling options including; one time, minute, hourly, daily, weekly, or monthly. You may also set the time and date of when the job will run.

"Settings" button

This will take you to the Advanced options for this specific copy job. Refer to the Copy Job Settings Topic for further information

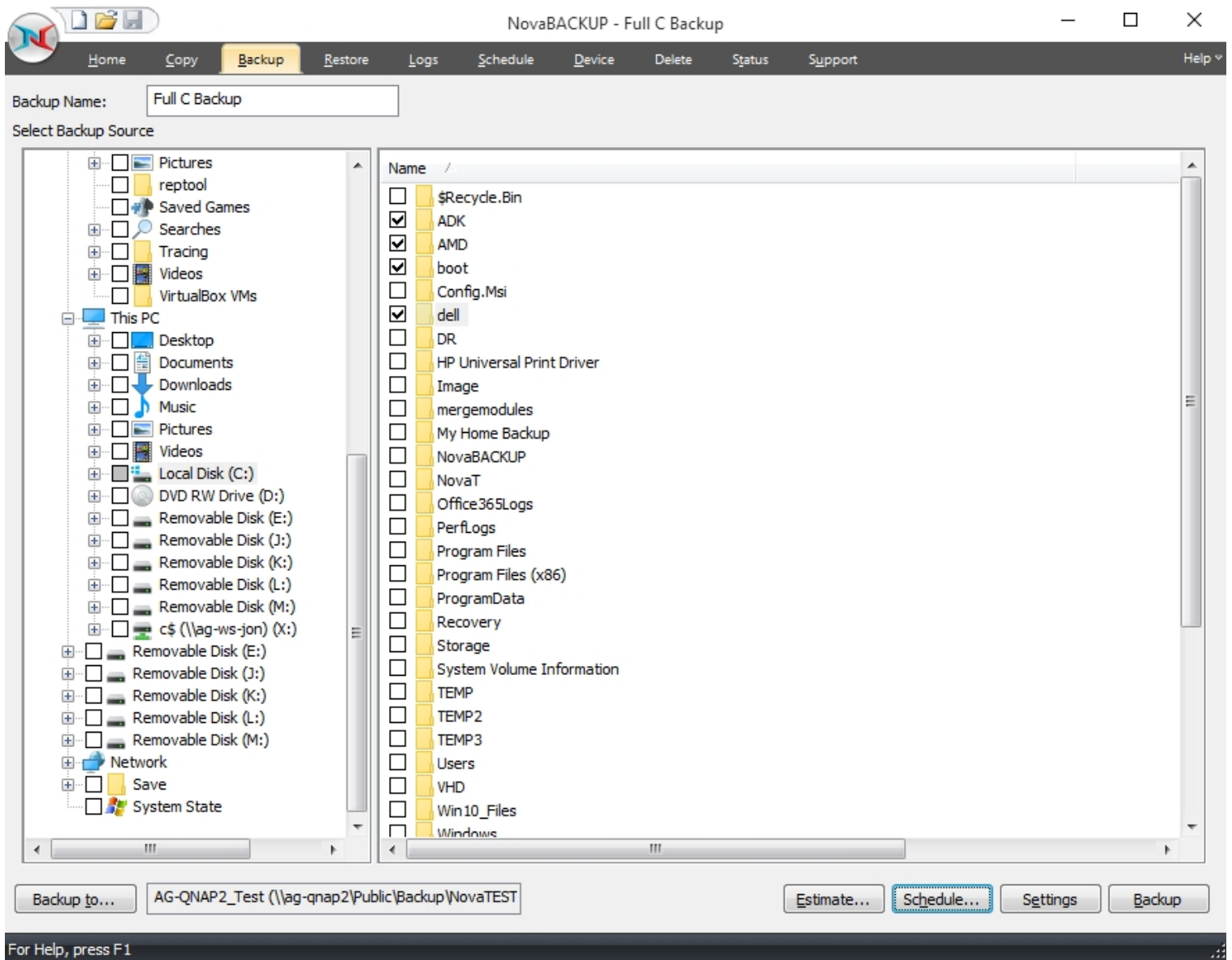
"Copy" button

This button starts the selected copy job immediately.

Backup Tab

Using this tab, you can create a backup set that will include the files that you specify. The different options available allow you to adjust the backup job to your needs.

You may select items from the "Select Backup Source" pane. Folders and volumes will be on the left and files on the right. You may select a descriptive name for the backup job by enter it in the "Backup Name" field at the top. This will allow you to clearly identify each job on a specific media.



Backup Job Name

In this text box, you can input an optional name for the current backup job you are creating. Be sure not to confuse this with the file-name of the backup job. The backup job name is essentially a descriptive name that you have assigned to the actual backup job file. A default job name will be assigned to each new backup indicating the date and time within the name. This name structure is just one way to help organize your backup jobs.



What are backup jobs? Backup jobs are combinations of directories and files that are selected for backup as well as any of the options (including filters) that go along with that specific backup. Backup jobs are used to allow one or more collections of files to be backed

up at different times. For example, one backup job could be created for accounting data, and another backup job could be created for important data that changes daily. The important data might be backed up daily or even hourly, while the accounting data could be backed up at the end of the week.



Remember that setting a backup job name is optional and is meant to aid in managing backup jobs. For instance, under the Logs Tab, which will be discussed later, a listing of previous backup activity can be seen. Each of these logs is indicated by a Backup Job Name and a date. If you do not specify a Backup Job Name for any of your backup jobs, it will be a daunting task to differentiate the several backups solely by the dates and times of each of the backups. Thus, it is highly recommended that you assign a name to each of your backup jobs in order to ease your ability to distinguish the different backups.

Button Functions

"Estimate" Button

This will allow you to find out the estimated number of files and size of the current backup job. Once selected a "Estimate" box will appear with the following information:

Files

This indicates the Count (number of files) and Size (In Gigabytes) that you have selected for the job. This is especially helpful if the size of a backup job is an issue when attempting to backup files to external devices with limited space such as USB Devices.

Folders

This indicates the number of folders that you have selected for the job.

"Schedule" button

[This button](#) is used for the schedule options. Within this window, you will be able to schedule the job as well as name it. You have various scheduling options including; one time, minute, hourly, daily, weekly, or monthly. You may also set the time and date of when the job will run.

"Settings" button

This will take you to the Advanced options for this specific backup job. Refer to the Backup Job Settings Topic for further information.

"Backup To.. " button

Click this button to display a dialog showing all available devices. From here, select the backup destination device and/or path you want to save the backup to

"Backup" button

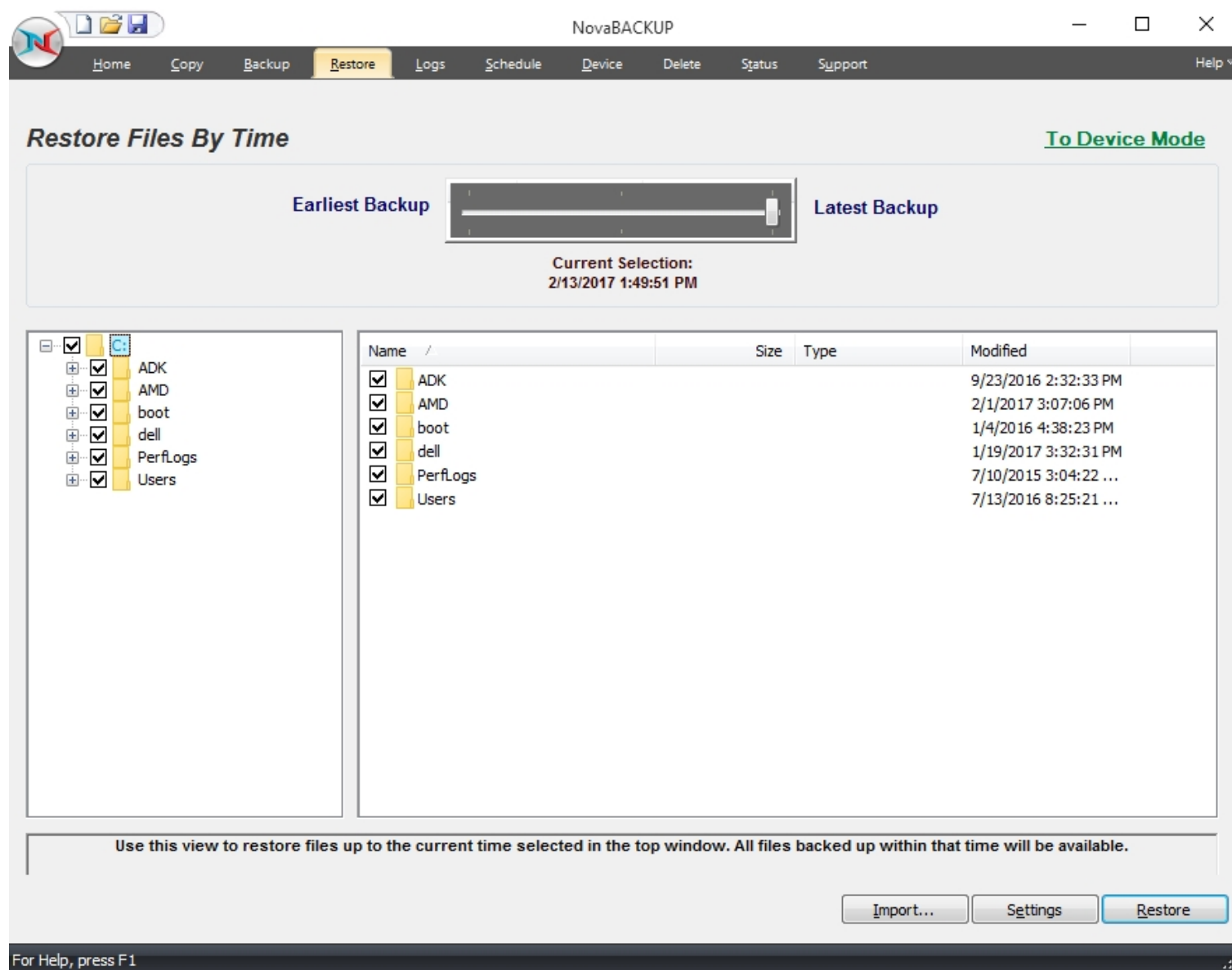
This button starts the selected backup job immediately.

Restore Tab

Under the Restore tab you will find all the folders/files from previous backups that you can restore either to the original or alternate location.

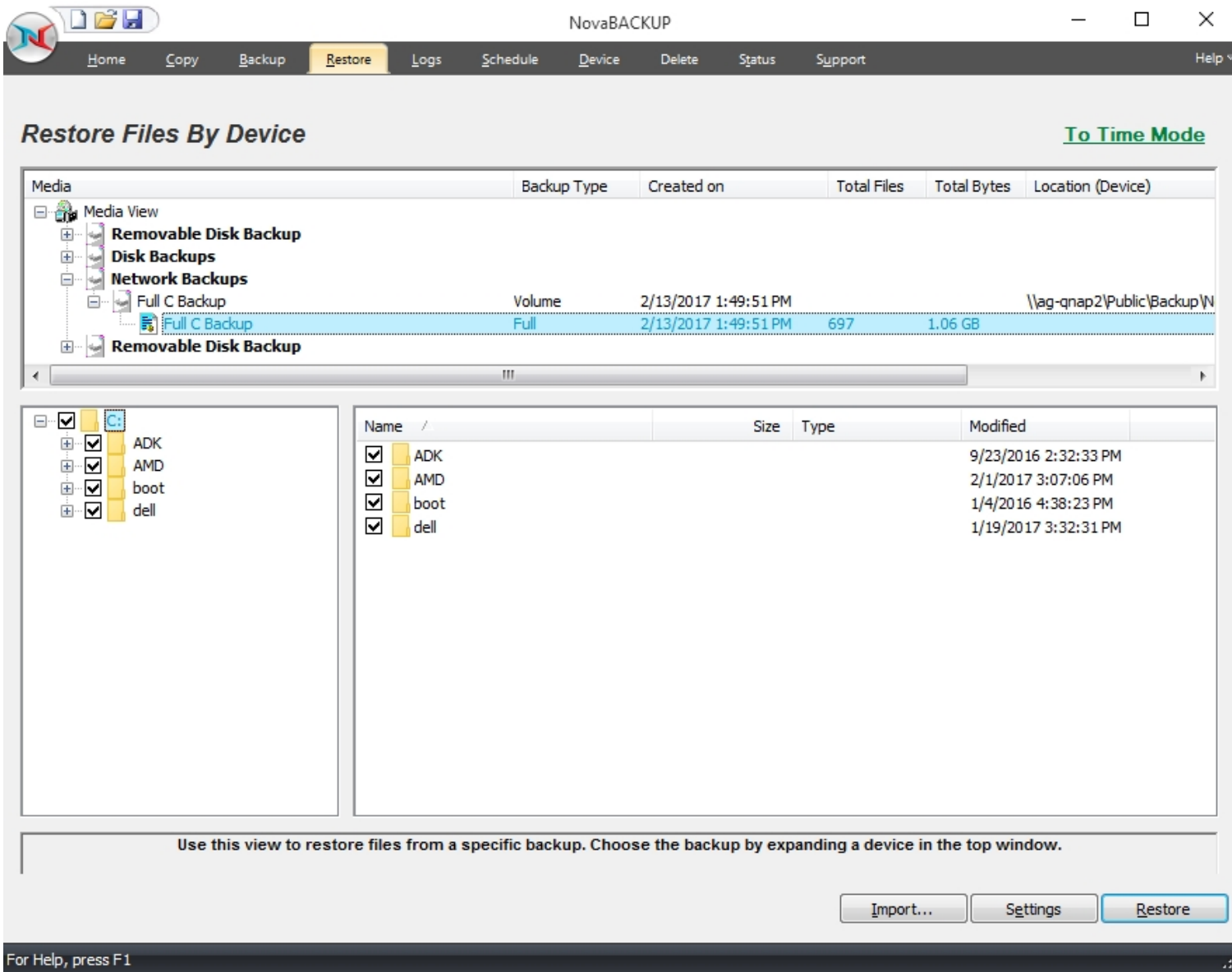
Restore Files By Time

This 'Time Slider' view uses a patent pending technology to provide a single restorable fileset without the need to select the backup source device. Using the slider, files are listed based on the range of time the backup has run.



Restore Files By Device

This view displays a restorable fileset contained in a specific backup. Use the device view in the upper window to select the location of the backup and the backup session containing the files available to restore.



Why don't I see any media listed?

If you are unable to see anything populated in the media view, you might need to perform an import on the media which is explained below in the import section.

Select Backup Job

From the Media View in the top window, you will see a list of available backups that you can restore from. Simply select the backup you would like to restore by double-clicking the entry and a listing of the folder/files included in that backup will appear in the windows below.

The Media View - Restore Mode

This window allows you to view all available backups to restore from, based on the database of backup jobs and folder/file selections cataloged within the database. All backups are categorized by destination type (Disk, Removable Disk, Internet, and Tape) and further categorized by backup job name. This view is similar to the Media View as seen in the Backup mode. However, only destinations with backups available for restoration will be listed.

Select Restore Item(s)

These selection windows are similar to the ones seen on the Backup Tab. Here, a listing of files and folders will be displayed once a backup job has been selected for restoration. The only files and directories that will be listed are the ones that were included in the backup job that you are restoring. In the selection windows, you can select files and/or folders just as you did in the Backup Tab when you selected the files for backup.



By default, if you are restoring files to their original location, files that already exist in that location will not be overwritten by the files that are to be restored. Check your Restore Setting to alter this.

Button Functions

"Import" Button

This button will allow you to import backup jobs that are not in the currentNovaBACKUPdatabase. Simply click on the button and browse to the backup job that you desire to import. Once imported into database, the backup job will then be listed in the media view, and available for restoration.

"Settings" Button

This button will allow you to access some options that you have in the restore process. These options are discussed in Restore Job Settings Topic.

"Restore" Button

Once you have selected the files, folders, or drives that you want to restore, you may press this button to start the restore immediately.

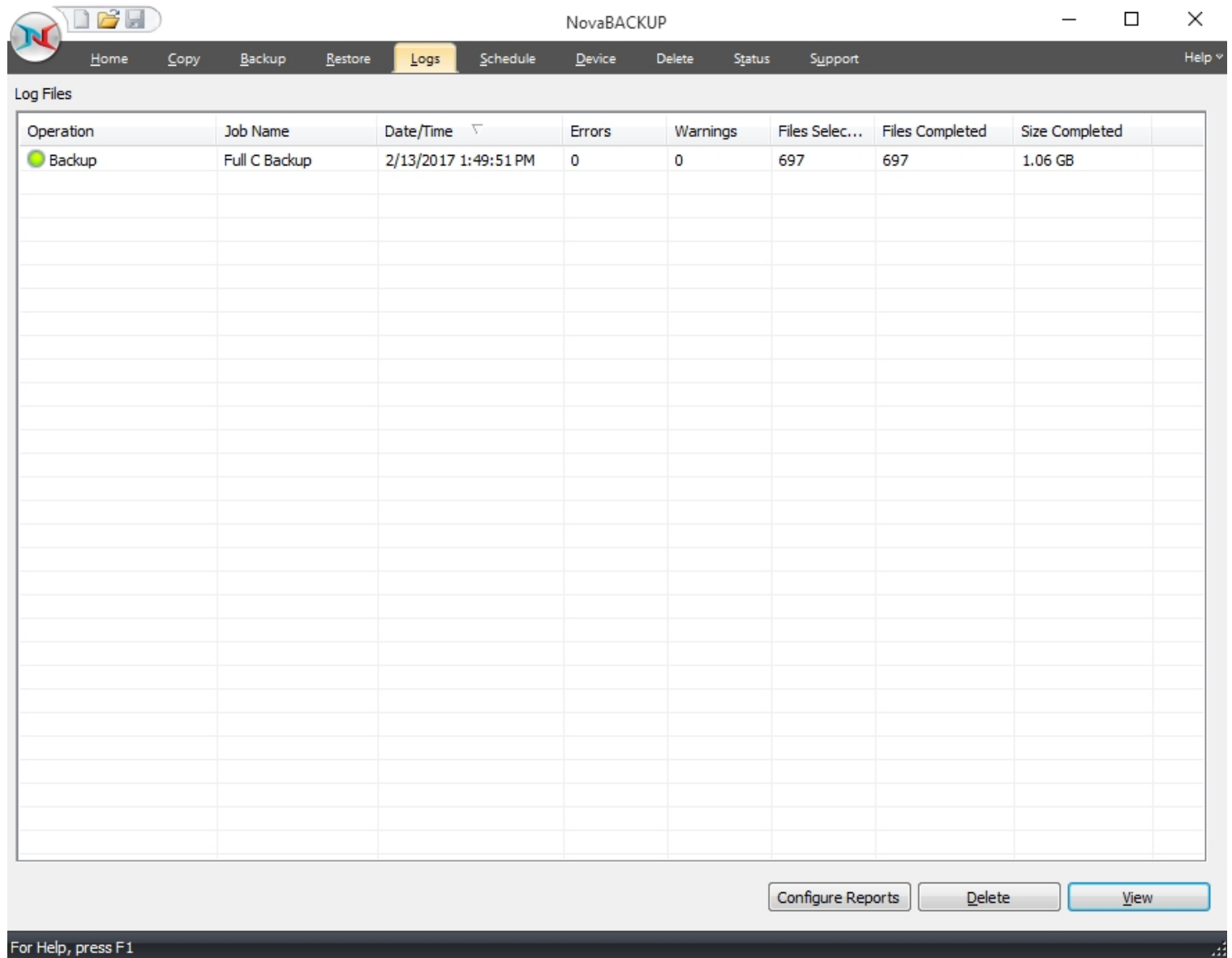


If you are restoring from a complete set of spanned media, you should always select the first piece of media as your first restoration media. NovaBACKUP will prompt you to insert each subsequent piece of media if necessary. You must have all media available to do

the restore. If your backup consists of 5 pieces of media and media #3 is corrupt/missing/damaged, you will only be able to restore data from the first two pieces of media.

Logs Tab

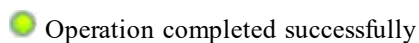
From here, you can quickly determine the status of a Copy, Backup, Restore or Retention job that was performed.





The columns in the summery view include:

Operation: Includes - Copy, Backup, Restore & Import.

You can quickly determine the status of the backup by the color-coded icon next to each operation:



 Operation completed, but had warnings

 Operation had errors

Job Name: The name of the job for this log file

Date/Time: The Date & Time the specific job was run

Errors: The number of errors encountered after running the job

Warnings: The number of warnings encountered after running the job

Objects Selected: The number of objects selected before running the job

Objects Completed: The number of objects successfully completed after running the job

Size Completed: The total size of all objects successfully completed after running the job



You can quickly sort the logs view by clicking on the appropriate column heading at the top of the window

Button Functions

Configure Reports

Click this button to use the [summary reports](#) feature.

Delete Button

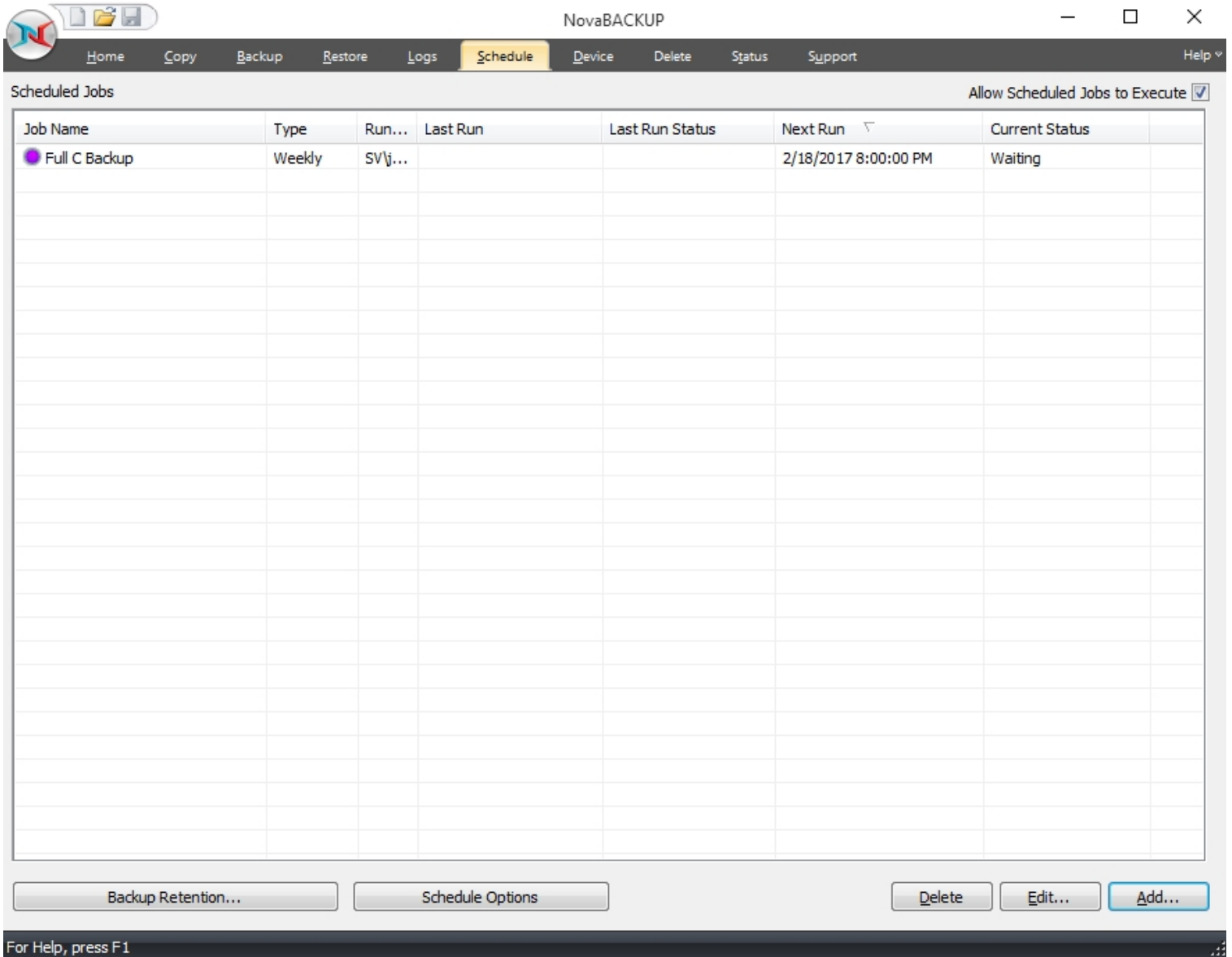
To delete a log file, simply select the log file and press the *Delete* button. To delete multiple log files, you may select more than one by using the Shift and/or Ctrl buttons on your keyboard to select the logs and pressing the Delete button.

View Button

To view the log file, select the log you would like to open and press the View button. Alternatively, you may also simply double-click the log file you want to view. For further details, see the [Using the Logs](#) section.

Schedule Tab

From this tab you are able to view, modify, add, run, and delete scheduled tasks.



Remember: *You can quickly disable all schedules from running by unchecking the option - "Allow scheduled jobs to execute"*

Job Name: Job or Script Name

Run As: Account used to run the job,

Last Run Status: The status the last time the job ran - includes:

Completed with info - The scheduled job completed successfully and a log was generated


Completed with warnings - The scheduled job completed but had warnings

Completed with errors - The scheduled job completed but had errors


Failed - The scheduled job failed to run


Next Run: When the job is scheduled to run again

Current Status:

 Waiting - Schedule is waiting to run

 Running - Schedule is running

 Held - Schedule has been placed on hold

 Error - Schedule will not run again until the error is corrected (Invalid Credentials, no media, no device available)

Right-Click Functions

Right-clicking on any of the listed schedules displays a menu with the following functions:

New - Create a new schedule

Hold/Resume Schedule - Permits the selected schedule to be placed on hold or resumed if already held

Modify Schedule - Displays the schedule details so they can be viewed/modified

Modify Job - Displays the specific job details so they can be viewed/modified

Run Now . . - Runs the job associated with the selected schedule immediately

View Log - Displays the log details of the scheduled job the last time it was run

Delete - Deletes the selected schedule item from the list

Button Functions

Delete Button

This button will allow you to delete the selected schedule item from the list, regardless of its status.

Edit Button

[This button](#) will allow you to edit the selected schedule item.

Add Button

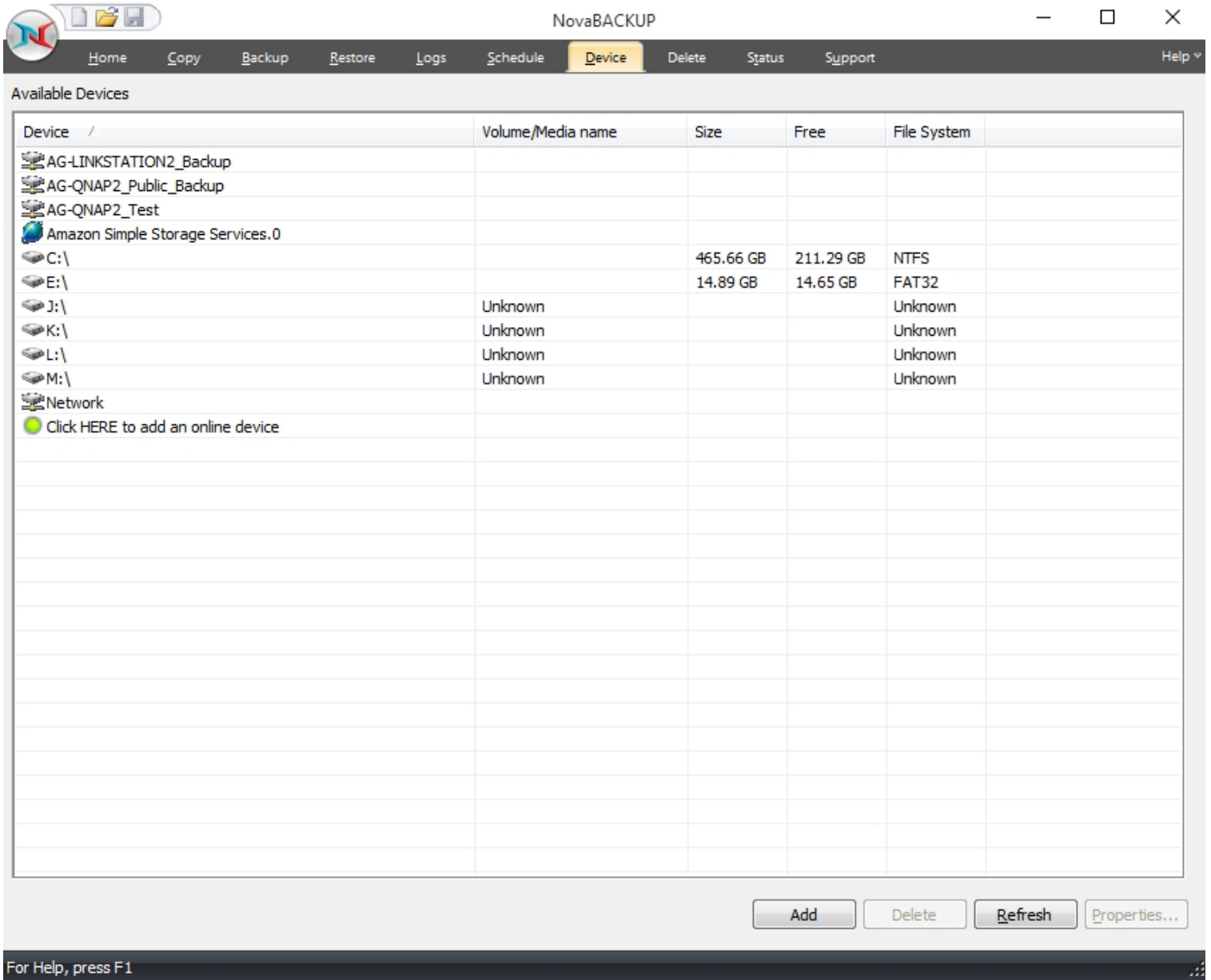
[This button](#) will allow you to create new scheduled tasks.

Backup Retention Button

Click [this button](#) to display the screen which is used to define a backup retention job.

Device Tab

The Device Tab shows a list of all available storage devices jobs can be configured to utilize. In from this tab, you're able to add, modify and delete devices



The initial view contains an overview of all scheduled jobs including the following columns:

Device - The name of the device

Volume (Media) - The name of the volume (Disk, Removable Disk) or media name (Tape)

Size - Total size of the device or media

Free - Total available size of the device or media

File System - Type of file system (NTFS, UDF, FAT32, FAT, etc)

Right-Click Functions

Right-clicking on any of the listed devices displays a menu with functions appropriate to the device:

Hard Drive, Removable Hard Drives, Networked Drives & Tape:

Import - Allows you to import backup jobs that are not in the current NovaBACKUP database

& Tape Devices

Eject Media - Eject the currently inserted media

Quick Erase Media - Performs a quick erase (header information is erased, but data remains)

Full Erase Media - All data is erased from media

Internet and Network storage devices

Delete Device - Deletes the currently selected Internet device

Properties - List the properties associated with the selected device

Button Functions

"Add" Button (Only applies to Internet and Network Devices)

Launches the Internet and Network Device dialog.

"Delete" Button (Only applies to Internet and Network devices)

Deletes the currently highlighted Internet device from the list.

"Refresh" Button

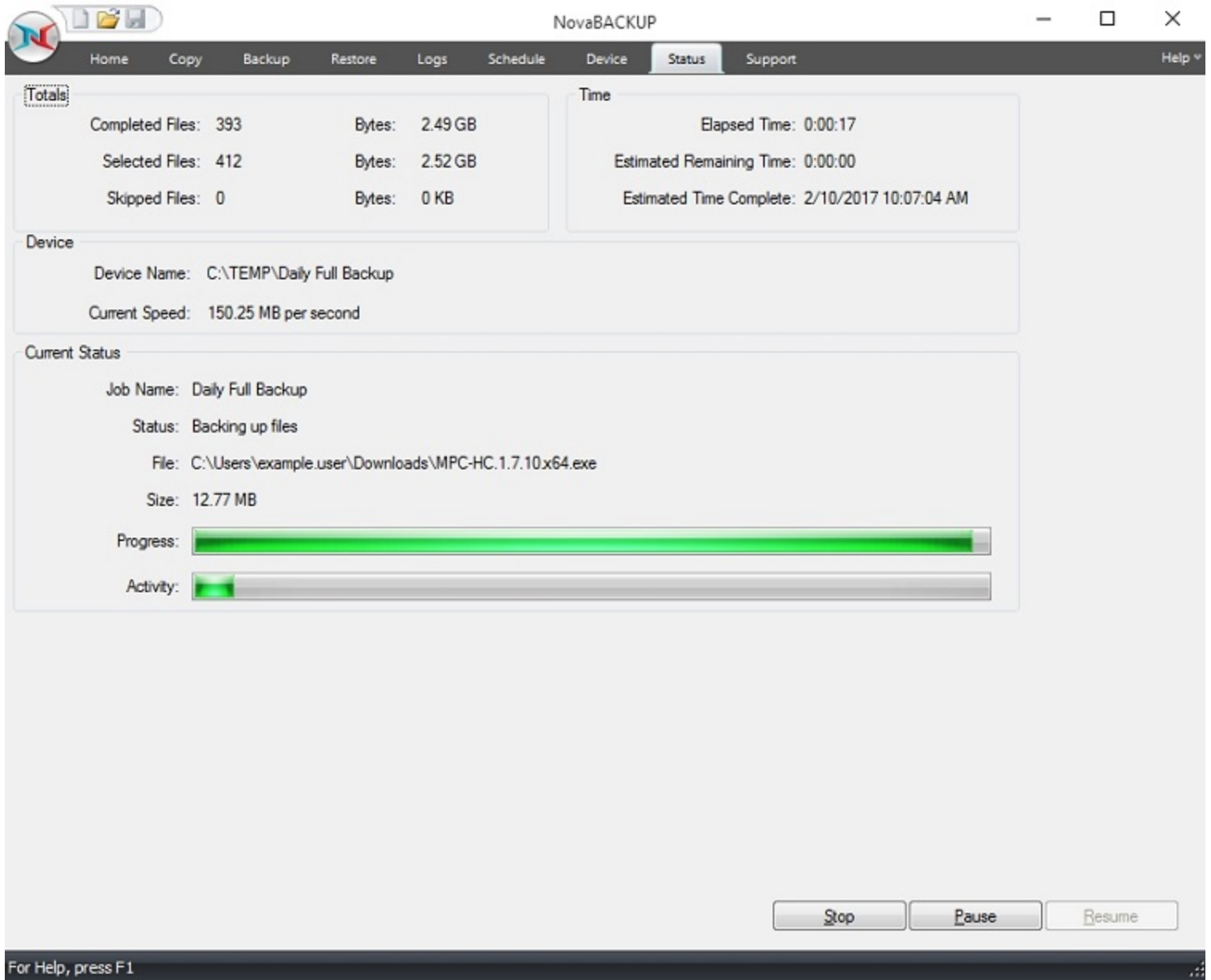
Refreshes the device view to include newly added or connected devices.

"Properties" Button (Only applies to Internet and Network devices)

Displays the properties of the highlighted Internet and Network devices. You can also display the device properties by double-clicking on the device in the list.

Status Tab

From here, you can quickly determine the status of a currently running job



The status view includes the following sections and items:

Totals

Completed Files/Bytes: The number of files and bytes successfully completed.

Selected Files/Bytes: - The total number of files and bytes selected by the job.

Skipped Files/Bytes: The number of files and bytes that were skipped while running the job.

Time

Elapsed Time: Hours:Minutes:Seconds representing the total amount of time the current job has been running

Estimated Remaining Time: Hours:Minutes:Seconds representing the estimated time remaining for the current job to complete (This figure is an estimate only - actual time may vary)

Estimated Time Completed: Date/Time representing the estimated completion time of the current job (This figure is an estimate only - actual time may vary)

Device

Device Name: The name of the device/media used for the currently running job

Current Speed: The speed (thruput) of the data being transferred for the currently running job

Current Status

Status: Status of the currently running or completed job

File: The file currently being transferred

Size: The size of the file currently being transferred

Progress: The progress bar representing the percentage completed of the currently running job (This is an approximate indication of job completion. Actual percentage may vary).

Button Functions

"Stop" Button - Stops the currently running job

"Pause" Button - Pauses the currently running job - Job remains active

"Resume" Button -Resumes the previously paused job

The Scheduler

Schedule Options

Job Name: Select Job to Schedule

Scheduling Information

Type of Schedule: Daily

First Run...

Date: 6/18/2009

Time: 3:40:27 PM

Repeat every... 1 day(s) on:

But only on these days...

☐ Sunday ☐ Thursday

☐ Monday ☐ Friday

☐ Tuesday ☐ Saturday

☐ Wednesday

When running this job, login using this account

☐ Run as logged in user

☒ Run as specific user

Domain Name: MYDOMAIN

Run As User Name: MRSMITH

Password:

Access Granted

Check Credentials

Note: You must enter a valid user account in order to run this job. If the account is not valid when the job is run, the operation will fail.

OK Cancel

Schedule Type

This drop-down list allows you to select whether you want the backup script to run once, hourly, daily, weekly, or monthly.

BackupJob Name

This allows you to select the job that you would like to run. Click on the "Browse..." button next to the text box to see a list of all saved backup and copy scripts.

Start Date

Here, you may select the date on which you would like the scheduled backup to start. The default date that is selected is the current date as indicated by your computer. However, you may manually input a desired date or you can click on the "down" arrow next to the date. Doing so will give you a calendar view of the current month, see illustration.



The red square indicates the current date. The solid square indicates the date that the scheduled backup is set to start on. To select a different day to start, simply click on the desired date. To see a calendar view of the previous or subsequent months, simply click on the left and right arrows, respectively.



To quickly change the year, rather than going forward month by month, simply click on the year in the blue bar on the top of the calendar view and then scroll up and down using the arrow buttons that appear to the right of the date. To quickly select a desired month without scrolling through them, click on the current month in the blue bar and select the desired month from the list that appears.

Start Time

Using this area of the schedule will allow you to designate the time at which the job should occur. You can change the time using a number of different ways. After selecting the desired item to change, (the hour, the minutes, or time of day), you may use the up and down arrows to the right of the time to scroll the time up or down, respectively. You may also use the up and down arrows on the keyboard to do so or you may simply input the time using the number pad on your keyboard as well. The time of day, AM or PM, may be changed in the same manner, using the up and down arrows or by using the "A" and "P" keys on your keyboard.

When running a job, login using this account

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

Permits you to set the default system/domain account to be used for new jobs.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.



Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

OK

After completing the setup of a scheduled job, you must press "OK" in order to complete the process.

Cancel

If you would like to exit the scheduler without setting the schedule, click on the "Cancel" to revert back to the main user interface.

Virtual Dashboard

The Virtual Dashboard is where all VMware and Hyper-V backups that are capable of restoring individual files take place. It is also the center of VMware and Hyper-V replication operations. These backups are not the same as backups that are done through the Backup tab.

In order to access the Virtual Dashboard users will need to start NovaBACKUP and then click "Virtual Dashboard" from the "Home" tab.

Adding a hypervisor

Upon opening the Virtual Dashboard users will be prompted with the option to add a hypervisor. Click the **Add** button at the top of the Hypervisor's menu. Once clicking "**Add**" users will be prompted to enter information relating to their Hypervisor.

Note: If there are already VMware hosts added through the legacy backup functionality in NovaBACKUP, those servers will already be added to the Virtual Dashboard.

Adding a VMware hypervisor

Once users are in the "**Add**" menu of the Virtual Dashboard, select VMware. Users will then have four options:

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname / IP Address: The Hostname or IP address of the VMware ESXi or vCenter application

Username: The username with access to the ESXi or vCenter application.

Password: The password for the user

Test/Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Adding a Hyper-V hypervisor

Once a user is in the "**Add**" menu of the Virtual Dashboard, select Hyper-V. Users will then be presented with two options:

Editing a local Hyper-V hypervisor

If NovaBACKUP is being installed onto a local Hyper-V host, users will not need to enter user credentials to access the Hyper-V service. Users will need to add two fields of information.

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname: This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

Test/Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Editing a remote Hyper-V hypervisor

If NovaBACKUP is being installed on a machine to manage a remote Hyper-V host, users will need to enter user credentials to access the Hyper-V service. Users will need to add four fields of information. If the Hyper-V host is remote, check "**Connect using different credentials**".

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname: This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

Username: The local or domain username with access to the Hyper-V host

Password: The password for the user

Test/Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Editing a hypervisor

To edit a hypervisor, click "**Add**" after selecting the hypervisor to be edited.

Removing a hypervisor

To remove a hypervisor, click "**Remove**" after selecting the hypervisor to be edited.

Note: Removing a Hypervisor will remove all protected virtual machines and their backups from the Virtual Dashboard. Removing a virtual machine removes the ability to restore that virtual machine through the Virtual Dashboard

Adding a virtual machine

After adding a hypervisor, users will be shown a selection of virtual machines available for protection. Check the box next to the virtual machine needing protection in order to add it to the list of available virtual machines.

Editing a VMware hypervisor

Once a user is in the "**Add**" menu of the Virtual Dashboard, select VMware. Users will then have four options:

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname / IP Address: The Hostname or IP address of the VMware ESXi or vCenter application

Username: The username with access to the ESXi or vCenter application.

Password: The password for the user

Test / Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Editing a Hyper-V hypervisor

Once a user is in the "**Add**" menu of the Virtual Dashboard, select Hyper-V. Users will then be presented with two options:

Editing a local Hyper-V hypervisor

If NovaBACKUP is being installed onto a local Hyper-V host, users will not need to enter user credentials to access the Hyper-V service. Users will need to add two fields of information.

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname: This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

Test / Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Editing a remote Hyper-V hypervisor

If NovaBACKUP is being installed on a machine to manage a remote Hyper-V host, users will need to enter user credentials to access the Hyper-V service. Users will need to add four fields of information. If the Hyper-V host is remote, check "**Connect using different credentials**".

Display Name: This is the friendly name for the hypervisor. This can be anything and is designed for ease of use.

Hostname: This is the Fully Qualified Domain Name (FQDN) or hostname of the Hyper-V host.

Username: The local or domain username with access to the Hyper-V host

Password: The password for the user

Test/Save: Test the provided configuration or Save the provided configuration. Clicking Save will also test the credentials.

Backing up virtual machines

After adding a virtual machine to the list of protected virtual machines, users are able to create backup jobs that are able to restore individual files as well as directly back into the hypervisor.

When creating a backup job, files will be stored in a hierarchal folder structure rather than a single file. After selecting a target folder on the user's machine, the Virtual Dashboard will automatically create another folder labeled NovaBACKUP underneath that folder. Users may continue to select the original destination for all future backup jobs.

Example: A user selecting C:\Backups\ may continue to select this folder for all future backup jobs. After the first backup job runs, users will see a separate folder: C:\Backups\NovaBACKUP\

Backing up VMware

VMware backups created in the Virtual Dashboard can be performed from any Windows 7 or Server 2008 R2 machine or greater. It is required that your VMware server have the "vStorage API" licensed feature in place to support backup. The free edition of VMware ESXi/vSphere does NOT contain the "vStorage API" licensed feature. View the NovaBACKUP System Requirements PDF document [here](#) to know the specific requirements that we have for Hyper-V versions and service pack levels, which are required to perform backup and restore of this item.

Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking this box will enable CBT or show the current status of CBT on that virtual machine.

Without CBT enabled, users will be unable to create an Incremental or Differential backup.

Note: Enabling or disabling CBT may take time, as this is a VMware function change.

Setting up VMware backups

Name: The name of the backup job as it appears in the Virtual Dashboard

Type: The type of backup job to configure – Full, Incremental, or Differential

Retention: In either "Generations" (number of versions to keep or count) or "Days old" (number of days to keep available)

Run as: Users may choose to run the job as either the current user or as a specified user

Notifications: Users may choose to enable email notification for this backup job

Schedule: Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "Schedule" switch in the top right to turn off the scheduler.

VMware Retention

VMware backups are able to maintain a retention value in either generations (count) or days for Full or Differential backups. In order to apply retention to an Incremental backup, users will need to target the same folder as their incremental backup with a scheduled or manually run full backup job that includes a retention value.

Full

A full backup is a backup of the entire virtual machine all at once. These backups can be very large in nature and users should be aware of how much storage space is available on the destination.

Incremental and Differential initial backups

If a user has not previously run a Full backup of a virtual machine, the initial Incremental or Differential backup job will execute as a full backup. This is intended behavior due to the required dependencies of Incremental or Differential jobs to their respective last full backup.

Incremental

Incremental backup jobs are backup jobs that base themselves on the last incremental backup job run. This means each incremental job is dependent upon the previous incremental backup in order to restore any particular file.

Differential

Differential backup jobs are backup jobs that base themselves on the last full backup job run. This means that each differential backup job is independent from each other and only the last full backup and the desired differential backup are required to restore a particular file.

Backing up Hyper-V

Hyper-V backups created in the Virtual Dashboard can be performed from either the Hyper-V 2012, Hyper-V 2012 R2, or Hyper-V 2016 host machine. Unlike VMware backups, NovaBACKUP must be installed on the Hyper-V host where the virtual machine desired to be backed up is located. View the NovaBACKUP System Requirements PDF document [here](#) to know the specific requirements that we have for Hyper-V versions and service pack levels, which are required to perform backup and restore of this item.

Setting up Hyper-V backups

When creating a new backup job, users will be presented with the following options:

Name: The name of the backup job as it appears in the Virtual Dashboard

Retention: In either "Generations" (number of versions to keep or count) or "Days old" (number of days to keep available)

Run as: Users may choose to run the job as either the current user or as a specified user

Notifications: Users may choose to enable email notification for this backup job

Schedule: Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "Schedule" switch in the top right to turn off the scheduler.

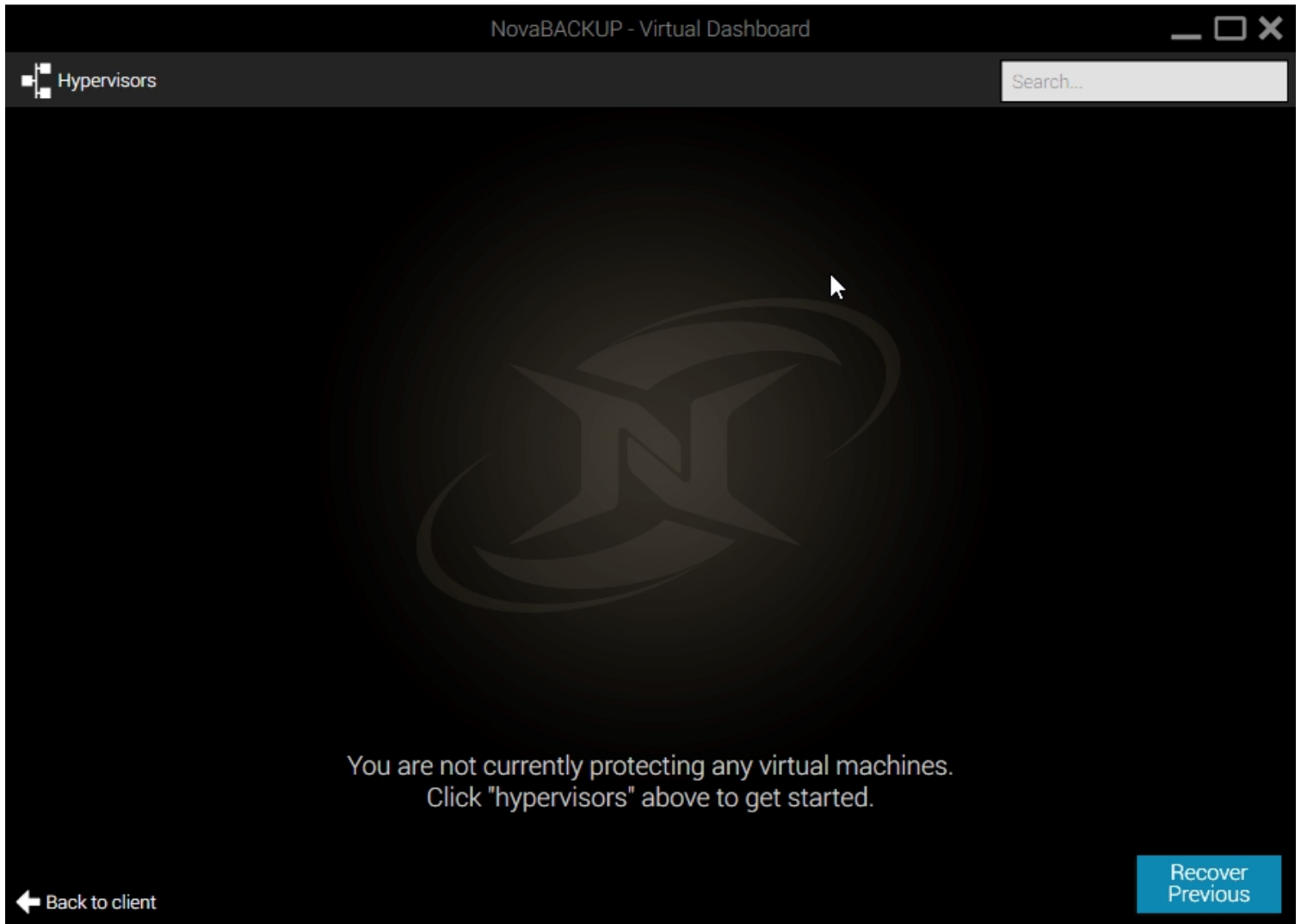
Hyper-V Retention

Hyper-V backups can currently only be run in a full mode. Retention maintains either a Generation (count) or number of Day's.

Recover Previous Backups function

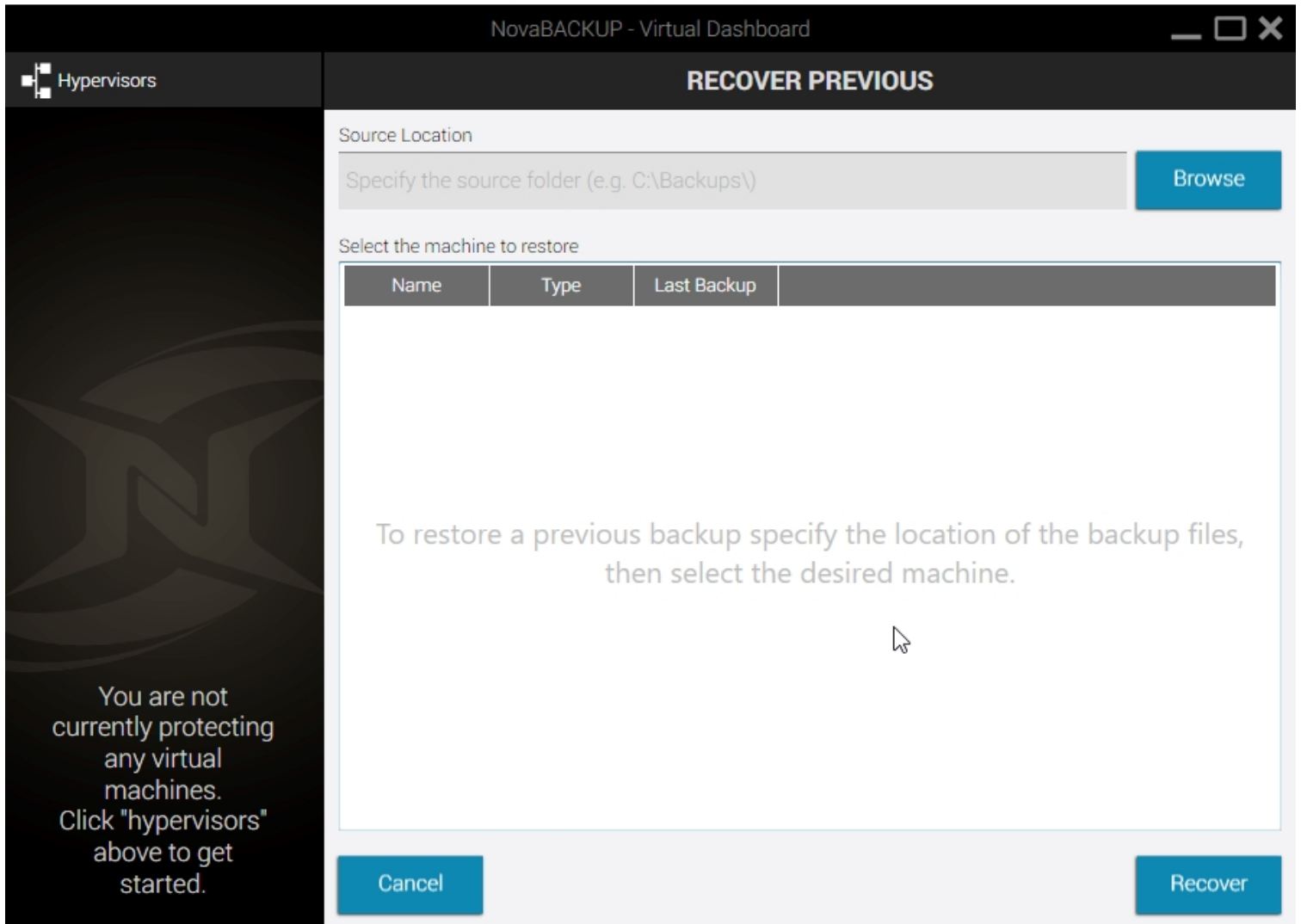
You can utilize the "Recover Previous" function inside the Virtual Dashboard's main screen to restore a previous backup that is not showing currently in your Virtual Dashboard.

Click on the "Recover Previous" button at the bottom right of the Virtual Dashboard main screen as shown in the screen shot below:



Once the "RECOVER PREVIOUS" screen is displayed you will be provided the ability to restore a previous backup created in the Virtual Dashboard.

To restore a previous backup specify the location of the backup files, then select the desired machine, as seen in the screen shot below:



Restoring VMware backups

To restore a VMware backup, browse to the previously configured VMware backup job. Immediately below the "Run Summary" section will be a list of old and new backup job logs. Backup jobs that are still available for restore will be listed with three commands: Mount, Restore and Log. To restore a VMware backup users are given two options:

Mount (Individual file restore)

Clicking the "Mount" button will mount the virtual machine's virtual hard drives on the local computer as physical drives. Once the drive has been mounted a Windows Explorer will appear to browse the file structure. Additionally, if a drive is already mounted, users will be shown the current drive letter of the mounted image.

Once mounted, the Mount button will switch to Unmount. After a user is finished restoring any requested individual files from the Virtual Machine, clicking Unmount will disconnect that virtual machine's virtual hard drive.

Restore (Restore to hypervisor)

Restoring an image directly to a hypervisor

Name: The name of the backup job within the Virtual Dashboard

Target VM Name: The name of the virtual machine at its destination hypervisor.

Destination Hypervisor: This is the destination, or target, hypervisor. This will display any currently configured VMware hypervisors. If the desired hypervisor has not already been configured, users may click the blue "+" sign to add a hypervisor at this time.

Target Datastore: The target ESXi / vCenter datastore that the user wishes this VM to be replicated to

VM Folder: The target ESXi / vCenter datastore that the user wishes to replicate this virtual machine into

Restoring Hyper-V backups

To restore a Hyper-V backup, browse to the previously configured Hyper-V backup job. Immediately below the "Run Summary" section will be a list of old and new backup job logs. Backup jobs that are still available for restore will be listed with three commands: Mount, Restore and Log. To restore a Hyper-V backup users are given three options:

Mount (Individual file restore)

Clicking the "Mount" button will mount the virtual machine's virtual hard drives on the local computer as physical drives. Once the drive has been mounted a Windows Explorer will appear to browse the file structure. Additionally, if a drive is already mounted, users will be shown the current drive letter of the mounted image.

Once mounted, the Mount button will switch to Unmount. After a user is finished restoring any requested individual files from the Virtual Machine, clicking Unmount will disconnect that virtual machine's virtual hard drive.

Restore (Original Location)

Restoring to the original location allows a user to place the backed up copy of the virtual machine directly back in place to its original location in the Hyper-V server. This will overwrite any existing Hyper-V machines that might still be in place.

Restore (Alternate Location)

Restoring to an alternate location allows a user to export a copy of the backed up virtual machine to a new destination in so that it may be moved (example: restore to USB or NAS to manually move to an alternate location.)

VMware Replication

VMware Replication uses the NovaBACKUP Backup/Copy Engine to copy data from either a single ESXi / vCenter host to itself or from one host to another.

Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking this box will enable CBT or show the current status of CBT on that virtual machine.

Without CBT enabled, replication jobs will be transferred in full each time the job is executed, which could increase replication time significantly.

Note: Enabling or disabling CBT may take time, as this is a VMware function change.

VMware Replication Retention

VMware backups are able to maintain a retention value in either generations (count) or days for Full or Differential backups. In order to apply retention to an Incremental backup, users will need to target the same folder as their incremental backup with a scheduled or manually run full backup job that includes a retention value.

Setting up VMware replication

After clicking "**Replicate**" users are presented with the following options:

Name: The name of the backup job within the Virtual Dashboard

Target VM Name: The name of the virtual machine at its destination hypervisor. This will default to whatever the current name is plus the suffix of "**_rep**"

Destination Hypervisor: This is the destination, or target, hypervisor. This will display any currently configured VMware hypervisors. If the desired hypervisor has not already been configured, users may click the blue "+" sign to add a hypervisor at this time.

Target Datastore: The target ESXi / vCenter datastore that the user wishes this VM to be replicated to

VM Folder: The target ESXi / vCenter datastore that the user wishes to replicate this virtual machine into

Retention: The number of previously available versions stored on the target destination ESXi / vCenter. These are stored as snapshots within the ESXi / vCenter.

Schedule: Users may choose to schedule the job in a variety of methods. If no schedule is desired, users may toggle the "**Schedule**" switch in the top right to turn off the scheduler.

Hyper-V Replication

Hyper-V Replication uses the Hyper-V Replica technology through Microsoft's Hyper-V service. The Hyper-V Replica technology is a block-level, asynchronous transfer from one Hyper-V host to another. After an initial full transfer, Hyper-V maintains a regularly occurring block transfer to the alternate destination.

Requirements

In order to successfully configure Hyper-V replication, users will need to properly configure their Hyper-V hosts. Hyper-V hosts must be Hyper-V 2012 or newer and all Hyper-V hosts are required to be connected to a domain (for authentication purposes). Additionally, the target or destination Hyper-V server needs to be configured as a Hyper-V Replica destination.

Setting up Hyper-V Replication

After clicking "**Replicate**" users are presented with the following options:

Name: The name of the backup job within the Virtual Dashboard

Replica Server: This is the destination, or target, hypervisor. This will display any currently configured Hyper-V hypervisors that are not the source Hyper-V. If the desired hypervisor has not already been configured, users may click the blue "r;+" sign to add a hypervisor at this time.

Retention: The number of previously available versions stored on the target Hyper-V hypervisor.

Schedule: Users may choose a schedule for when the first initial replication takes place. If no schedule is desired, users may toggle the "**Schedule**" switch in the top right to turn off the scheduler.

Note: Replication is a single-run job type and only needs to be executed once to initialize the replication. After being configured, the Virtual Dashboard reports on the current health of the virtual machine's replication.

Glossary

Backup

Backups in the Virtual Dashboard are different than traditional virtual backups from the NovaBACKUP Backup tab because they are able to restore individual files from them.

Changed Block Tracking

Changed Block Tracking (CBT) is a VMware feature that helps perform incremental backups. After clicking on a protected virtual machine, users will see an option for CBT in the bottom right of the virtual machine's individual dashboard. Checking the CBT box will enable CBT as well as it displays the current status of CBT on that particular virtual machine..

Without CBT enabled, users will be unable to create an Incremental or Differential backup.

Replication

Replication is the act of copying a virtual machine from one hypervisor to another. There are two types of replication: VMware and Hyper-V Replication.

VMware Replication

VMware Replication uses the VMware's vStorage API for Data Protection (VADP) in order to copy virtual machines from one ESXi host to another. By enabling Changed Block Tracking (CBT), users are able to perform a complete full copy followed by smaller block level changes on a schedule chosen by the user.

Hyper-V Replication

Hyper-V Replication uses the Hyper-V Replica technology through Microsoft's Hyper-V service. The Hyper-V Replica technology is a block-level, asynchronous transfer from one Hyper-V host to another. After an initial full transfer, Hyper-V maintains a regularly occurring block transfer to the alternate destination.

Retention

Retention is the act of removing older backups in order to reduce the amount of storage space required. After every backup job is run, retention is automatically performed based on the backup configuration.

Run as

Some domain or workstation configurations require running background applications as a particular user. The ***Run as*** section of each protection type allows for administrators to provide these credentials.

Image Backup Operation Type

Select the type of image backup operation that you want to perform.

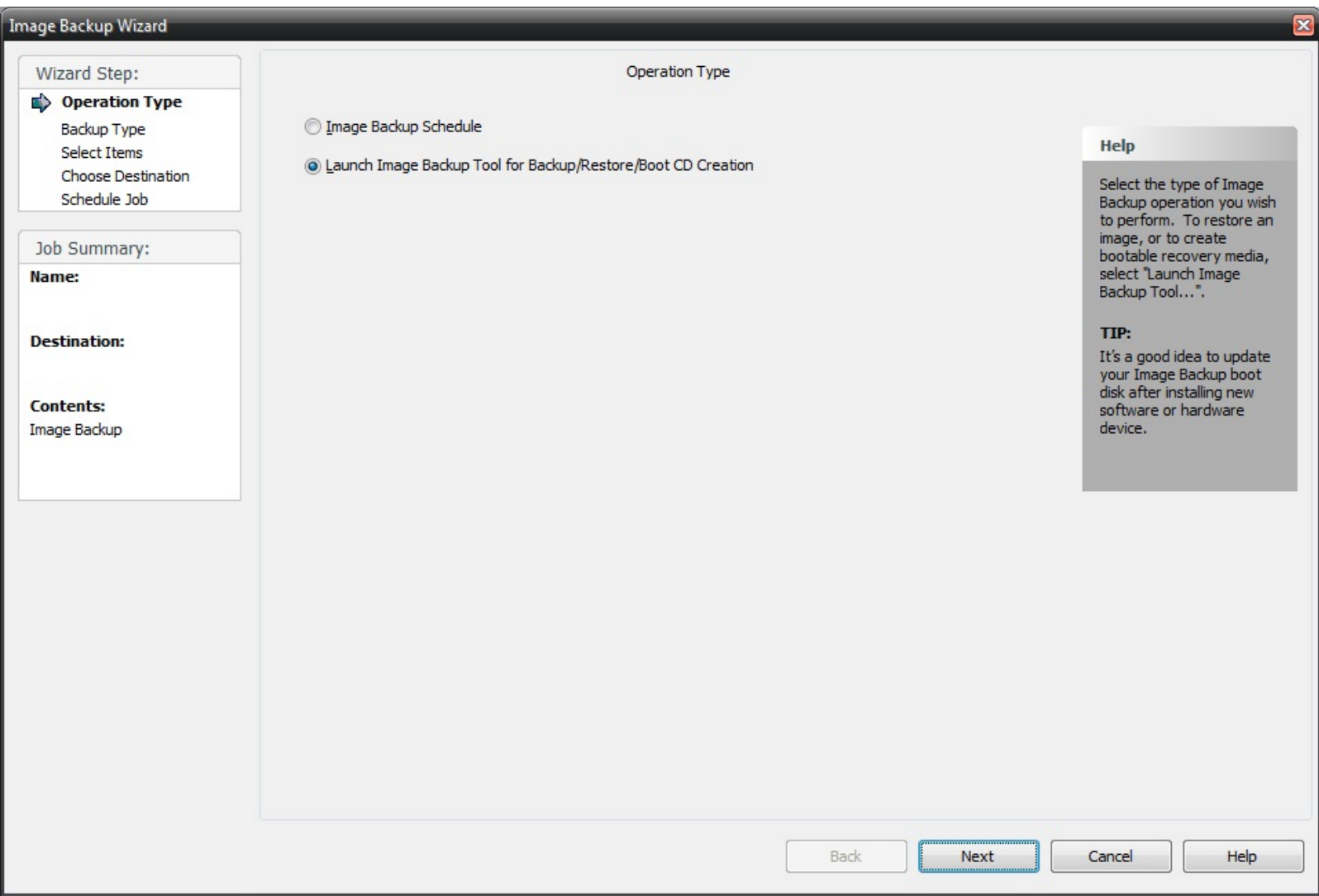
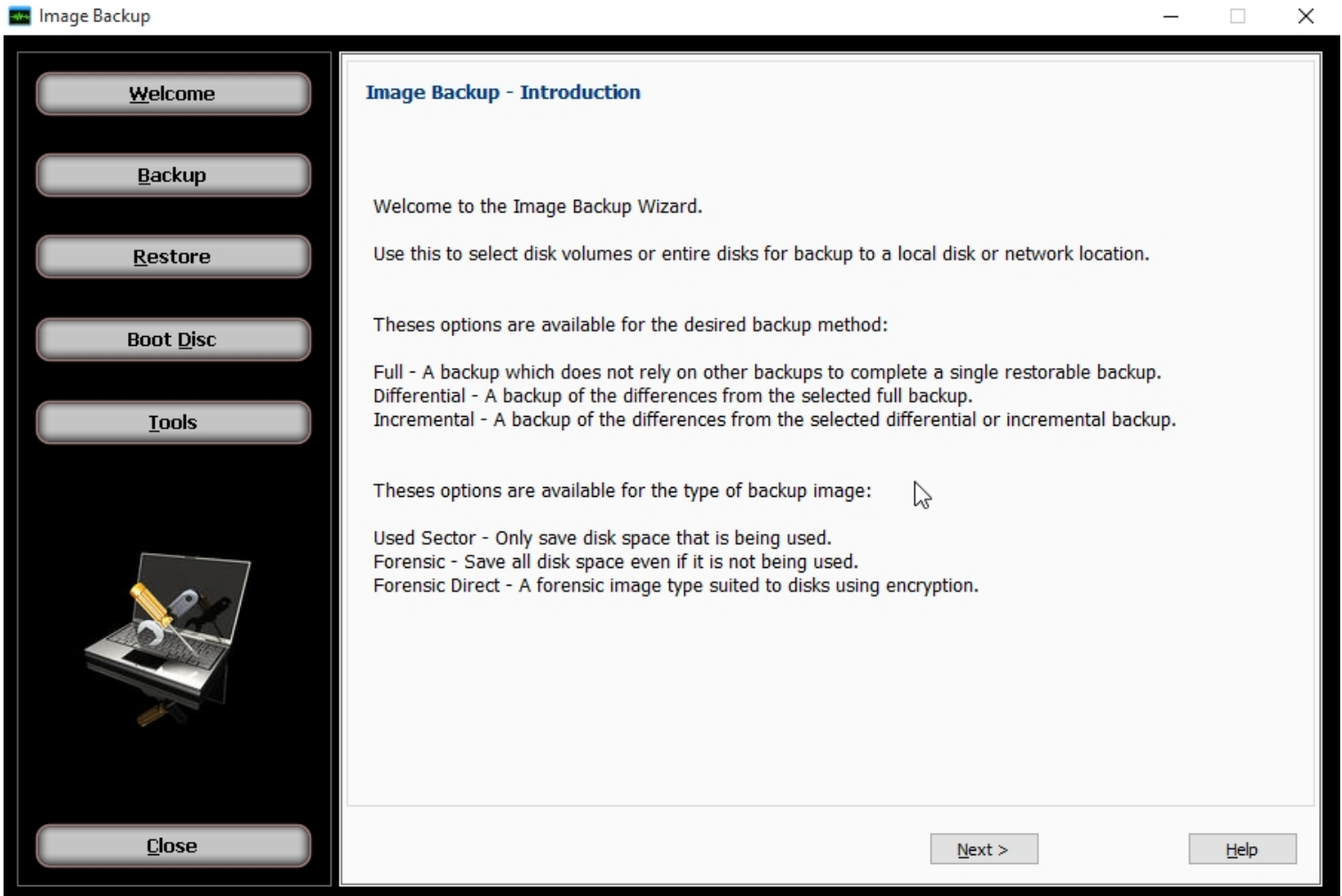


Image Backup Schedule: Setup an image backup job to be scheduled to run at a later time.

Launch Image Backup Tool: Launches the image backup tool used to backup or restore an image, mount an image, or to create an image boot disk.

Introduction

A welcome screen is presented when the Image Backup tool is launched.



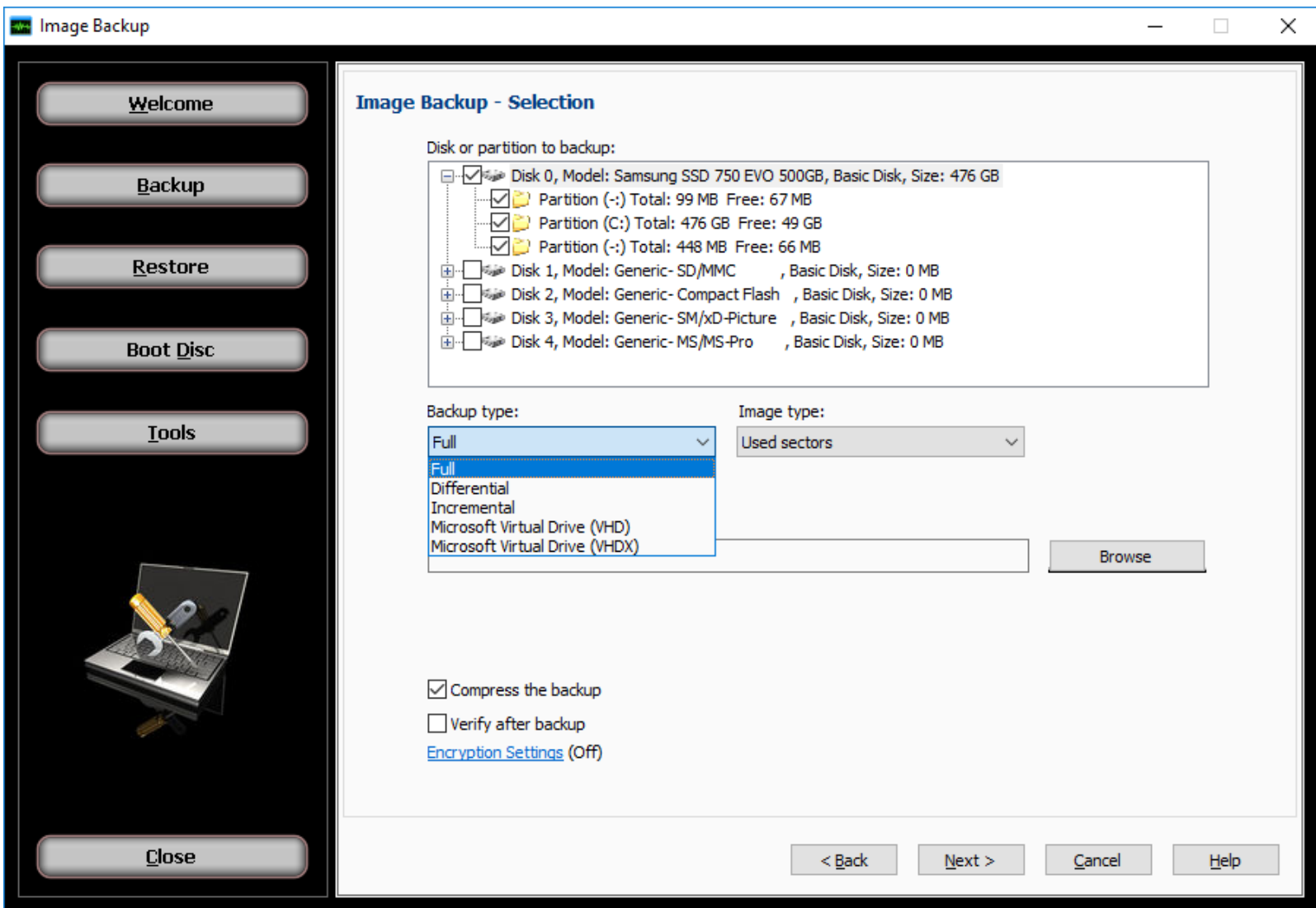
Use the buttons on the left side of the screen to manually perform an image backup or restore operation, create a boot disc, or access various disk image management tools. Creating backup images manually allows more control over where the images are stored and how they are named than do scheduled backup jobs, but requires the user to assume additional responsibility for managing the images.

You will need about 5 GB of free disk space to create a boot disc.

Press the Close button to return to the operation selection screen.

Selection

Image Backup - Selection



Use this screen to select disk volumes or entire disks for backup to a local disk or network location.

Disk or partition to backup:

Use the checkboxes to select the items you wish to backup.

Backup to:

Use the browse button to choose a location and file name to store your backup. You can navigate to the location desired or type a path into the edit box to obtain the same result. Additionally, any configured network devices may be selected as the destination path for users running Windows 7 or later. [Network device definitions](#) may added from the [Device Tab](#) in the main backup application.

Previous backup:

This is only shown if you have selected differential or incremental backup types. It is used to select the base backup for reference when creating the new backup.

Backup options:

Use compression:

Set this checkbox to use compression when backing up. This results in a smaller output file but may increase the time required to complete the backup.

Verify after backup

The files that are backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is selected by default.

Encryption settings

Click 'Encryption settings' to set backup encryption on or off. Encryption provides enhanced security by storing the backup data in a secure format. You may choose the encryption type as None (off), or one of encryption types AES 128, AES 192 or AES 256 (On). A secret key must also be entered, which is similar to creating a password.

IMPORTANT: You will be prompted to enter the secret key to restore an encrypted backup. The restore will not be permitted unless the correct secret key is entered.

Backup type:

Select from this list to create a backup of these possible types.

Full - A backup which does not rely on other backups to complete a single restorable backup.

Differential - A backup of the differences from the previously completed full backup which you select.

Incremental - A backup of the differences from the previously completed differential or incremental backup which you select.

Microsoft Virtual Drive (VHD) - A backup to Microsoft Virtual Drive (VHD). Only one disk may be selected for backup to VHD. The maximum size of the selected disk is 2.0 terabytes (2.0 TB).

Microsoft Virtual Drive (VHDX) - A backup to Microsoft Virtual Drive (VHDX). Only one disk may be selected for backup to VHDX. The maximum size of the selected disk is 64.0 terabytes (64.0 TB). The VHDX format was introduced in Windows Server 2012. The VHDX backup type will only work on Windows Server 2012 and higher for Server Operating Systems and Windows 8 and higher for Workstation Operating Systems

Image type:

Select from this list to create a backup containing these possible image types.

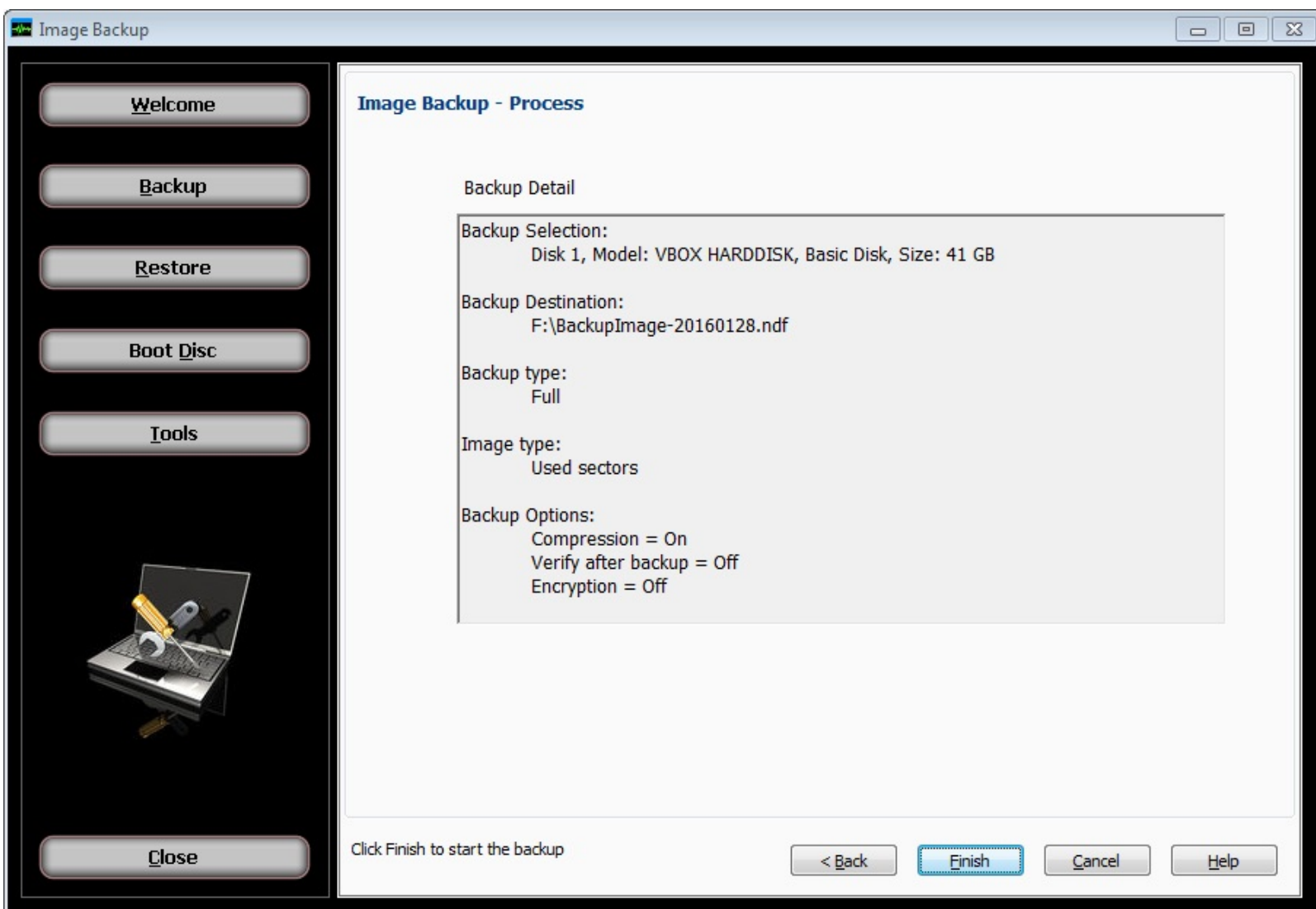
Used Sector - Only save disk space that is being used.

Forensic - Save all disk space even if it is not being used.

Forensic Direct - A forensic image type suited to disks using encryption.

Process

Image Backup - Process



This final step is used to start the backup job based on selections and options set in the previous screen.

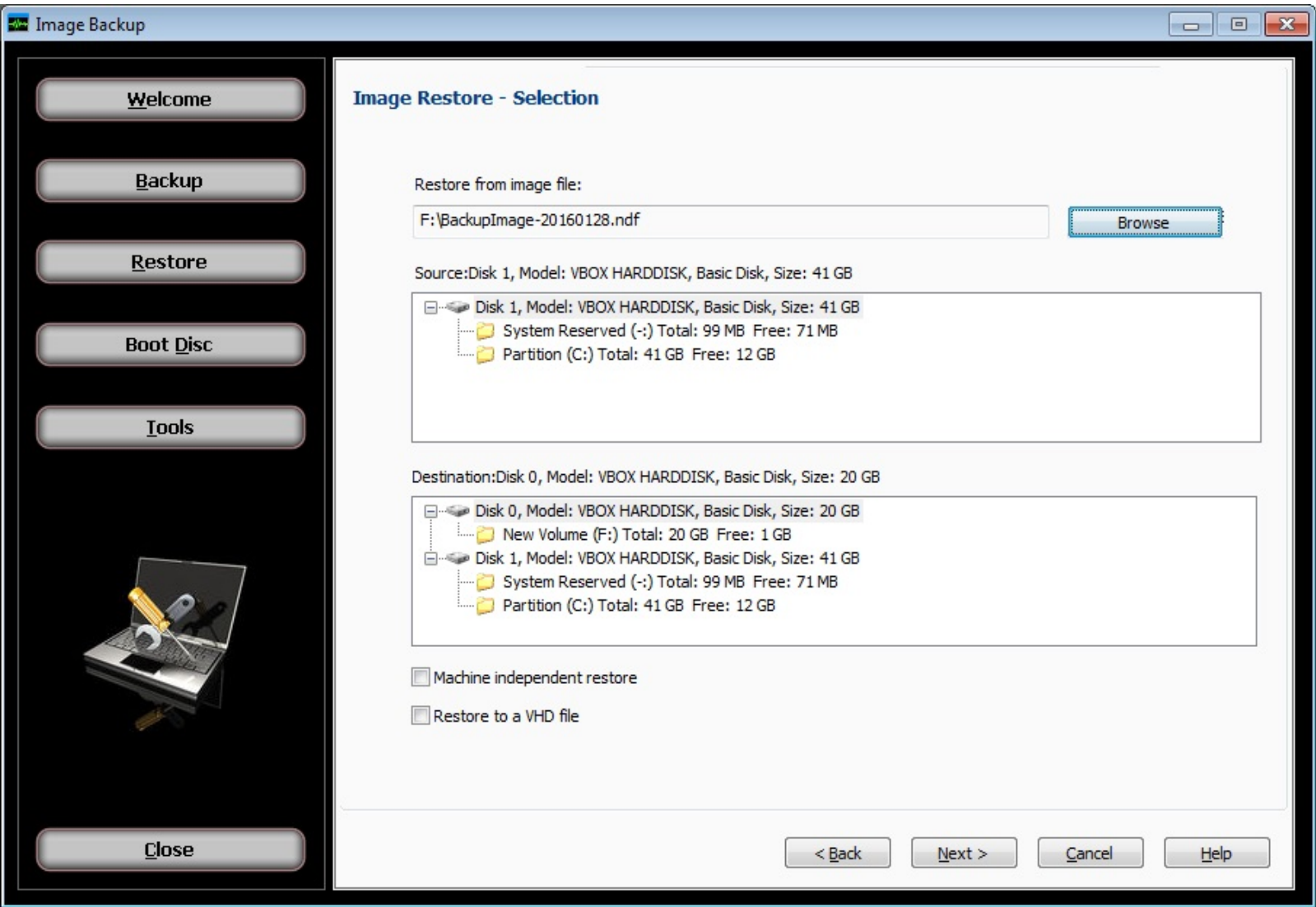
The summary of all backup selections and options are displayed to confirm your choices. You can change any option by clicking the back button. Once changes are complete, click the next button to return to this screen.

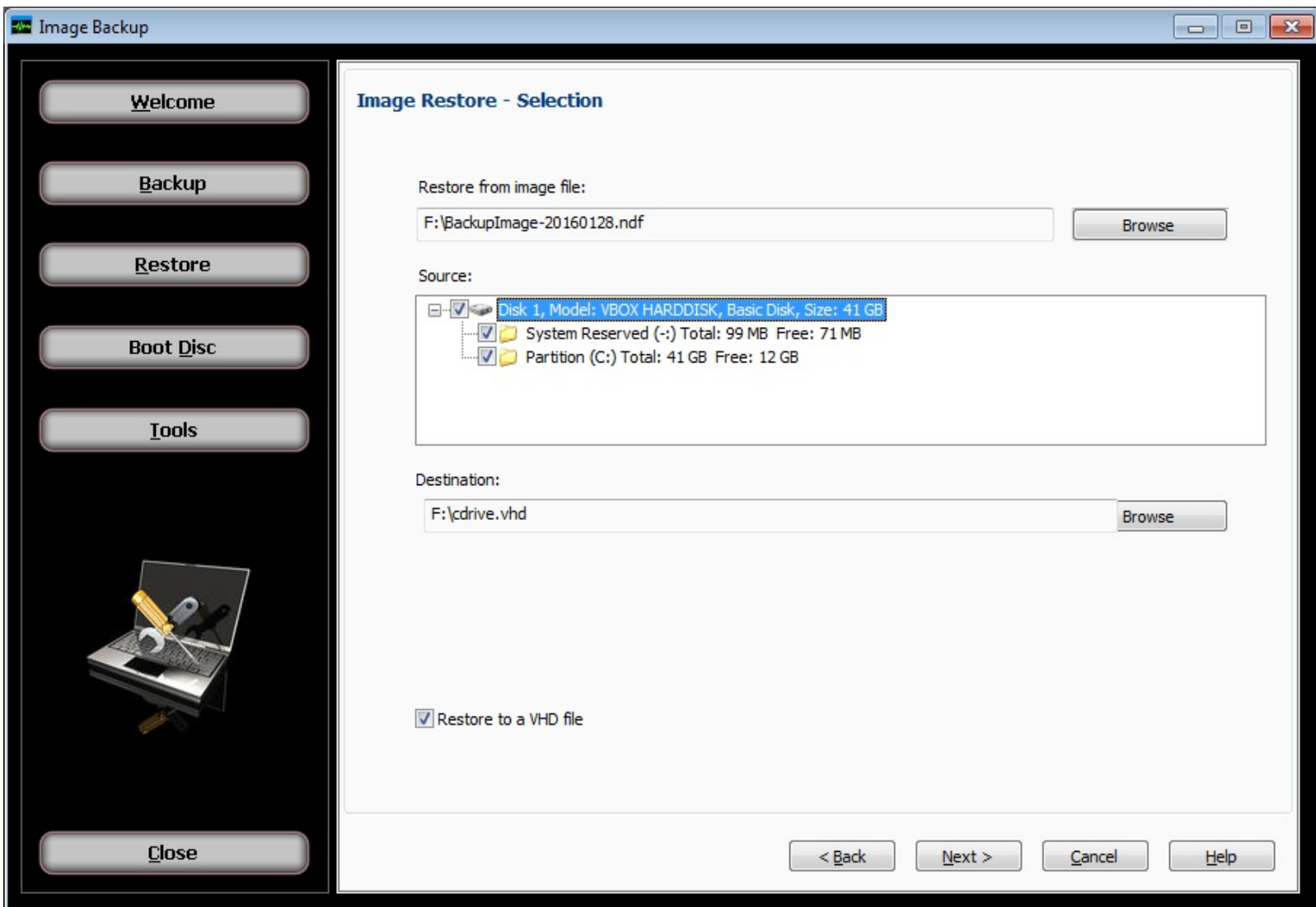
Click the finish button to start the backup. A progress bar appears during the process with the option to stop the backup if you wish to cancel.

When the process completes, a final status message is shown to indicate success or errors. More information about the job can be found using the main backup application 'Logs' menu item.

Selection

Image Restore - Selection





Use this screen to select disk volumes or entire disks from backup files stored on a local disk or network location.

Normal data recovery requires no special options, only source and destination choices. First choose the backup file, and from that backup select the item you wish to recover. Then in the destination list of existing disks, select the item to restore from the selected backup item.

Restore from image file:

This is the first choice available before any other options are shown. Use the browse button to locate the desired backup. After confirming the selected backup file, the source list will show the backup content.

Destination: (drive list)

This list shows existing drives and volumes available to restore from the selected backup item. This list will not appear when selecting the VHD output option.

Destination: (file name)

This is used to specify the output file when selecting VHD output option. Use the browse button to select a location and file name for the output file.

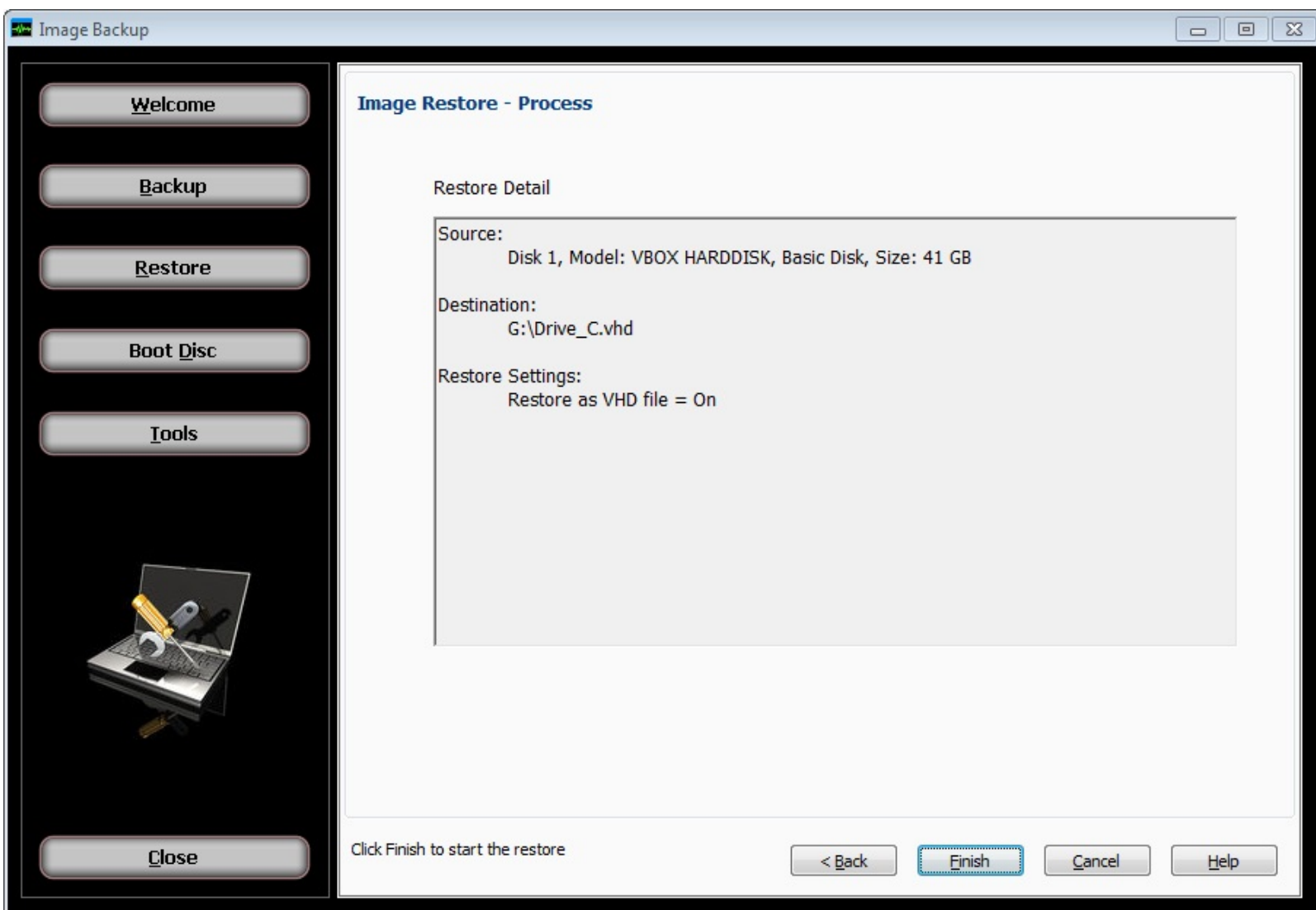
Restore options:

Restore to a VHD file - Using the selections in the backup image, create an output file instead of restoring to another disk. The output file is created using the specified name and location and converted to a Microsoft mountable VHD format. Note that only a used sector backup can be used to create a VHD output file which will mount successfully.

Machine independent restore - Use this feature to restore an image containing the system partition onto another computer with different hardware. Note that only a volume (or partition) may be selected from the backup to perform this type of restore, and the destination must not be the current active partition.

Process

Image Restore - Process



This final step is used to start the restore job based on your selections and options set in the previous screen.

The summary of all restore selection and options are displayed to confirm your choices. You can change any option by clicking the back button. Once changes are complete, click the next button to return to this screen.

Click the finish button to start the restore. A progress bar appears during the process with the option to stop the restore if you wish to cancel.

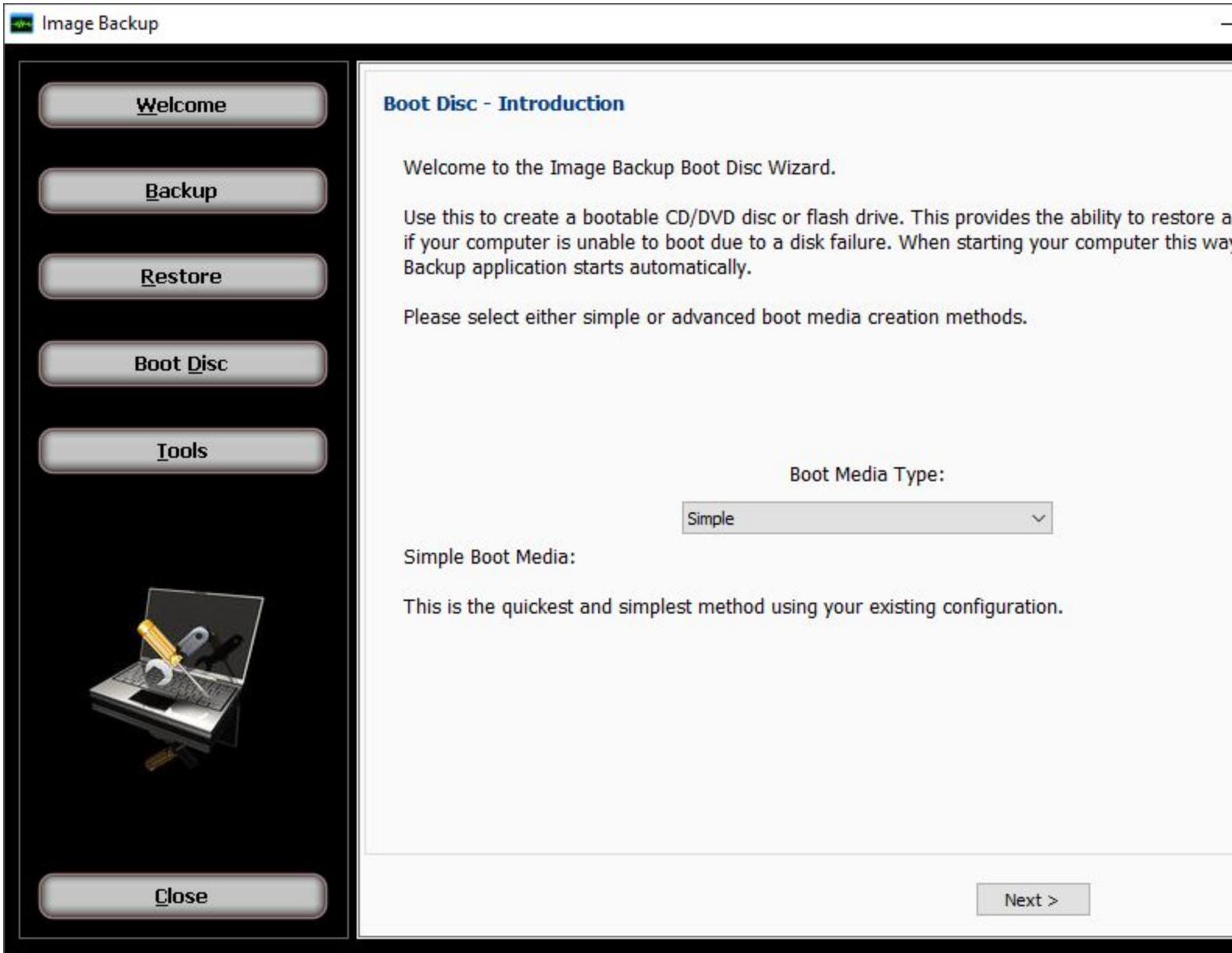
When the process completes, a final status message is shown to indicate success or errors. More information about the job can be found using the main backup application 'Logs' menu item.

Boot Disc - Introduction and Selection

Boot Disc - Introduction and boot disc creation type selection

The Boot Disc Introduction screen is also used to select the type of boot disc method you prefer. There are two boot media types (methods) to choose from and they are **Simple** and **Advanced**. It's important to know which method to select. The Simple method utilizes Windows Preinstallation Environment (Windows PE) files that exist in the installed operating system and do not allow for adding additional drivers to the boot media. The Advanced method utilizes the Microsoft Windows Assessment and Deployment Kit (ADK), and this method allows adding additional drivers to the boot media. The drivers have to be compatible with Windows Preinstallation Environment (Windows PE).

For Workstation operating systems such as Windows 10 and similar, the Simple boot media type is preferred since there are normally no special storage controller related type of drivers that the boot media would require in order to see your internal hard drive(s) at the time of booting. For Servers operating systems such as Windows Server 2016 and similar, you will likely need to use the Advanced boot media type, as servers normally utilize internal hard drives connected to a RAID controller and those drivers will need to be added to the boot media. The Boot Media Type selection is shown, with Simple mode selected:

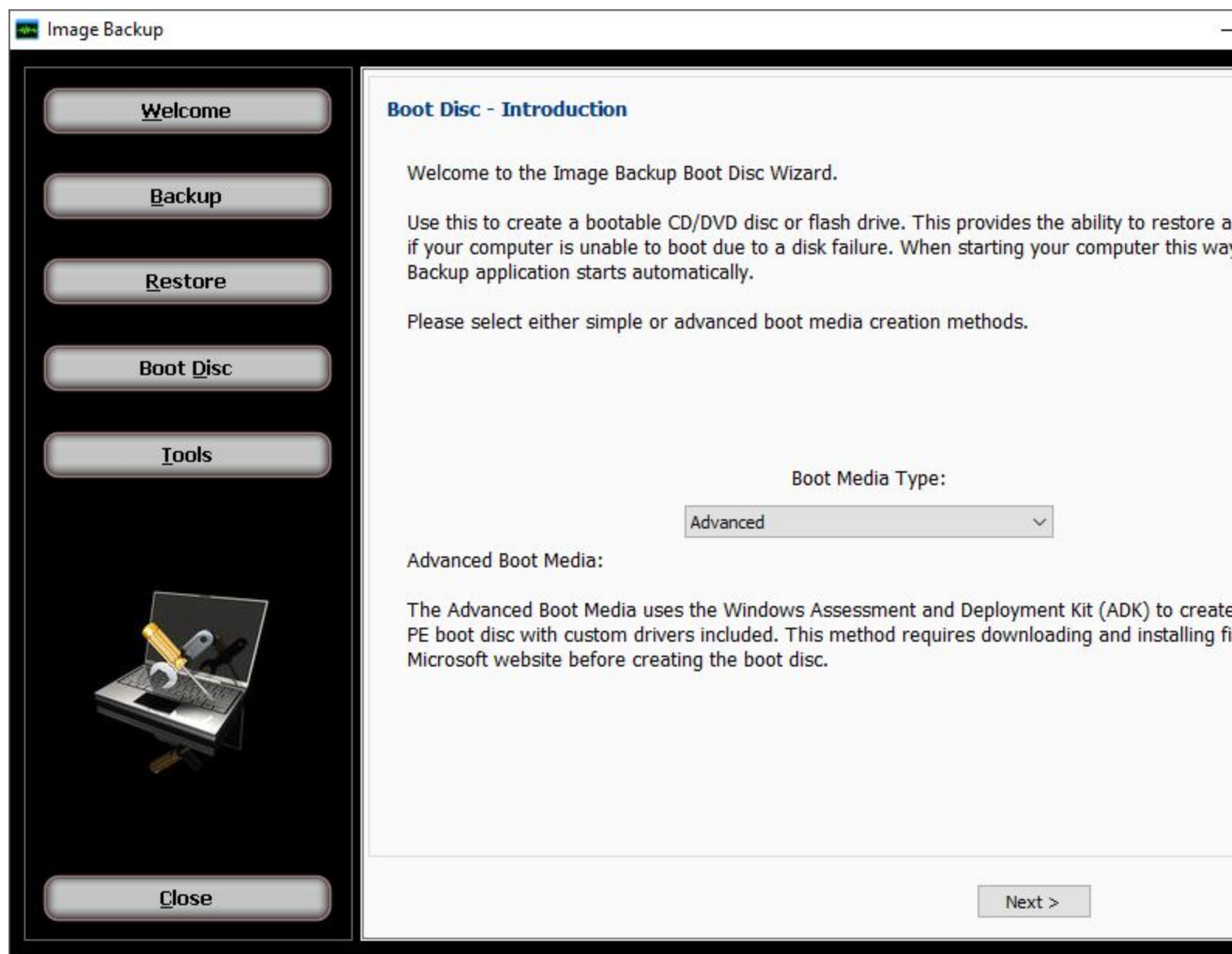


Note: In some rare occasions the Simple mode may not be able to find the installed The Simple and Advanced methods screen is displayed below.

For those users running configurations that require special handling, such as special device drivers that need to be included in the boot disc, the **Advanced** boot media type may be needed to create a boot disc capable of starting the system successfully. These type of drivers that are often required are storage controller drivers, RAID controller drivers primarily, USB 3.0 drivers, and sometimes video drivers if the text is too large or too small to read after booting to the boot media.

In the case of Servers operating systems, most servers utilize hard drives connected to a RAID controller, that RAID controller driver will need to be added to your boot media and the only method that can support adding a driver is the Advanced boot media type. The Advanced boot media type relies on the Windows ADK to create the boot media. If the Windows ADK is already installed the Advanced boot media creation screen will know that and skip the download and installation process for the Windows ADK. If the

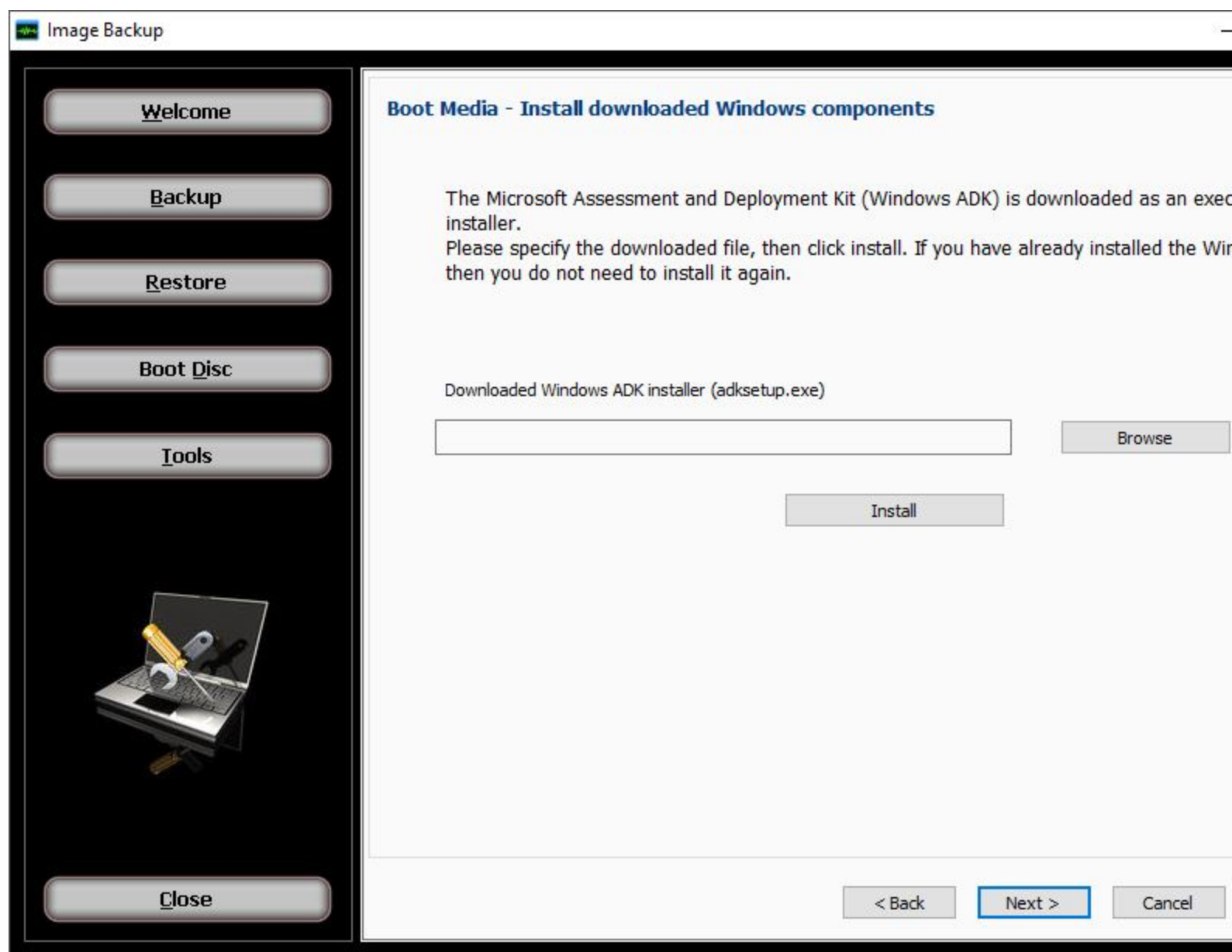
Windows ADK is not already installed on the current system it will prompt you to download the latest ADK Setup program from Microsoft's website, and then it will take care of the installation options for you and install the Windows ADK and then proceed to a screen which will allow you to add the drivers in to the Advanced boot media. The option to add drivers is seen when you click on "Show optional device drivers path" check box during the Advanced boot media creation steps. The **Advanced** mode is selected here:



Install Windows Assessment and Deployment Kit (ADK) components (for Advanced Boot Media mode only)

Boot Disc - Install Windows components (Advanced Boot Media mode only)

If you currently have the Windows Assessment and Deployment Kit (ADK) installed and it is detected then you will not see this "Install Windows components" screen. If you do see this screen it means the Windows ADK is not installed and you will need to follow the instructions here.



Downloaded Windows ADK installer (adksetup.exe):

The Microsoft Windows Assessment and Deployment Kit (ADK) is downloaded as an executable file on the prior page. The file name is "adksetup.exe". Use the browse button to locate the file which was downloaded in the previous step. The location and name of the file is needed so that the Windows ADK installation can be launched with our predefined and required options. Do not attempt to run adksetup.exe by yourself, instead utilize the install button detailed below, otherwise required components may not be installed.

Install button:

With the downloaded Windows ADK setup file location showing above, click the install button to allow the Windows ADK to install. After clicking the install button the ADK installer is started and pre-configured to select only the components you need. Note: During the ADK install you will be able to choose the folder where the Windows ADK will be installed, in case for instance you are low on disk space on C: drive, the default install folder.

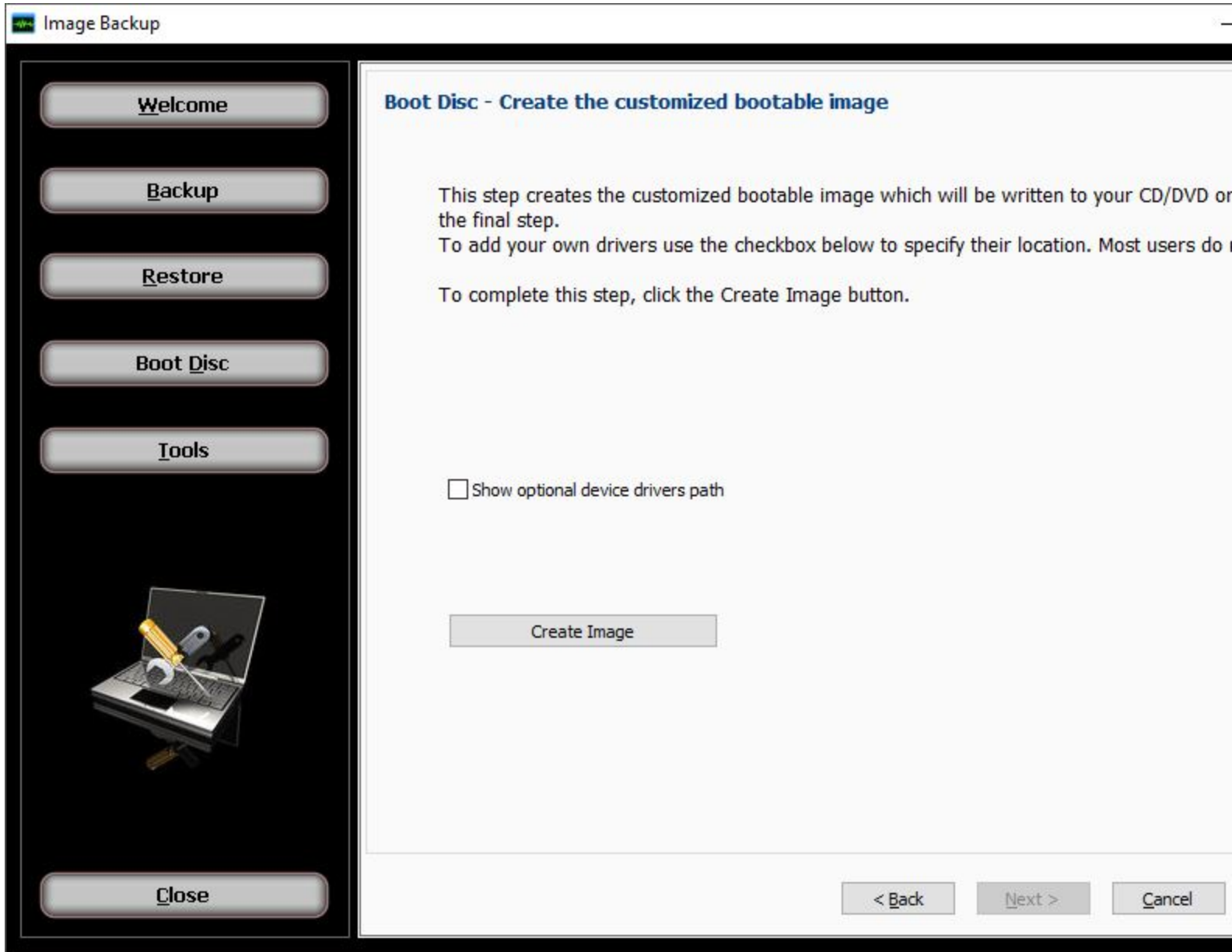
After installing the Windows ADK:

Once the Windows ADK has been installed successfully, its location is detected automatically in order to run the next steps required to create boot image file based on the Windows PE operating system. You are required to click **Next** to continue.

Create Boot Image

Boot Disc - Create the customized bootable image

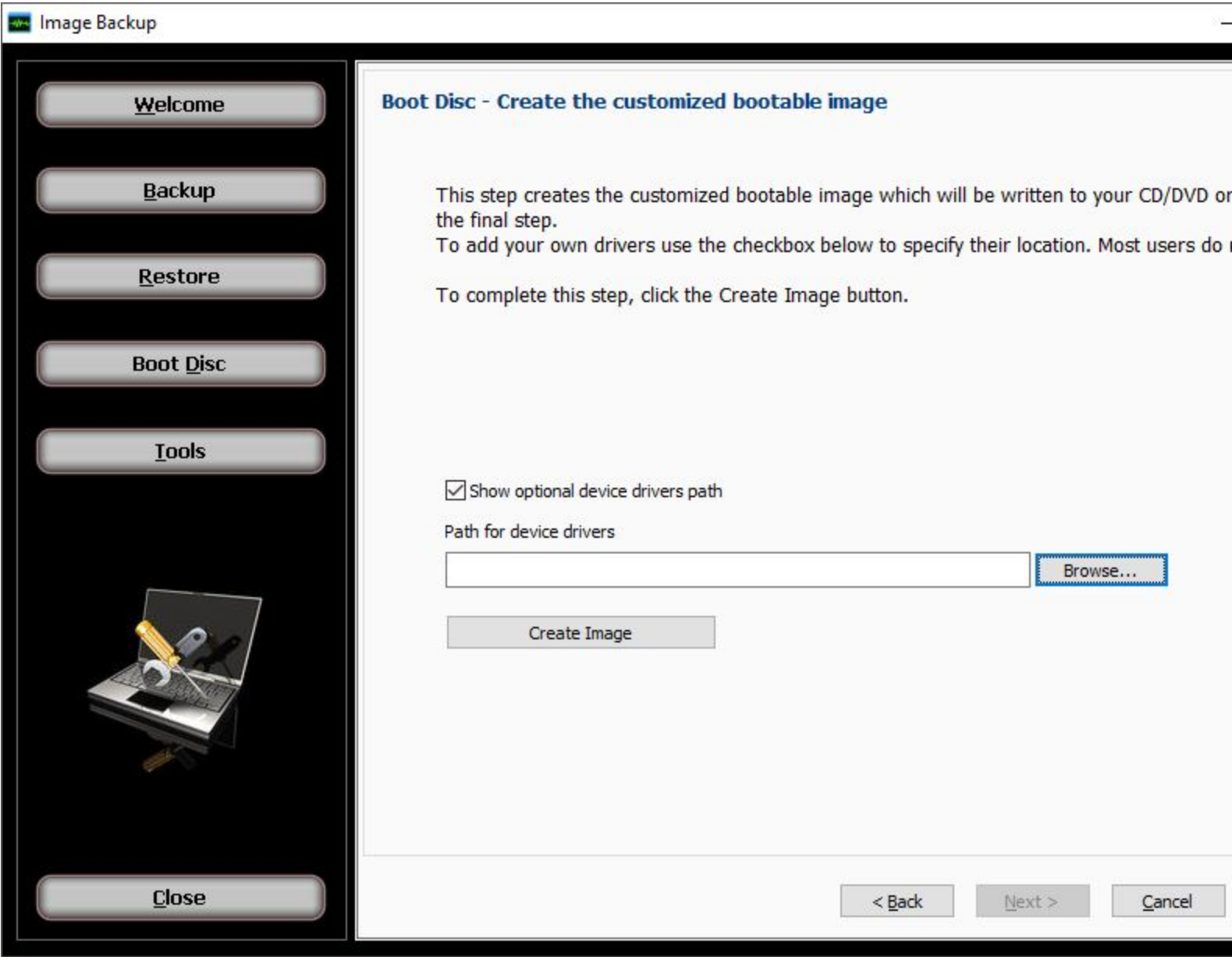
This step creates the customized image restore boot image which will be written to your CD/DVD or flash drive in the final step. To add your own drivers to the boot media utilize the "**Show optional device drivers path**" check box option to browse to the path for where the drivers are stored. The drivers have to be compatible with Windows Preinstallation Environment (Windows PE). Most users with a Workstation operating system do not require adding drivers this way, however Server operating systems most of the time will require the storage controller driver to be added to the boot disc this way otherwise the hard drives that are connected internally to that RAID controller will not be seen after booting the system using the boot image. Some other drivers that you may want to add to the boot media for a Windows Server based environment would be network controller drivers, USB 3.0 controller drivers, and video drivers.



Show optional files list (Advanced Mode)

When the "**Show optional device drivers path**" check box option is utilized, the interface will display the path selection to be able to specify optional drivers that you can add to your boot image. Click the browse button to select the path containing the driver(s) that you wish to add. If you have multiple drivers to add, such as a RAID driver and a USB 3.0 driver, make sure that the driver path that you are specifying as a single entry contains the two sub-folders for those two drivers. For instance, the folder named "C:\dell\drivers\R272908\" contains your RAID driver and the folder "C:\dell\drivers\R289489\" contains your USB 3.0 driver, if that is the case you would want to select "C:\dell\drivers\" as the folder path when specifying the "Path for device drivers" option. In the Boot Image, drivers are integrated into the Windows PE operating system.

To complete this step, click the "Create Image" button. This will begin the various processes needed to create the Boot Image with messages showing its progress. When the process has completed, click the Next button to proceed to the last step.

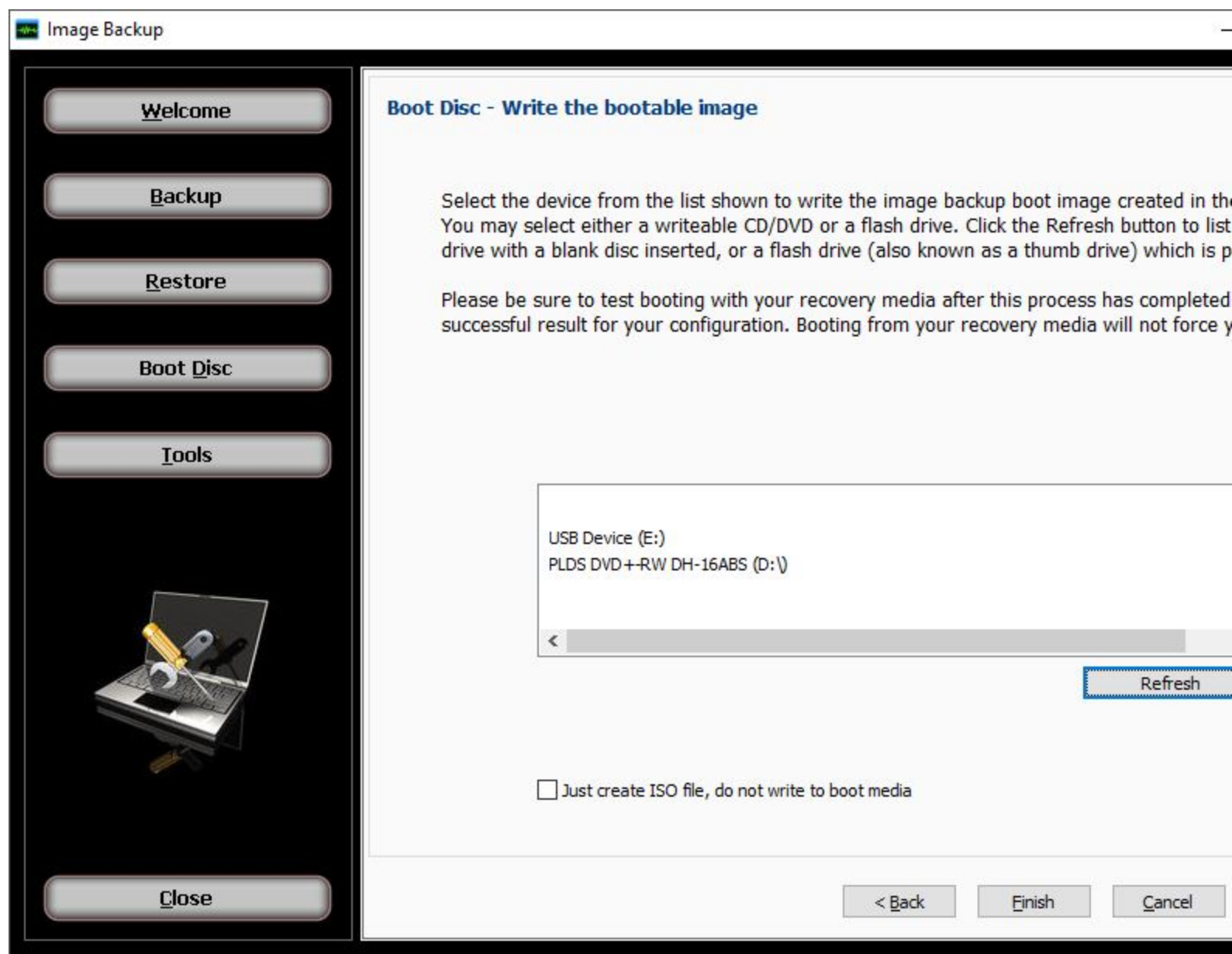


Write Boot Disc

Boot Disc - Write the bootable image

Select the writable device from the list shown to write the image boot media created in the last step. You may select either a writable CD/DVD or a flash drive. Click the Refresh button to list your CD/DVD drive with a blank disc inserted, or a USB flash drive (also known as a thumb drive) which is plugged in. Note that not all computers are capable of booting from a flash drive.

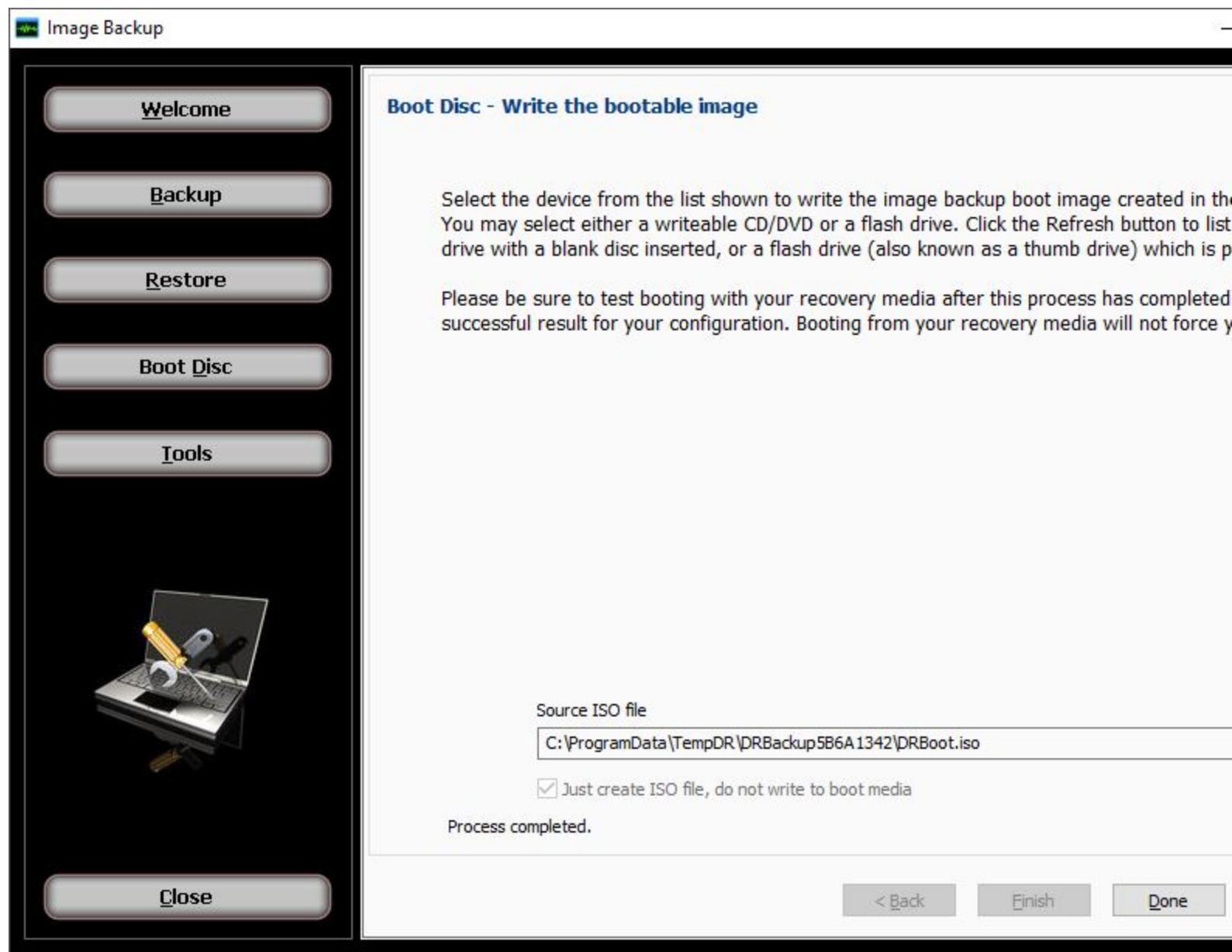
Click the Finish button when you are ready to write the bootable image to the selected device and wait for the process to complete. Once the "Process completed." message is displayed at the bottom of the screen you can click "Done".



If you do not wish to write the boot media but only create the ISO file, the check box labeled as "Just create ISO file, do not write to boot media" provides that option. If checked, you will also see the path and file name where the .ISO file will be available after clicking the finish button. With that .ISO file that has been generated as your boot media, the file can be utilized to write the ISO to CD/DVD or to a USB flash drive at a later time, in case for instance your current computer has a faulty writable media and you aren't able to create the media just this moment or just want to do it at a later time or want to have duplicate boot media, using the alternate method to CD/DVD guide [here](#) and the alternate method USB flash drive guide [here](#).

If using the "Just create ISO file, do not write to boot media" option:

This is what the screen will look like if the "Just create ISO file, do not write to boot media" option is checked. It will display the output path for the .ISO file that is your boot media to be able to write the .ISO to CD/DVD or USB flash drive at a later time, described above.



It is recommended to test booting from the selected boot device to be sure you can successfully start your computer using the boot disc or flash drive. Once the boot process completes you should see the Image Restore application started. You do not have to run an actual image restore operation when you have started your computer this way; however it is highly recommended at this point to check to make sure that your internally connected hard drives are seen by the bootable image. If for instance your RAID controller was not added properly and is needed by the bootable image then the internally connected RAID hard drive(s) will not be seen by the bootable

image and will not display as target devices to restore an image backup to the RAID controller hard drives. If that is the case you will need to rebuild the image boot media again paying attention to what was discussed on the prior topic for Create Boot Image.

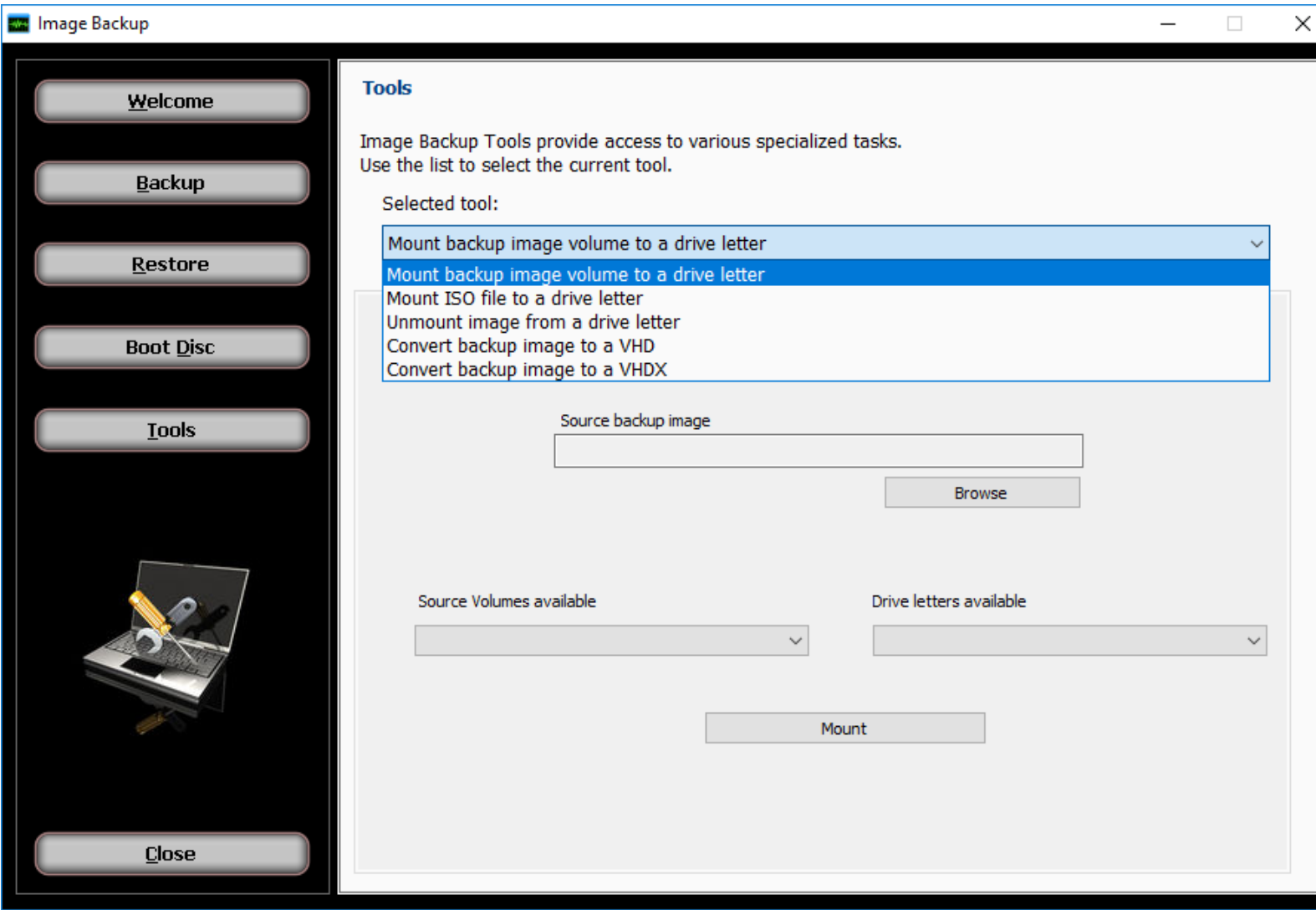
It is also recommended to label the boot media with "NovaBACKUP Image boot media" and possibly even note the version of NovaBACKUP that was utilized here. You can label the CD/DVD media with a sharpie or for flash drive you can create a physical label such as a piece of tape and affix to the flash drive.

This concludes the boot media creation steps.

Tools

Tools

The Tools button will display a screen which provides a list from which the user may select a variety of functions:



Mount backup image volume to a drive letter

This provides the ability to access files in a backup image without having to run a restore operation. By specifying the backup image, the user may select from any volume listed in the backup image, then select any available listed drive letter to associate with that volume. Then after clicking the 'Mount' button, files will be available by accessing the selected drive letter the same way files are normally accessed.

Mount ISO file to a drive letter

This provides the ability to access files in an ISO file without having to burn that file to a CD or DVD. By specifying the ISO file image, the user only needs to then select any available listed drive letter to associate with that ISO file. Then after clicking the 'Mount' button, files will be available by accessing the selected drive letter the same way files are normally accessed.

Unmount image from a drive letter

Any drive letter that exists from a mount operation may be released and made available again using the unmount function. All that is required is to specify the drive letter desired, then clicking the 'Unmount' button.

Convert backup image to a VHD

A VHD (virtual hard disk) file is normally associated with the Microsoft Hyper-V server. During restore operations, the user has the option to create VHD file output instead of performing a restore to disk operation. This tool makes the same result possible without requiring the steps normally used for restore. After selecting the source backup image and the drive desired for conversion in the backup, the user then specifies the desired output filename and location. Then after clicking the "Convert" button, the process to create the output file begins with progress displayed.

Convert backup image to a VHDX

A VHDX (virtual hard disk) file is normally associated with the Microsoft Hyper-V server. During restore operations, the user has the option to create VHDX file output instead of performing a restore to disk operation. This tool makes the same result possible without requiring the steps normally used for restore. After selecting the source backup image and the drive desired for conversion in the backup, the user then specifies the desired output filename and location. Then after clicking the "Convert" button, the process to create the output file begins with progress displayed.

Select Backup Type

The first step in scheduling an image backup is to choose the type of job.

Image Backup Wizard

Wizard Step:

Operation Type

Backup Type

Select Items

Choose Destination

Schedule Job

Job Summary:

Name:

Destination:

Contents:

Image Backup

Backup Type

☒ Full

☐ Differential

☐ Incremental

☐ Microsoft Virtual Drive (VHD)

☐ Microsoft Virtual Drive (VHDX)

Help

Select the type of Image Backup job. Select "Full" to backup entire disks or partitions. Select "Differential" to backup all changes since the last full backup. Select "Incremental" to backup changes since the last full or incremental backup.

TIP:

A full backup job must be created before creating an incremental or differential job, although it's not necessary that the full backup job has already run.

Back Next Cancel Help

The Help panel on the right side of the screen describes the different type of image backup jobs.



Incremental and differential jobs reduce the amount of space needed for the backup by only saving changes made since a previous backup. Differential backup jobs save the changes made since the last full backup. Incremental backup jobs save the changes made since a previous incremental backup, or since the last full backup if no previous incremental backup exists. The space savings comes at the cost of slower image restore operations since multiple incremental or differential backup files may need to be applied to the full backup file in order to arrive at the desired restore point.

If an incremental or differential backup type is selected, then a list of scheduled full backup jobs is displayed, as shown below.

Image Backup Wizard

Wizard Step:

Operation Type

Backup Type

Select Items

Choose Destination

Schedule Job

Job Summary:

Name:

Destination:

Contents:

Image Backup

Backup Type

Backup Type

☐ Full

☒ Differential

☐ Incremental

☐ Microsoft Virtual Drive (VHD)

☐ Microsoft Virtual Drive (VHDX)

Full Image

Help

Select the type of Image Backup job. Select "Full" to backup entire disks or partitions. Select "Differential" to backup all changes since the last full backup. Select "Incremental" to backup changes since the last full or incremental backup.

TIP:
A full backup job must be created before creating an incremental or differential job, although it's not necessary that the full backup job has already run.

Back

Next

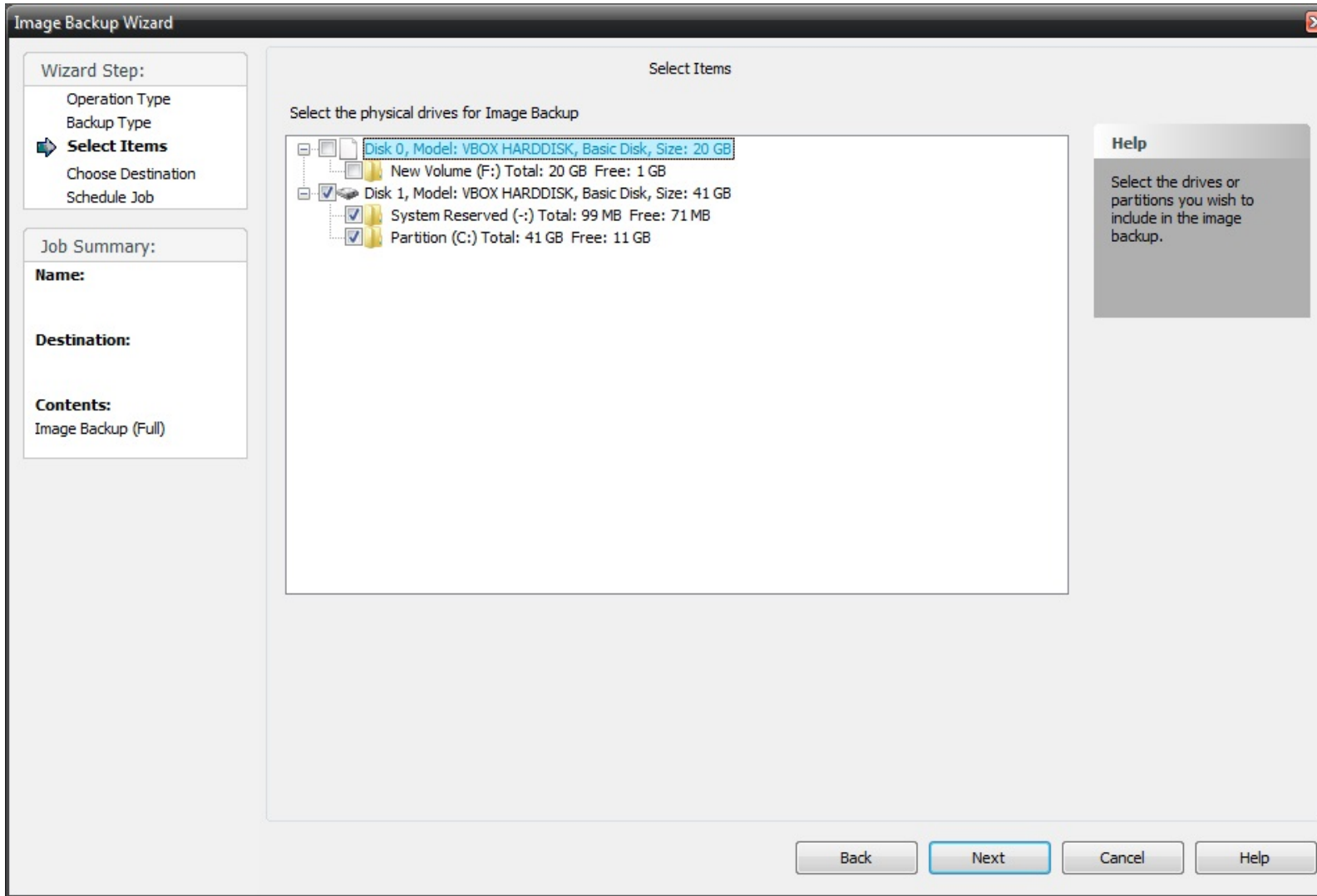
Cancel

Help

The backup name and job name is displayed . Pick the job that generates the full backup image to be used as the base image for the differential or incremental job, then press the Next button.

Select Items for Image Backup

From here, select the disks and/or partitions you wish to create backup images of.



This step is only required when creating a full image backup job. Incremental and differential jobs inherit their settings from the full backup job on which they are based.

Image Backup Destination

From this screen, you will select a name, destination and other options for a full image backup. For incremental and differential jobs most of the settings are inherited from the full backup on which they are based and cannot be changed.

The screenshot shows the 'Image Backup Wizard' window, specifically the 'Choose Destination' step. On the left, a 'Wizard Step' sidebar lists 'Operation Type', 'Backup Type', 'Select Items', 'Choose Destination' (highlighted with a blue arrow), and 'Schedule Job'. Below this is a 'Job Summary' section with fields for 'Name:', 'Destination:', and 'Contents: Image Backup (Full)'. The main area contains the following options: 'Backup Name' (text box with 'Full_Image'), 'Backup Destination' (text box with 'E:\' and a 'Backup to...' button), 'Image Type' (dropdown menu with 'Used sectors'), 'After backup action' (dropdown menu with 'Do nothing'), and three checkboxes: 'Overwrite previous image backup' (checked), 'Compress the backup' (checked), and 'Verify after backup' (unchecked). A link for 'Encryption Settings (Off)' is also present. On the right, a 'Help' panel provides instructions and a note about storage space. At the bottom, there are 'Back', 'Next', 'Cancel', and 'Help' buttons.

Image Backup Wizard

Wizard Step:

- Operation Type
- Backup Type
- Select Items
- Choose Destination**
- Schedule Job

Job Summary:

Name:

Destination:

Contents:
Image Backup (Full)

Choose Destination

Backup Name
Full_Image

Backup Destination
E:\ Backup to...

Image Type
Used sectors

After backup action
Do nothing

☒ Overwrite previous image backup

☒ Compress the backup

☐ Verify after backup

[Encryption Settings](#) (Off)

Help

Enter the name for this image backup job and choose the destination device or path you wish to use.

Note:
Only CD/DVD, network, local or removable hard drives can be used for image backups. In addition, image backups can be large, so be sure there is adequate free space on the device you select.

Back Next Cancel Help

Backup Name: Select a descriptive name for the job.

Backup Destination: Select the destination for the backup image.

Image type:

Select from this list to create a backup containing these possible image types.

Used Sector - Only save disk space that is being used.

Forensic - Save all disk space even if it is not being used.

Forensic Direct - A forensic image type suited to disks using encryption.

After image backup action Options:

After the image backup job completes you can have the computer do nothing, shutdown or restart.

Do nothing

Nothing will occur after the image backup job completes.

Shutdown the computer

Shutdown the computer when the image backup job completes.

Restart the computer

Restart the computer when the image backup job completes.

Backup options:

Overwrite previous image backup

Set this check box to use to overwrite the previous image backup. This option only applies to full or differential backups since incremental backups depend on all previous backup images being available. If the overwrite option is disabled, then a date and time stamp is added to the backup file name to make it unique.

Compress the backup

Set this check box to use compression when backing up. This results in a smaller output file but may increase the time required to complete the backup.

Verify after backup

The data that is backed up will be verified to make sure that they were written correctly. Selecting this option will increase backup time. This setting is not enabled by default.

Encryption Settings

Click 'Encryption settings' to set backup encryption on or off. Encryption provides enhanced security by storing the backup data in a secure format. You may choose the encryption type as None (off), or one of encryption types AES 128, AES 192 or AES 256 (On). A secret key must be also be entered, which is similar to creating a password.

IMPORTANT: You will be prompted to enter the secret key to restore an encrypted backup. The restore will not be permitted unless the correct secret key is entered.

Completing the Image Backup Job

This is the final necessary screen when creating a backup set using the Wizard.

Image Backup Wizard

Wizard Step:
 Operation Type
 Backup Type
 Select Items
 Choose Destination
Schedule Job

Job Summary:
Name:
 Full
Destination:
 C:\TEMP
Contents:
 Image Backup (Differential)

Schedule Job

Job Name: C:\ProgramData\NovaStor\NovaStor NovaBACKUP\UserScripts\Administrator\DR\Full-Diff

Scheduling Information

Type of Schedule: Weekly

First Run...
 Date: 4/15/2016
 Time: 1:20:53 PM

Repeat every...
 1 week(s)

When running this job, login using this account

☒ Run as logged in user
☐ Run as specific user

Domain Name:
 Run As User Name:
 Password:

Note: You must enter a valid user account in order to run this job. If the account is not valid when the job is run, the operation will fail.

Help
 Choose to run your image backup job now or schedule for later.
TIP:
 Be sure to include your Windows domain or system login credentials for scheduled jobs, and review the "Job Summary" window to confirm that you've configured everything correctly.

Type of Schedule

This drop-down list allows you to select whether you want the backup job to run once, by the minute, hourly, daily, weekly, or monthly.

Run Once: Run the job once, at the date and time specified under "Scheduling Information."

Minute: Run the job based on a minute/second increment starting at a specific date and time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of minutes and seconds between each run.

Hourly: Run the job based on an hourly increment starting at a specific date and time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of hours you want the job to repeat.

Daily: Run the job based on an daily increment starting at a specific date and time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of days you want the job to repeat. You can also select specific days to run or not run the job.

Weekly: Run the job based on an weekly increment starting at a specific date and time. Under "Scheduling Information", select the appropriate date and time the job is to start and the number of weeks you want the job to repeat.

Monthly: Run the job based on an monthly increment starting at a specific date and time. Under "Scheduling Information", select the appropriate date and time the job is to start, and the day of the month and number of months you want the job to repeat.

Run Job As . .

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

In order for the job to run, you must enter valid windows account details.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.



Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: You can click the "Check Credentials" button to validate the account you have entered, otherwise the credentials are checked when the Finish button is pressed.

When the Finish button is pressed the job information is saved and will appear in the application's Schedule Tab along with other scheduled backup jobs.

Backup Retention Overview

The backup retention feature provides the ability to create jobs to control which backups should be kept. This is useful in cases where too many backups have accumulated, storage space is running too low or you wish to keep future backups within a specified range or condition.

Backup retention jobs also check for dependencies to ensure that no backup gets deleted if another backup depends on it in order to be restored as expected. For example an incremental backup will not be deleted if an older related incremental backup remains. Also if a backup was split out to multiple files, that backup sequence will maintain its integrity by not allowing any member of that sequence to be deleted as long as others remain.

A backup retention job may be run on demand or scheduled to run automatically. To access this feature, click the schedule menu item, then click the "Backup Retention" button.

Settings contained in the basic and advanced tabs are explained in separate topics, while those common to the main screen are explained here.

Configure Backup Retention

Job Name
C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic | Advanced

Keep backups using this setting: Age and Count

Backup type to process: Normal and Image Backups

Maximum backup age: 1 Months

Minimum valid backup count: 10

☐ Maximum warnings allowed for a valid backup: 0 Warnings

☐ Maximum errors allowed for a valid backup: 0 Errors

Run Now New Open Save... Cancel

Job Name

This field displays the current backup retention job script and location. If you wish to schedule a backup retention job, you will need to specify the script as it would be displayed here.

Run Now Button

Click this button to run the backup retention job using the current settings. This will also save the settings to the job script as shown in the job name field.

New Button

Click this button to open a dialog to specify a name for a new backup retention job. The new job script will have all default settings, which may then be edited and saved to the same name or to a different name.

Open Button

Click this button to open a dialog to select an existing backup retention job. This will load the job settings and set it as the current backup retention job script.

Save... Button


Click this button to open a dialog to save the settings to the current backup retention job script. You can save to the current job script name or save to a different name if preferred.

Cancel Button

Click this button to close the backup retention screen without saving any changes.

Backup Retention Basic Tab

Configure Backup Retention



Job Name

C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic

Advanced

Keep backups using this setting:

Age and Count

Backup type to process:

Normal and Image Backups

Maximum backup age:

1

Months

Minimum valid backup count:

10

☐ Maximum warnings allowed for a valid backup:

0

Warnings

☐ Maximum errors allowed for a valid backup:

0

Errors

Run Now

New

Open

Save...

Cancel

Keep backups using this setting:

Age

Keep backups for a specified minimum amount of time.

Count

Keep a specified minimum number of backups.

Age and Count

Keep backups for a specified minimum amount of time after the minimum required count is reached.

Backup type to process:

Normal Backup

The standard backup type which is based on file selection, also known simply as file backup.

Image Backup

Disk image backup created with the Image Backup tool.

Normal and Image Backups

Both the normal file and image backups are processed. This is the same process as each type of job were run separately with all settings applied to each type of backup separately.

Minimum backup age:

This setting specifies the age when keeping backups based on a minimum age.

Minimum valid backup count:

This setting specifies the count when keeping backups based on a minimum count.

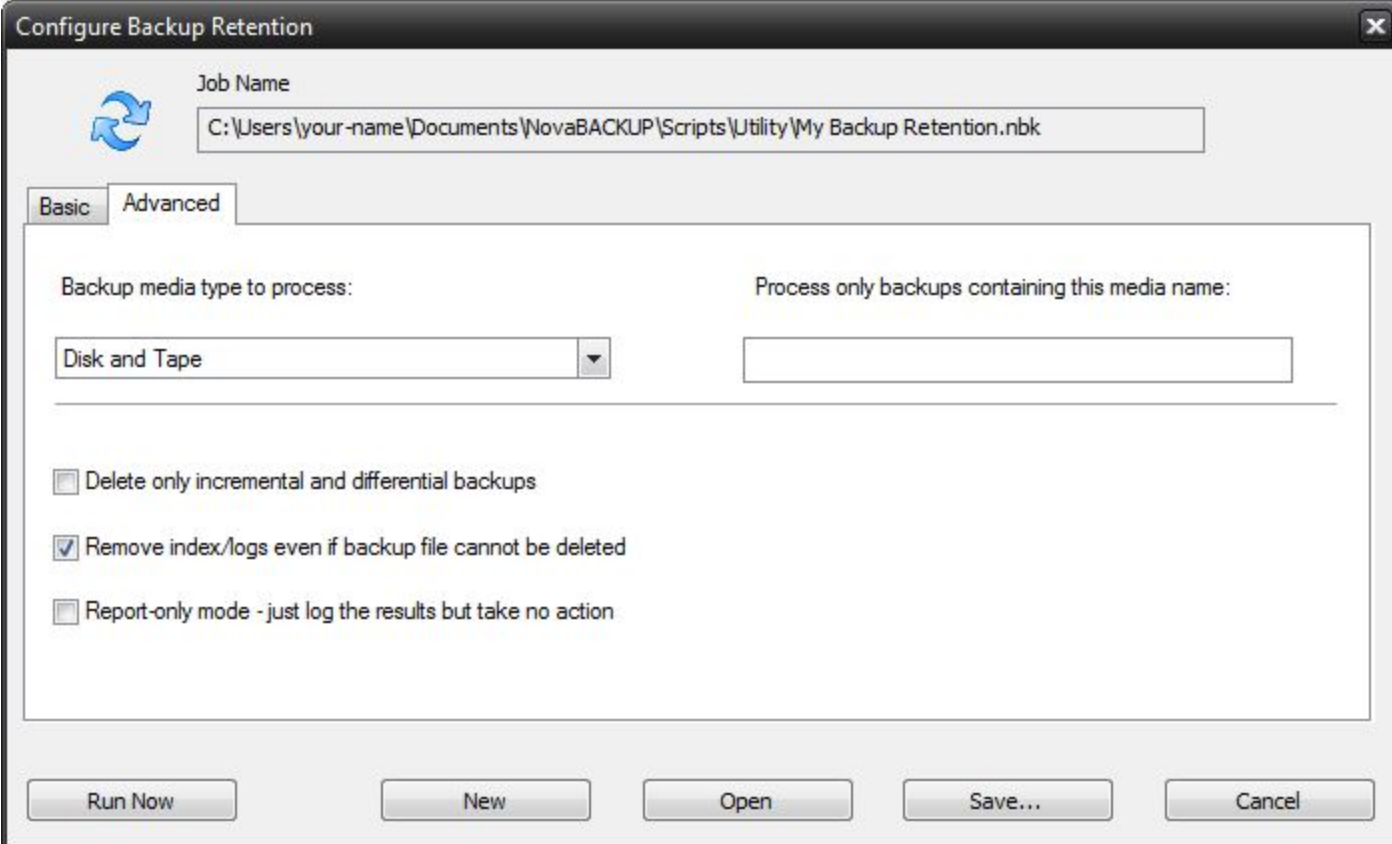
Maximum warnings allowed for a valid backup:

If this is checked, a backup will be counted as valid only if it has the set number of warnings or less.

Maximum errors allowed for a valid backup:

If this is checked, a backup will be counted as valid only if it has the set number of errors or less.

Backup Retention Advanced Tab



The screenshot shows the 'Configure Backup Retention' dialog box with the 'Advanced' tab selected. The 'Job Name' field contains the path 'C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk'. The 'Backup media type to process' dropdown is set to 'Disk and Tape'. The 'Process only backups containing this media name' field is empty. Three checkboxes are visible: 'Delete only incremental and differential backups' (unchecked), 'Remove index/logs even if backup file cannot be deleted' (checked), and 'Report-only mode - just log the results but take no action' (unchecked). At the bottom are buttons for 'Run Now', 'New', 'Open', 'Save...', and 'Cancel'.

Configure Backup Retention

Job Name
C:\Users\your-name\Documents\NovaBACKUP\Scripts\Utility\My Backup Retention.nbk

Basic Advanced

Backup media type to process: Disk and Tape

Process only backups containing this media name:

☐ Delete only incremental and differential backups

☒ Remove index/logs even if backup file cannot be deleted

☐ Report-only mode - just log the results but take no action

Run Now New Open Save... Cancel

Backup media type to process:

Disk

Process only backups that have been saved to disk or network.

Tape

Process only backups that have been saved to tape.

Disk and Tape

Process backups that have been saved to disk, network or tape.

Process only backups containing this media name:

For normal backup types, limit the backup retention process to media containing the name specified. For image backup types, limit the backup retention process to backups with filenames containing the name specified. Just leave this setting blank to process backups of any name.

Delete only incremental and differential backups

If this is checked, only incremental and differential backups are allowed to be deleted. This will avoid the removal of any full or snapshot backup types.

Remove index/logs even if backup file cannot be deleted

If this is checked, related content gets removed only if the backup was deleted successfully. Related content includes indexes used to list the backup and its log entries as well as actual log files. Note that this setting does not apply to tape backup, because only disk or network backups can be deleted.

Report only mode: just log the results but take no action

If this is checked, only the results of a retention job is logged, with no changes to the state of any backups. This is similar to a print preview without actually printing.

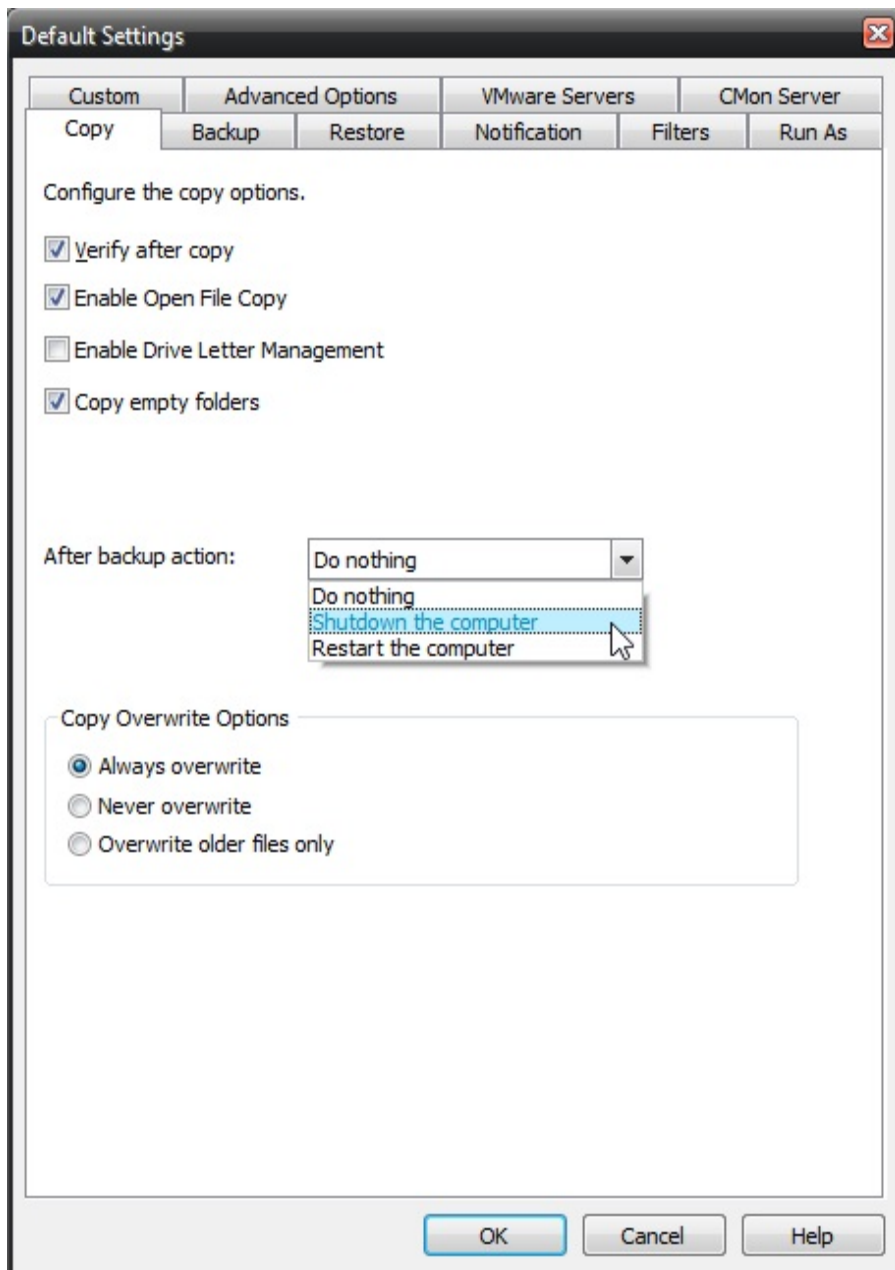
Program Settings

To access the default settings for all tasks, select "Default Settings" in the application menu by clicking the upper left graphic in the Home screen. To access options for individual tasks, press the "Settings" button in the Copy, Backup or Restore Tab to set options for that specific task.



***Note:**The settings defined from in Global Settings are overridden by settings defined from the individual task settings.*

Copy Tab



Verify after copy

The files that are copied will be verified to make sure that they were written correctly. Selecting this option will increase copy time. This setting is selected by default.



It is highly recommended to select the option to verify your data after a copy job. This helps to ensure that the copied data matches the data presently on your system. If you do not select this option, and there is an error in some of your copied data, you will not be aware of the errors until you go to access the copied data.

Enable Open FileCopy

Select this option to have NovaBACKUP automatically copy open files on the local system using Volume Snapshot Service (VSS).

Enable Drive Letter Management

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

Copy empty Folders

Select this option to copy empty folders.

After copy "backup" action Options

After the copy job completes you can have the computer do nothing, shutdown or restart.

Do nothing

Nothing will occur after the copy job completes.

Shutdown the computer

Shutdown the computer when the copy job completes.

Restart the computer

Restart the computer when the copy job completes.

Copy Overwrite Options

Always Overwrite

Source file will always overwrite an existing file of the same name on the destination.

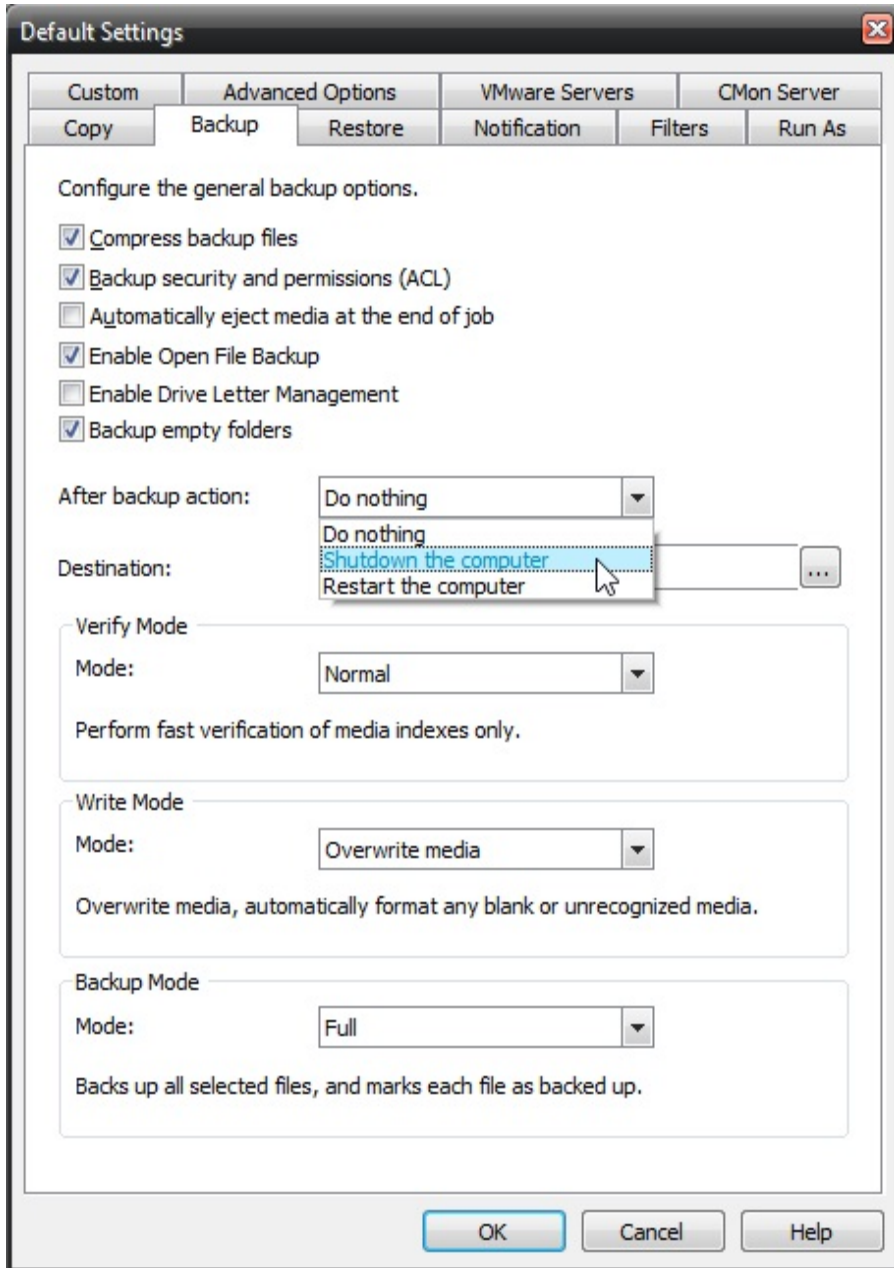
Never Overwrite

Source file will never overwrite an existing file of the same name on the destination.

Overwrite older files only

Source file will overwrite an existing file of the same name on the destination if the destination file is older.

Backup Tab



Compress backup files

The backup files are compressed to save space. Backup speed is decreased when this option is selected. This setting is unselected by default.

Backup ACL File Permissions

Select this option to backup Access Control Lists (ACL's) in addition to file data. ACL's contain file and system permissions. This option should be enabled to maintain system security.

Automatically Eject Media. . .

Select this option to have NovaBACKUP automatically eject the media after a backup has completed (device must support media eject)

Enable Open File Backup

Select this option to have NovaBACKUP automatically backup open files on the local system using Volume Snapshot Service (VSS).

Enable Drive Letter Management

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

Backup empty folders

Select this option backup empty folders.

After backup action Options

After the backup job completes you can have the computer do nothing, shutdown or restart.

Do nothing

Nothing will occur after the backup job completes.

Shutdown the computer

Shutdown the computer when the backup job completes.

Restart the computer

Restart the computer when the backup job completes.

Destination

Select the default destination device a backup for all new backup jobs.

Verify Mode Options

The verify mode options are utilized to verify your backup to the original source. The verify modes are None, Normal, and Advanced. Normal is the default verify mode.

None

Do not perform any verification.

Normal

Perform fast verification of media indexes only.

Advanced

Perform full comparison of the backup file to the original file. The "Advanced" verification mode performs a read-back and may double backup times.



It is highly recommended to select the "Advanced" verify mode option to verify your data after a backup. This helps to ensure that the backed up data matches the data presently on your system. If you do not select this option, and there is an error in some of your backed up data, there will be errors upon restoring that data if you should need to.

Write Mode

Overwrite media:

Overwrite all recognized media. Automatically format blank or unrecognized media

Append to Media:

Append to recognized media. Automatically format blank or unrecognized media

Backup Mode

Full

Backs up all selected files, and marks each file as backed up. This is the default setting.

Incremental

Backs up (and marks as backed up) selected files that have either not been backed up previously or have changed.

Differential

Backs up selected files that have either not been backed up previously or have changed. These backed up files are not marked as backed up, however.

Snapshot

Backs up all selected files and does not mark any files as backed up.

Restore Tab

The screenshot shows a 'Default Settings' dialog box with a tabbed interface. The 'Restore' tab is selected. The dialog has a title bar with a close button. The tabs are: Custom, Advanced Options, VMware Servers, CMon Server, Copy, Backup, Restore (selected), Notification, Filters, and Run As. The 'Restore' tab contains the following options:

- Configure the restore options.
- ☒ Restore ACL file permissions:
- ☒ Restore empty folders
- When restoring a file that already exists on my computer:
 - ☐ Do not overwrite existing files
 - ☐ Overwrite existing files if they are older
 - ☒ Overwrite existing files
- Restore to:
 - ☒ Restore file(s) to original location
 - ☐ Restore file(s) to alternate location
- A text input field for the alternate location, followed by a 'Browse...' button.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

Restore ACL File Permissions

Select this option to restore security permissions on files and subdirectories. Note that the backup ACL's option must have been selected during the original backup for them to be restored.

Restore empty folders

Select this option to restore empty folders.

Existing Files Options

The recommended setting is to not overwrite a file if it already exists on your computer. Other choices include only overwriting the file if the existing file is older or always overwriting the file.

Do not overwrite existing files

Upon restoration, files that already exist on your computer will not be overwritten by files from the backup

Overwrite existing files if they are older

Upon restoration, if a file is found to exist on your computer already, it will only be overwritten if the file on your computer is older than the one found in the backup.

Overwrite existing files

Upon restoration, if a file is found to already exist on your computer, it will always be overwritten.

Restore File Placement

The default setting is to restore the file(s) to the original location they were backed up from.

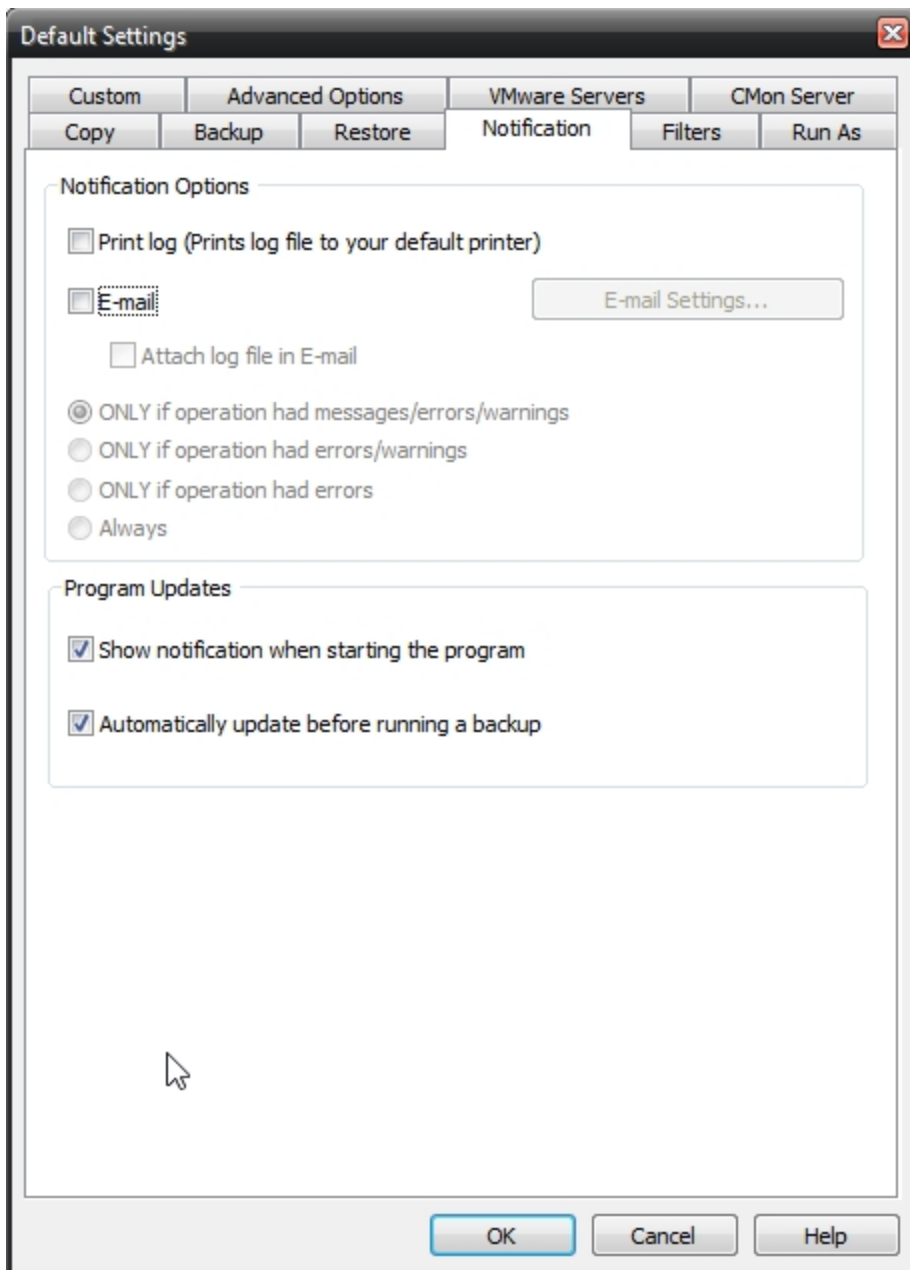
Restore file to its original location

Upon restoration, all files will be restored to their original location.

Restore file(s) to an alternate location

Upon restoration, all files will be restored to an alternate location. This location can be specified by typing the path to the restoration directory in the text box or by selecting a directory by clicking on the "Browse" button that will appear to the left of the text box when the radio button is selected.

Notification Tab



Notification Options

Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
 - You will need to input a valid e-mail addresses for both the sender and the recipient.
 - These can be the same e-mail address.
 - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

NovaBACKUP Alerts

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

- * It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.
- * By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
 ☐ Custom SMTP

User Information

Your Name:

E-Mail Address:

Server Information

SMTP Server Name:

SMTP Server Port:

☐ Use SSL
☐ My SMTP server requires authentication

User Name:

Password:

Retries:

Timeout Interval (in Seconds):


Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To:

CC:

Subject:

 You may use any of the following substitutions within the subject:
 %1 - Job name, %2 - Job status, %3 - User name
 %4 - Computer name, %5 - Date, %6 - Time

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

E-mail notifications may contain custom Subject: lines. These may contain any sequence of characters that conform to Internet email standards. Recommended maximum length is less than 200 characters.

If the Subject field is left blank, NovaBACKUP inserts a default subject.

A custom subject may contain the following substitution variables:

Substitution Variable	Contents
%1	The job's name.
%2	Job's completion status.
%3	User name of the logged-on user under whom the job ran.
%4	Host name - name of the computer that ran the job.
%5	Date when the job finished. Format is the locale set on the computer.
%6	Timezone is the local time zone of the computer (local time, not GMT).
	Time when the job finished, formatted in locale format as set by the computer.
	Timezone is local to the computer running the jobs (local time, not GMT).

Example, if the custom "Subject:" string is

MyCorp node %4 job %1: %2 at %6 %5

the notification email's "Subject:" appears as

MyCorp node RSRCH-SS-0987 job Daily: successful at 10:32:55pm 2/14/2017



Be sure to test your settings by clicking the "Test Email settings" button

Print Log

Here, you have the option to print the log automatically to your default printer.

Notification Conditions

These options determine when NovaBACKUP sends a notification message.

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

Program Updates

When a program update is available, display the option to install it when the program starts.

Show notification when starting the program

When a program update is available, display the option to install it when the program starts.

Automatically update before running a backup

When a program update is available, install it before starting the next backup.

Filters Tab

Default Settings

Custom

Advanced Options

VMware Servers

CMon Server

Copy

Backup

Restore

Notification

Filters

Run As

Wildcards

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

Include Files with these Dates and Size

From

To (including)

Created:

☐ 2/10/2017

☐ 2/10/2017

Modified:

☐ 2/10/2017

☐ 2/10/2017

Accessed:

☐ 2/10/2017

☐ 2/10/2017

Size:

☐ 0

B

☐ 0

B

Exclude Files with these Attributes

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or dele
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK

Cancel

Help

Wildcards

IncludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

ExcludeWildcard:Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file

size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

Run As Tab

The screenshot shows a 'Default Settings' dialog box with a tabbed interface. The 'Run As' tab is selected. The dialog has a title bar with a close button. The tabs are: Custom, Advanced Options, VMware Servers, CMon Server, Copy, Backup, Restore, Notification, Filters, and Run As. The 'Run As' tab contains the following elements:

- A group box titled 'When running a job, login using this account'.
- Two radio buttons: 'Run as logged in user' (selected) and 'Run as specific user'.
- Three text input fields: 'Domain Name', 'User Name', and 'User Password'.
- A 'Check Credentials' button.
- At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

When running a job, login using this account

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

Run the job using the specified credentials.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.

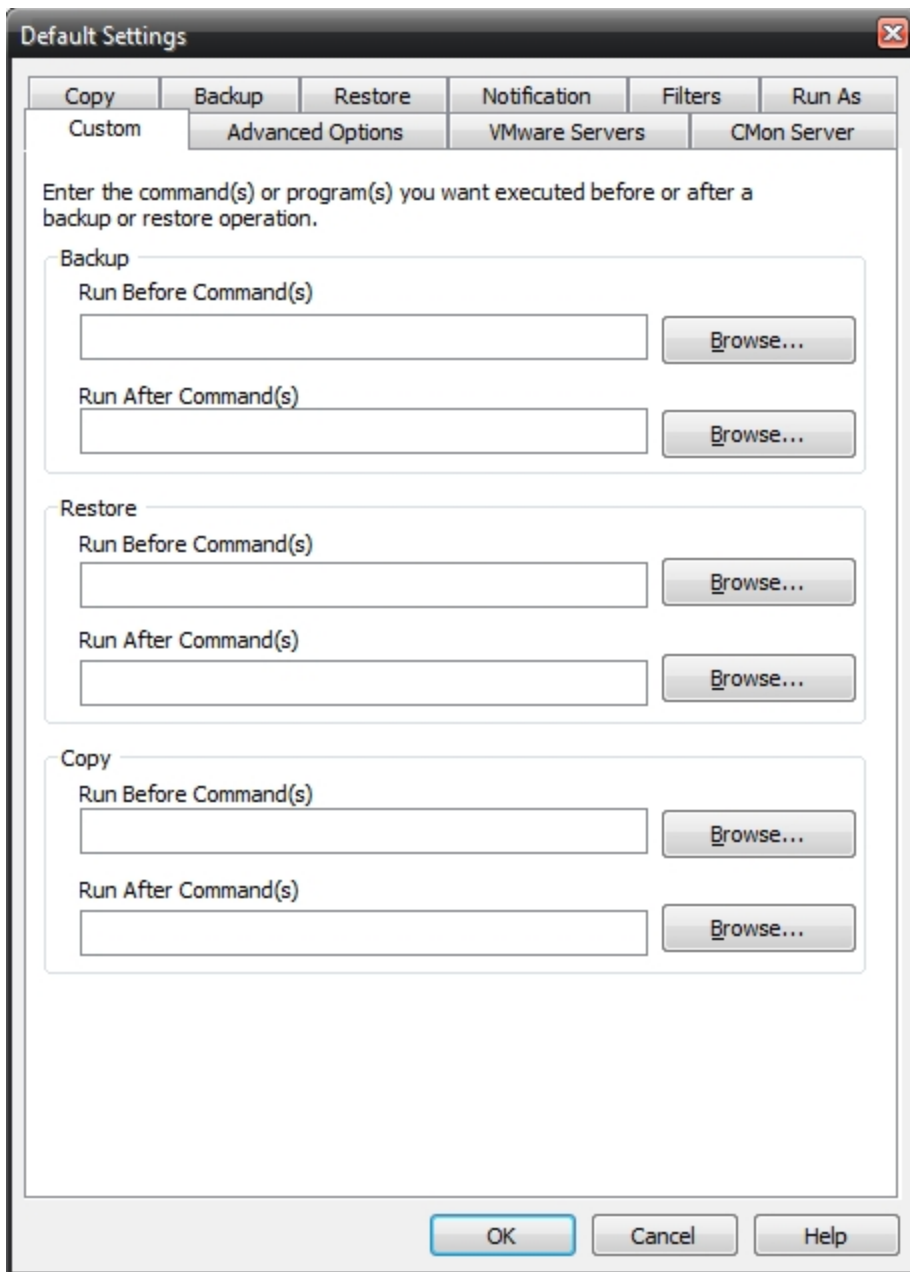


Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

Custom Tab



The screenshot shows a 'Default Settings' dialog box with a 'Custom' tab selected. The dialog has a title bar with a close button. Below the title bar is a tabbed interface with tabs for 'Copy', 'Backup', 'Restore', 'Notification', 'Filters', and 'Run As'. The 'Custom' tab is active, showing a section titled 'Enter the command(s) or program(s) you want executed before or after a backup or restore operation.' This section contains three sub-sections: 'Backup', 'Restore', and 'Copy'. Each sub-section has two text input fields: 'Run Before Command(s)' and 'Run After Command(s)', each followed by a 'Browse...' button. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

Copy	Backup	Restore	Notification	Filters	Run As
Custom	Advanced Options	VMware Servers	CMon Server		

Enter the command(s) or program(s) you want executed before or after a backup or restore operation.

Backup

Run Before Command(s)
 [Browse...](#)

Run After Command(s)
 [Browse...](#)

Restore

Run Before Command(s)
 [Browse...](#)

Run After Command(s)
 [Browse...](#)

Copy

Run Before Command(s)
 [Browse...](#)

Run After Command(s)
 [Browse...](#)

[OK](#) [Cancel](#) [Help](#)

This feature enables a command to run before or after a backup, restore or copy job

To select which program or command you would like to run before or after those operations, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the backup. Alternatively, a command can be issued at the end of the backup to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a backup and reopen it at the end of a backup

Advanced Options Tab

Default Settings

Copy

Backup

Restore

Notification

Filters

Run As

Custom

Advanced Options

VMware Servers

CMon Server

Timed Prompts

When a timed prompt is displayed:

☒ Wait the default amount of time

☐ Wait indefinitely

☐ Wait for a specified number of minutes

Minutes to wait

☒ Run missed scheduled jobs on service startup

Maximum number of logs to keep:

100

Minimum free space to leave on System directory drive (MB):

1500

Minimum free space to leave on Temp directory drive (MB):

1500

Temporary Files directory:

C:\ProgramData\NovaStor\NovaStor NovaBACKUP

...

Note: Changing the temporary files directory requires a restart of the backup service.

Edit default exclude filter

Restore By Time: Restorable Window

0

days

☒ Automatically refresh when switching to restore after backups complete

OK

Cancel

Help

Timed Prompts

When prompts or dialogs are displayed, select the action you want performed.



This option is useful in allowing fully unattended operation or permitting the administrator to respond to specific issues or requests.

"Timed Prompts" settings

This value represents the amount of time to wait when a timed prompt is displayed by NovaBACKUP, for any prompt that is displayed that is timed and requires a response. You can specify the number of minutes in the "Wait for a specified number of minutes" option. You can also choose to wait indefinitely. The default setting of "Wait the default amount of time" is equal to 15 minutes.

"Run missed scheduled jobs on service startup"

This option has to do with how missed scheduled jobs are handled when the backup service is started. The backup service (nsService.exe) is set to start automatically at system start-up and runs in the background. When the backup service is started it checks a schedule to see if any jobs were missed. If this option is enabled then missed scheduled jobs will run as soon as the backup service starts. If this option is disabled, then missed scheduled jobs will not run when the backup service starts, the program will not display any prompts to ask if you want to run the missed scheduled jobs, and the scheduled job will wait until the next scheduled time and date to run. The default for this setting is enabled.

Maximum number of logs to keep

This value limits the number of logs saved to disk. The most recent logs up to the maximum will remain available.

"Minimum Free Space" settings

This value represents the minimum amount of free disk space that must be available on the System (OS) and Temp drive (if different) in order for jobs to run.

"Temporary files directory"

Directory used to stage working files used by NovaBACKUP. If your system is running low on space, you can move this directory to another drive.

"Edit default exclude filter"

Select this option to add or edit folders, files or file types that should be excluded from jobs regardless of selection.

"Restore By Time: Restorable Window"

Use this option to restrict the time range in effect for the Restore Files By Time view. A setting of zero will have no effect. Otherwise the value set here will define the time in effect from the current time selected moving back in time. This setting has no effect in the Restore Files By Device view.

"Automatically refresh when switching to restore after backups complete"

Use this option to make the Restore By Time view automatically build a new filelist when switching to the restore view after a backup has completed.

CMon Server Tab

Default Settings

Copy

Backup

Restore

Notification

Filters

Run As

Custom

Advanced Options

VMware Servers

CMon Server

Server name:

www.mydomain.com

Port number (between 1-65535):

4502

Default group:

For example, Root or Root\Level1\Level2

The Backup Client Agent Service is required to contact the CMon Server.

Start Service

The service is stopped.

OK

Cancel

Help

If utilizing NovaBACKUP CMon, this screen may be used to specify the server name and port to access the NovaBACKUP CMon (Central Monitoring Console) application in your environment. NOTE: CMon has to be installed and running prior to configuring this screen.

Default Group: Use this setting to specify the group name to use when adding this client to the CMC - Central Management Console. If this setting is not specified, this client will be added to the default group. This setting is not currently applicable to NovaBACKUP CMon.

NOTE: The "Default group" setting is NOT CURRENTLY APPLICABLE to CMon; if using the CMon you will leave this field blank. This setting is only applicable if you utilize the older CMC (Central Management Console) and not CMon (Central Monitoring Console). For those utilizing CMC you can use this setting to specify the group name to use when adding this client to the central management console. If this setting is not specified, this client will be added to the default group. For CMon to create groups you will create your the Groups inside the CMon application and not here. If using the CMon all of your Agents will be placed in the "Pending" group which is already created for you. You will log in to CMon and go to Agents & Groups and create your group(s) there and then you can assign your agent(s) to group(s).

VMware Servers Tab

The image shows a 'Default Settings' dialog box with the 'VMware Servers' tab selected. The 'Add VMware Server' sub-dialog is open, prompting for server details.

Default Settings

Copy Backup Restore Notification Filters Run As
Custom Advanced Options VMware Servers CMon Server

List of VMware servers

Server name /	User name	Password

Add VMware Server

Server name or IP address:
vSphere Server

User name:
domain\username

Password:
.....

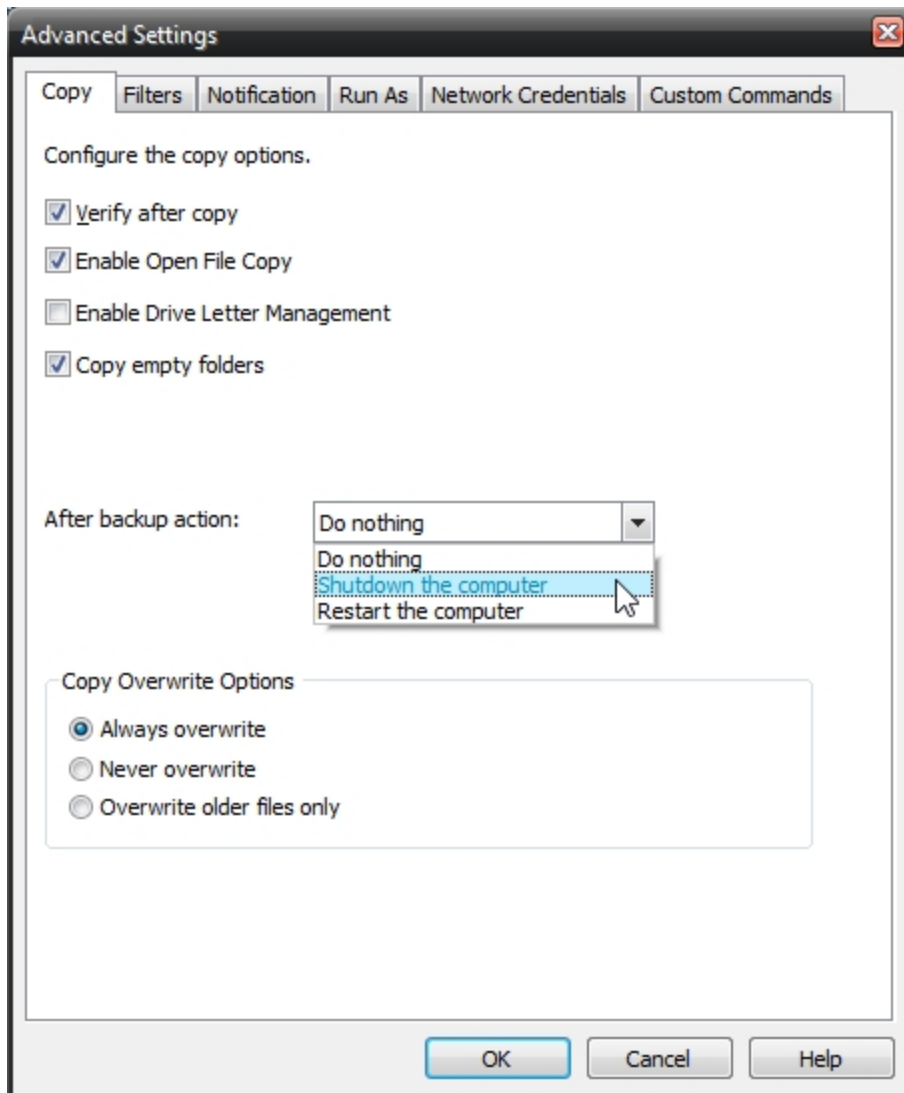
Test Connection OK Cancel

Delete Edit Add

OK Cancel Help

For those licensed to use the VMware Plugin, this tab is used to add a new connection to an ESX(i) or vSphere server.

Copy Job Options



Verify after copy

The files that are copied will be verified to make sure that they were written correctly. Selecting this option will increase copy time. This setting is selected by default.



It is highly recommended to select the option to verify your data after a copy job. This helps to ensure that the copied data matches the data presently on your system. If you do not select this option, and there is an error in some of your copied data, you will not be aware of the errors until you go to access the copied data.

Enable Open FileCopy

Select this option to have NovaBACKUP automatically copy open files on the local system using Volume Snapshot Service (VSS).

Note: This option NOT available when running on Windows 2000.

Enable Drive Letter Management

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

Copy empty folders

Select this option to copy empty folders.

After copy "backup" action Options

After the copy job completes you can have the computer do nothing, shutdown or restart.

Do nothing

Nothing will occur after the copy job completes.

Shutdown the computer

Shutdown the computer when the copy job completes.

Restart the computer

Restart the computer when the copy job completes.

Copy Overwrite Options

Always Overwrite

Source file will always overwrite an existing file of the same name on the destination.

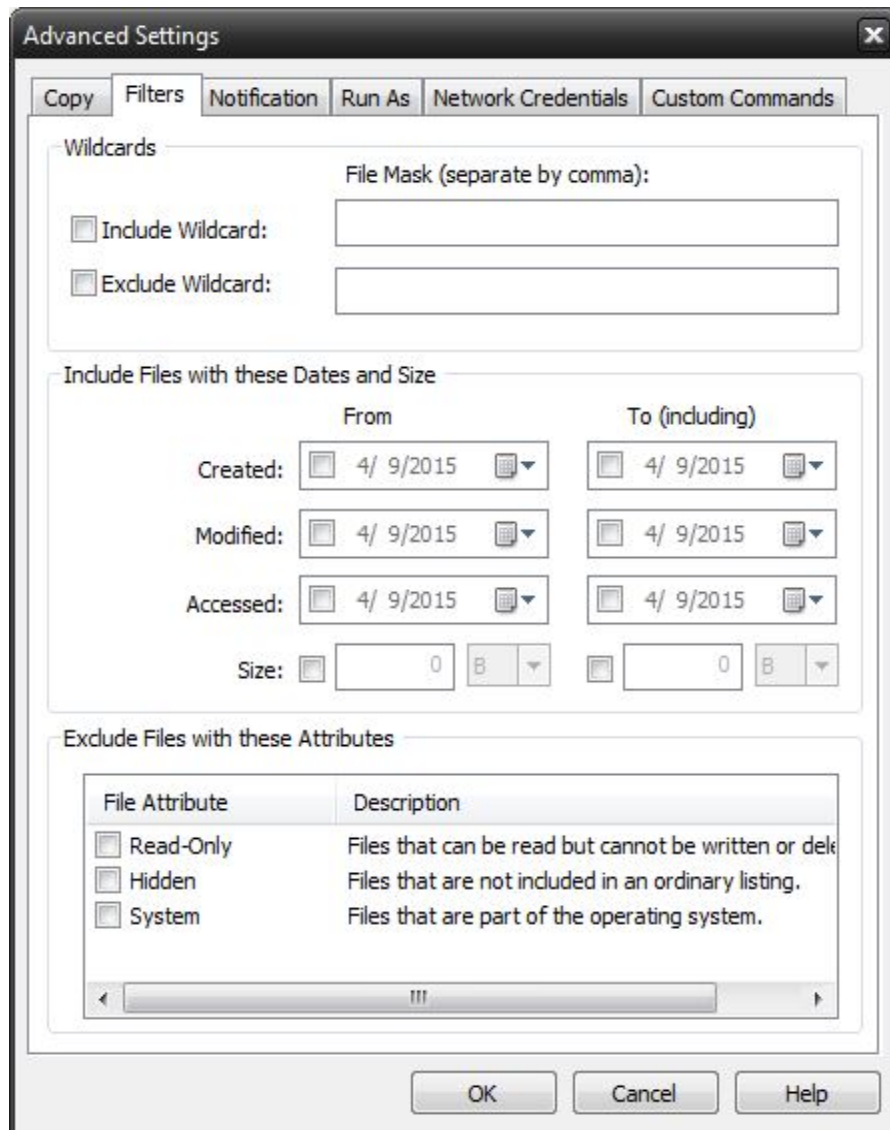
Never Overwrite

Source file will never overwrite an existing file of the same name on the destination.

Overwrite older files only

Source file will overwrite an existing file of the same name on the destination if the destination file is older.

Copy Job Filters



The image shows a screenshot of the 'Advanced Settings' dialog box, specifically the 'Filters' tab. The dialog has a title bar with a close button. Below the title bar are five tabs: 'Copy', 'Filters' (selected), 'Notification', 'Run As', 'Network Credentials', and 'Custom Commands'. The 'Filters' tab contains three main sections: 'Wildcards', 'Include Files with these Dates and Size', and 'Exclude Files with these Attributes'. The 'Wildcards' section has a label 'File Mask (separate by comma):' and two input fields, one for 'Include Wildcard:' and one for 'Exclude Wildcard:'. The 'Include Files with these Dates and Size' section has a grid of date and size selection options. The 'Exclude Files with these Attributes' section has a table with file attributes and their descriptions. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

Wildcards

IncludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

ExcludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

Include Files with these Dates and Size

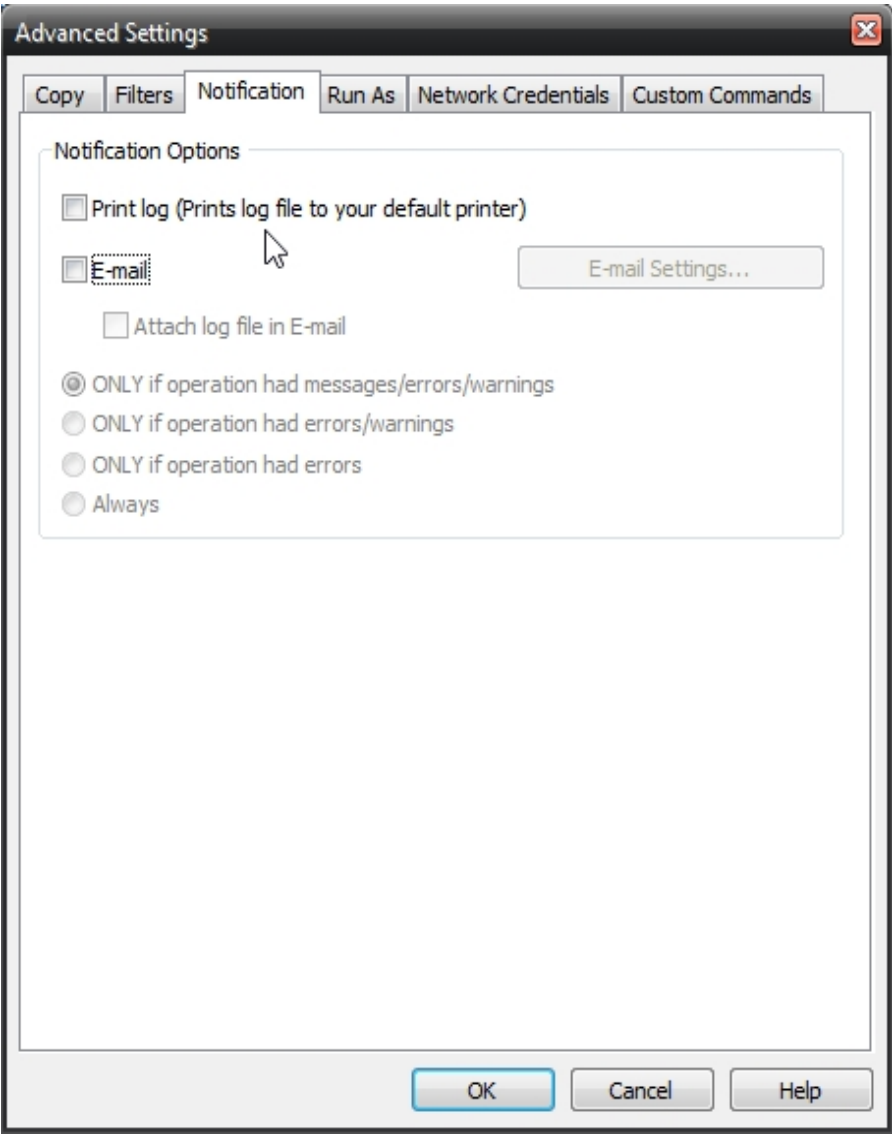
Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by their file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

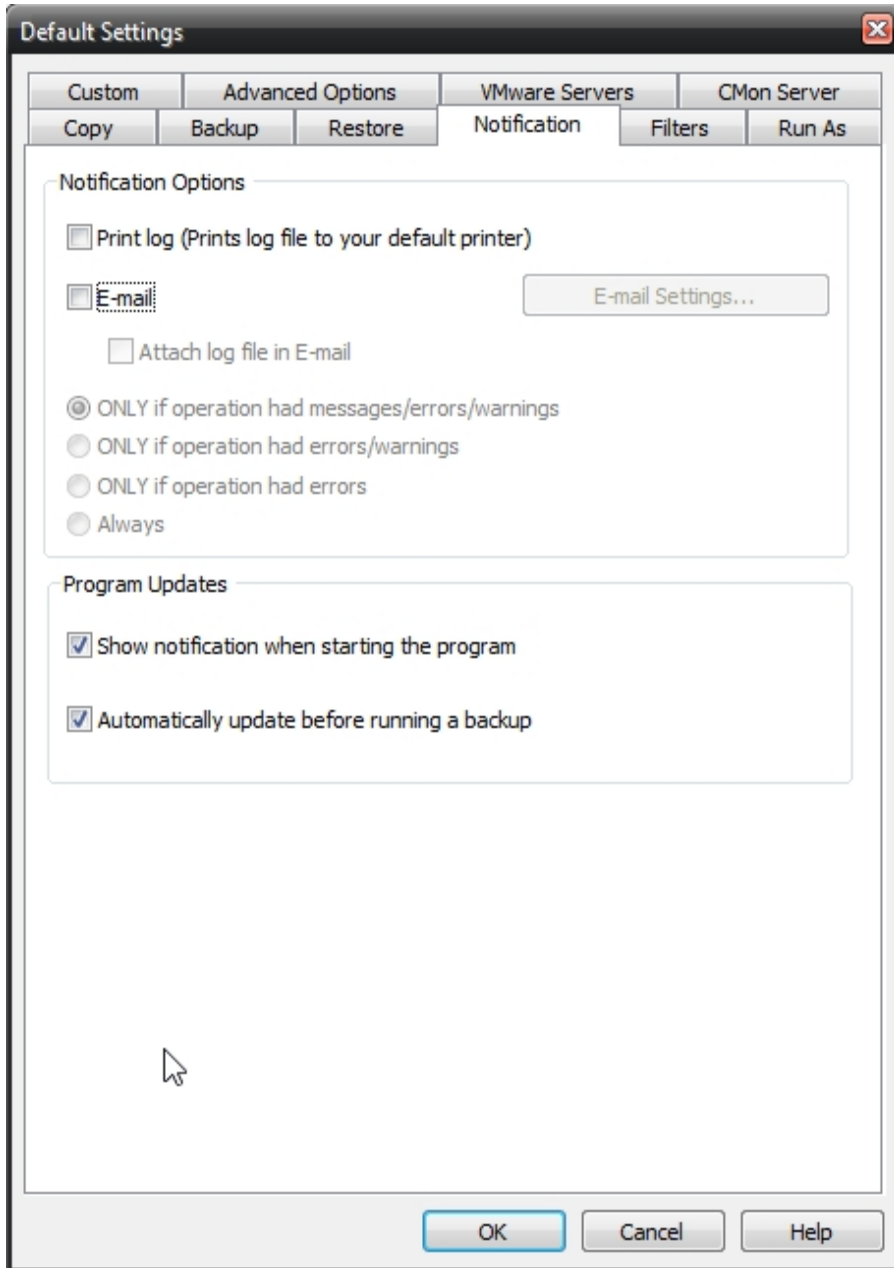
Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

Type topic text here.

Copy Job Notification





Notification Options

Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
 - You will need to input a valid e-mail addresses for both the sender and the recipient.
 - These can be the same e-mail address.
 - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

NovaBACKUP Alerts

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
☐ Custom SMTP

User Information

Your Name

NovaBACKUP Alerts

E-Mail Address

noreply@novastor.com

Server Information

SMTP Server Name

SMTP Server Port

25

☐ Use SSL

☐ My SMTP server requires authentication

User Name

Password

Retries

1

Timeout Interval (in Seconds)

5

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To

my-email@mydomain.com

CC

Subject

You may use any of the following substitutions within the subject:
%1 - Job name, %2 - Job status, %3 - User name
%4 - Computer name, %5 - Date, %6 - Time

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

Test Email Settings

Save

Cancel

Reset

E-mail notifications may contain custom Subject: lines. These may contain any sequence of characters that conform to Internet email standards. Recommended maximum length is less than 200 characters.

If the Subject field is left blank, NovaBACKUP inserts a default subject.

A custom subject may contain the following substitution variables:

Substitution Variable	Contents
%1	The job's name.
%2	Job's completion status.
%3	User name of the logged-on user under whom the job ran.
%4	Host name - name of the computer that ran the job.
%5	Date when the job finished. Format is the locale set on the computer.
%6	Timezone is the local time zone of the computer (local time, not GMT).
	Time when the job finished, formatted in locale format as set by the computer.
	Timezone is local to the computer running the jobs (local time, not GMT).

Example, if the custom "Subject:" string is

MyCorp node %4 job %1: %2 at %6 %5

the notification email's "Subject:" appears as

MyCorp node RSRCH-SS-0987 job Daily: successful at 10:32:55pm 2/14/2017



Be sure to test your settings by clicking the "Test Email settings" button

Print Log

Here, you have the option to print the log automatically to your default printer.

Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

Copy Job Run As

The screenshot shows a window titled 'Advanced Settings' with a close button (X) in the top right corner. Below the title bar is a tabbed interface with five tabs: 'Copy', 'Filters', 'Notification', 'Run As' (which is selected), and 'Network Credentials'. The 'Run As' tab contains the following elements:

- A label: 'When running a job, login using this account'
- Two radio buttons:
 - ☒ Run as logged in user
 - ☐ Run as specific user
- A text input field labeled 'Domain Name'.
- A text input field labeled 'User Name'.
- A text input field labeled 'User Password'.
- A button labeled 'Check Credentials'.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

When running a job, login using this account

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

Run the job using the specified credentials.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.



Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

Copy Job Network Credentials

Advanced Settings

CopyFiltersNotificationRun AsNetwork CredentialsCustom Commands

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

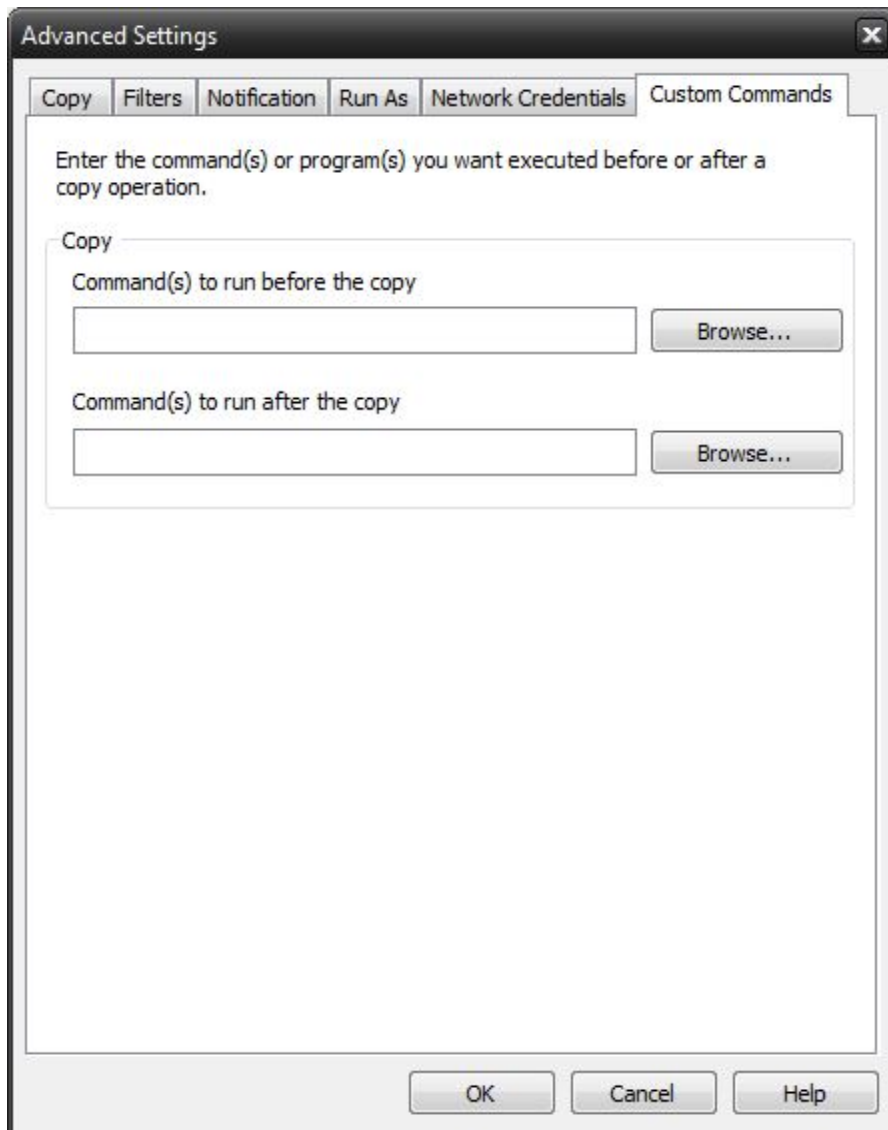
User Name:

User Password:

OKCancelHelp

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.

Copy Job Custom Commands



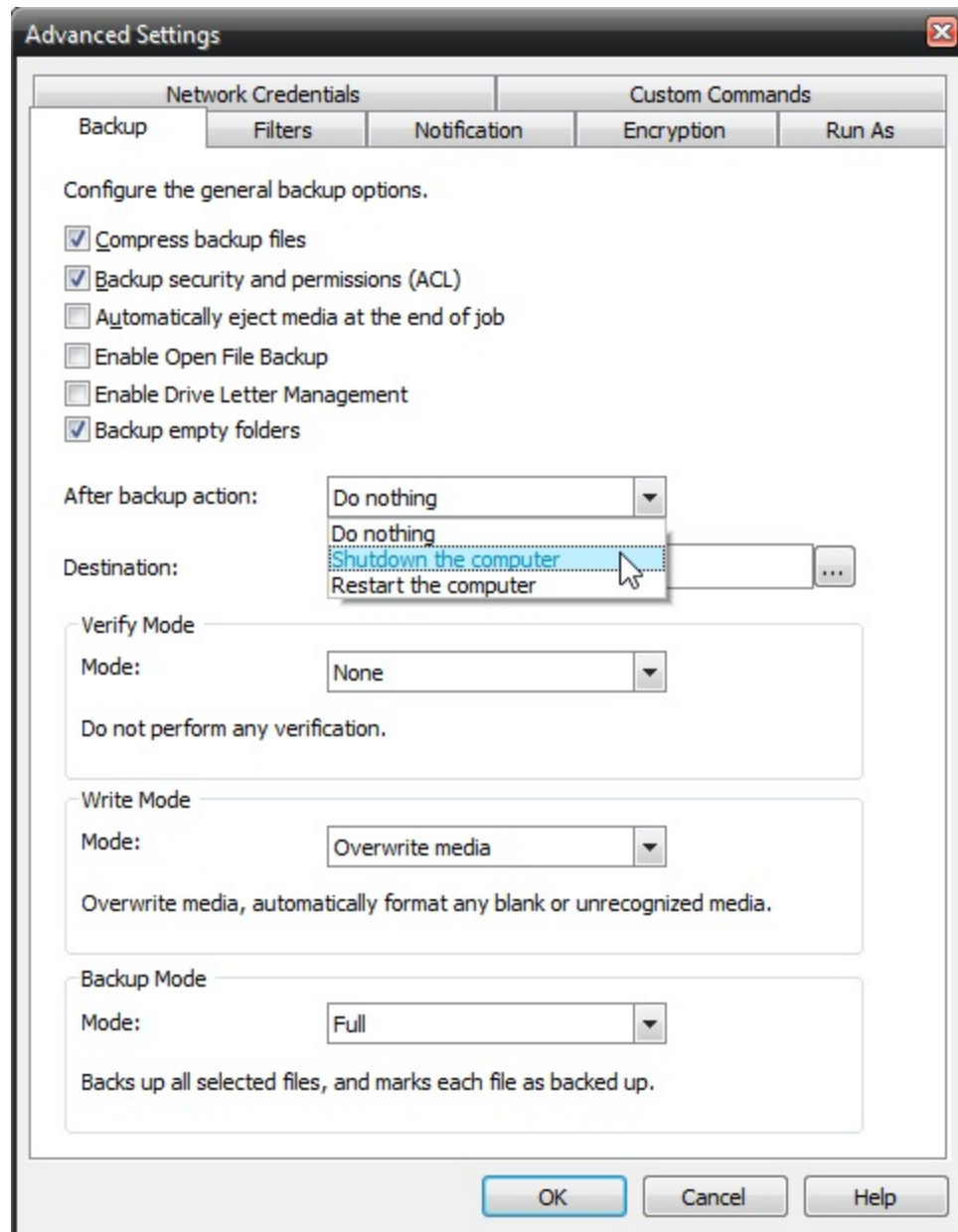
This feature enables a command to run before or after a copy job

To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the copy job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

Backup Job Options



Compress backup files

The backup files are compressed to save space. Backup speed is decreased when this option is selected. This setting is unselected by default.

Backup ACL File Permissions

Select this option to backup Access Control Lists (ACL's) in addition to file data. ACL's contain file and system permissions. This option should be enabled to maintain system security.

Automatically Eject Media. . .

Select this option to have NovaBACKUP automatically eject the media after a backup has completed (device must support media eject)

Enable Open File Backup

Select this option to have NovaBACKUP automatically backup open files on the local system using Volume Snapshot Service (VSS).

Enable Drive Letter Management

Select this option to have NovaBACKUP automatically select the correct removable disk device (USB) even when it's drive letter changes.

Backup empty folders

Select this option to have backup empty folders.

After backup action Options

After the backup job completes you can have the computer do nothing, shutdown or restart.

Do nothing

Nothing will occur after the backup job completes.

Shutdown the computer

Shutdown the computer when the backup job completes.

Restart the computer

Restart the computer when the backup job completes.

Destination

Select the default destination device a backup for all new backup jobs

Verify Mode Options

The verify mode options are utilized to verify your backup to the original source. The verify modes are None, Normal, and Advanced. Normal is the default verify mode.

None

Do not perform any verification.

Normal

Perform fast verification of media indexes only.

Advanced

Perform full comparison of the backup file to the original file. The "Advanced" verification mode performs a read-back and may double backup times.



It is highly recommended to select the "Advanced" verify mode option to verify your data after a backup. This helps to ensure that the backed up data matches the data presently on your system. If you do not select this option, and there is an error in some of your backed up data, there will be errors upon restoring that data if you should need to.

Write Mode

Overwrite media:

Overwrite all recognized media. Automatically format blank or unrecognized media

Append to Media:

Append to recognized media. Automatically format blank or unrecognized media

Backup Mode

Full

Backs up all selected files, and marks each file as backed up. This is the default setting.

Incremental

Backs up (and marks as backed up) selected files that have either not been backed up previously or have changed.

Differential

Backs up selected files that have either not been backed up previously or have changed. These backed up files are not marked as backed up, however.

Snapshot

Backs up all selected files and does not mark any files as backed up.

Backup Job Filters

The screenshot shows the 'Advanced Settings' dialog box with the 'Filters' tab selected. The 'Wildcards' section has two empty text boxes for 'Include Wildcard' and 'Exclude Wildcard'. The 'Include Files with these Dates and Size' section has three rows for 'Created', 'Modified', and 'Accessed', each with 'From' and 'To (including)' date pickers. The 'Size' row has two empty text boxes for 'From' and 'To' with a unit dropdown. The 'Exclude Files with these Attributes' section has a table with three attributes: Read-Only, Hidden, and System.

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

Wildcards

IncludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

ExcludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

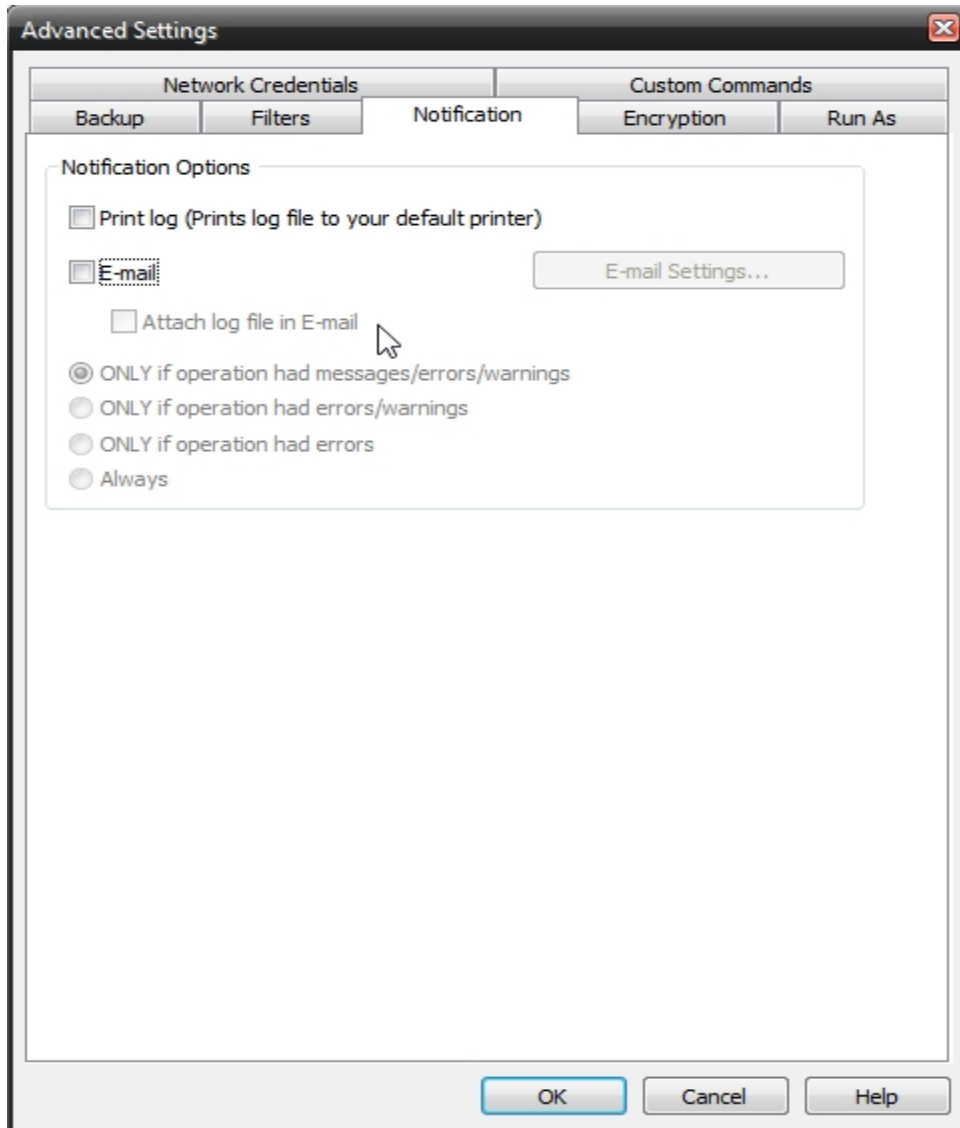
Include Files with these Dates and Size

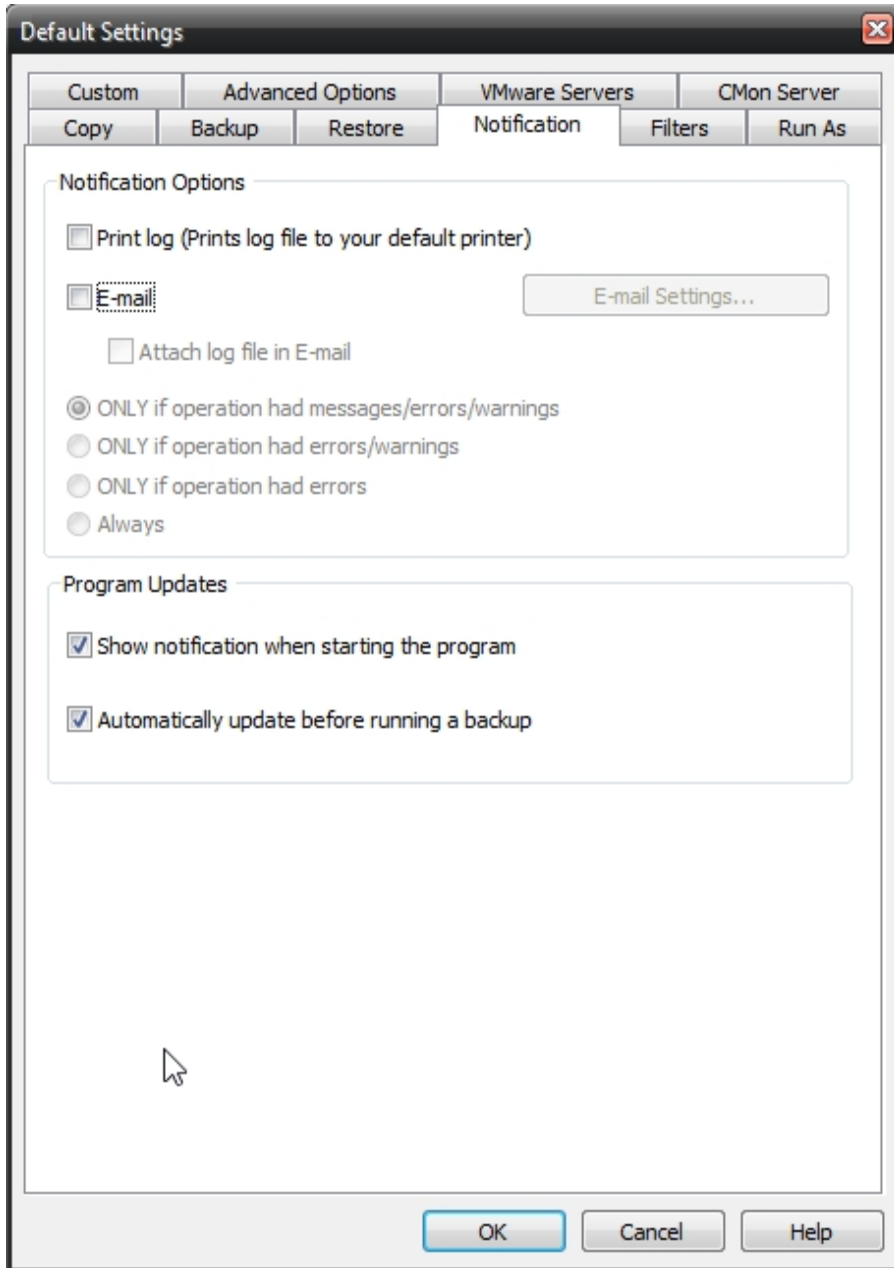
Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by their file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up.

Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

Backup Job Notifications





Notification Options

Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
 - You will need to input a valid e-mail addresses for both the sender and the recipient.
 - These can be the same e-mail address.
 - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

NovaBACKUP Alerts

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
 ☐ Custom SMTP

User Information

Your Name

E-Mail Address

Server Information

SMTP Server Name

SMTP Server Port

☐ Use SSL
☐ My SMTP server requires authentication

User Name

Password

Retries

Timeout Interval (in Seconds)

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To

CC

Subject

You may use any of the following substitutions within the subject:
 %1 - Job name, %2 - Job status, %3 - User name
 %4 - Computer name, %5 - Date, %6 - Time

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

E-mail notifications may contain custom Subject: lines. These may contain any sequence of characters that conform to Internet email standards. Recommended maximum length is less than 200 characters.

If the Subject field is left blank, NovaBACKUP inserts a default subject.

A custom subject may contain the following substitution variables:

Substitution Variable	Contents
%1	The job's name.
%2	Job's completion status.
%3	User name of the logged-on user under whom the job ran.
%4	Host name - name of the computer that ran the job.
%5	Date when the job finished. Format is the locale set on the computer.
%6	Timezone is the local time zone of the computer (local time, not GMT).
	Time when the job finished, formatted in locale format as set by the computer.
	Timezone is local to the computer running the jobs (local time, not GMT).

Example, if the custom "Subject:" string is

MyCorp node %4 job %1: %2 at %6 %5

the notification email's "Subject:" appears as

MyCorp node RSRCH-SS-0987 job Daily: successful at 10:32:55pm 2/14/2017



Be sure to test your settings by clicking the "Test Email settings" button

Print Log

Here, you have the option to print the log automatically to your default printer.

Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

Backup Job Encryption

The screenshot shows a window titled 'Advanced Settings' with a close button (X) in the top right corner. The window has a tabbed interface with two main sections: 'Network Credentials' and 'Custom Commands'. Under 'Network Credentials' are tabs for 'Backup', 'Filters', and 'Notification'. Under 'Custom Commands' are tabs for 'Encryption' (which is selected) and 'Run As'. The 'Encryption' tab contains the following elements:

- A section header 'Encryption'.
- Explanatory text: 'Encryption will protect all communications between you and the required devices. Your files will also be stored encrypted on the backup media providing the maximum in privacy and security.'
- A dropdown menu currently set to 'None'.
- Text: 'The secret key is your personal encryption key.'
- A section header 'Secret Key'.
- Text: 'The secret key you enter must contain alphanumeric characters only and between 8 - 20 characters long.'
- Two input fields: 'Enter Secret Key:' and 'Verify Secret Key:'.
- At the bottom of the window are three buttons: 'OK', 'Cancel', and 'Help'.

Encryption

Encrypt Files on backup

Encryption protects files as they are backed up to the selected device. In addition, files are maintained encrypted on the destination media for added security.

Secret Key

Encryption Key used for this particular backup job. Select a key containing from 8 to 20 characters



For added security, select a secret key that contains a combination of upper/lower case characters as well as numbers, punctuation and symbols.



Select a secret key that you will be able to remember. If you forgot your secret key, you will not be able to restore the data from the destination media.

Backup Job Run As

Advanced Settings

Network Credentials

Custom Commands

Backup

Filters

Notification

Encryption

Run As

When running a job, login using this account

☒ Run as logged in user

☐ Run as specific user

Domain Name

User Name

User Password

Check Credentials

OK

Cancel

Help

When running a job, login using this account

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

Run the job using the specified credentials.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.



Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

Backup Job Network Credentials

Advanced Settings

Backup

Filters

Notification

Encryption

Run As

Network Credentials

Custom Commands

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

User Name:

User Password:

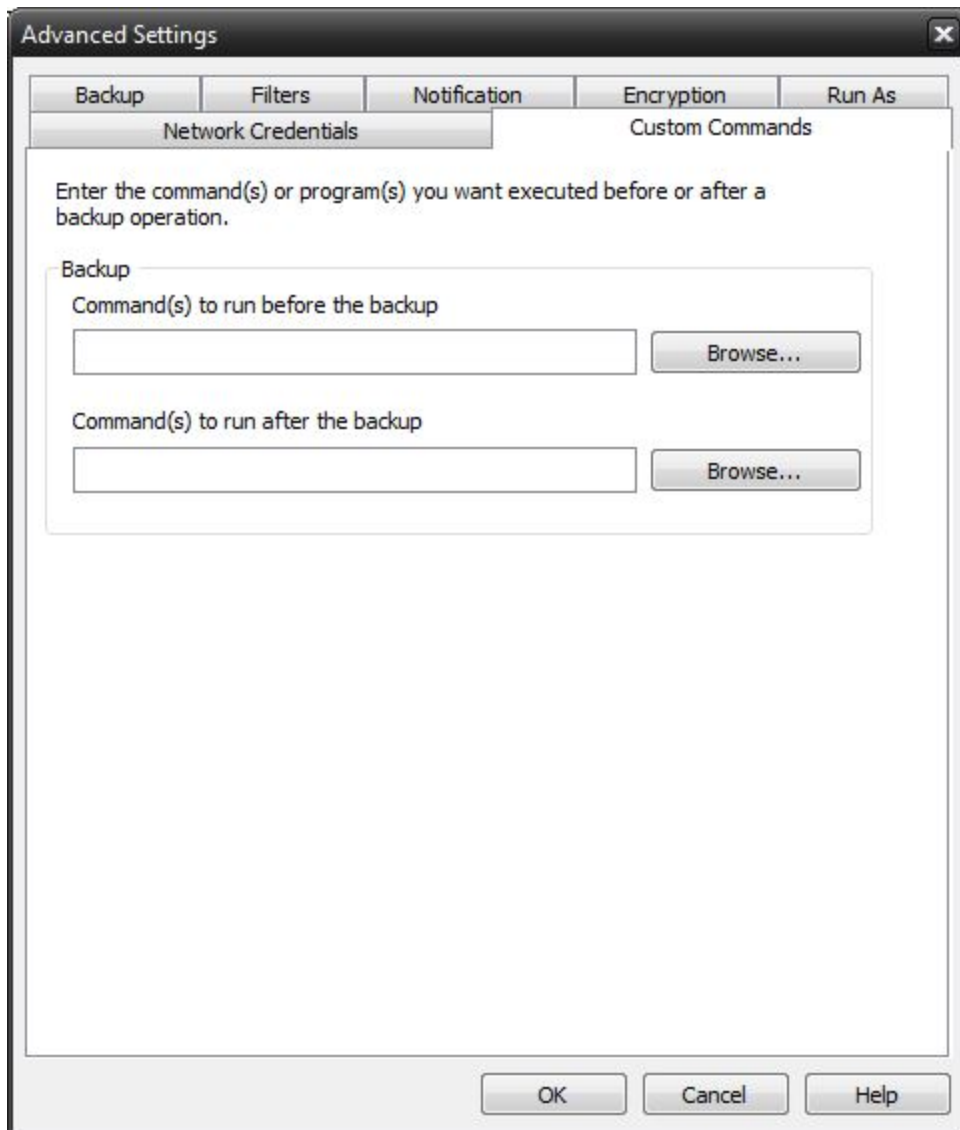
OK

Cancel

Help

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.

Backup Job Custom Commands



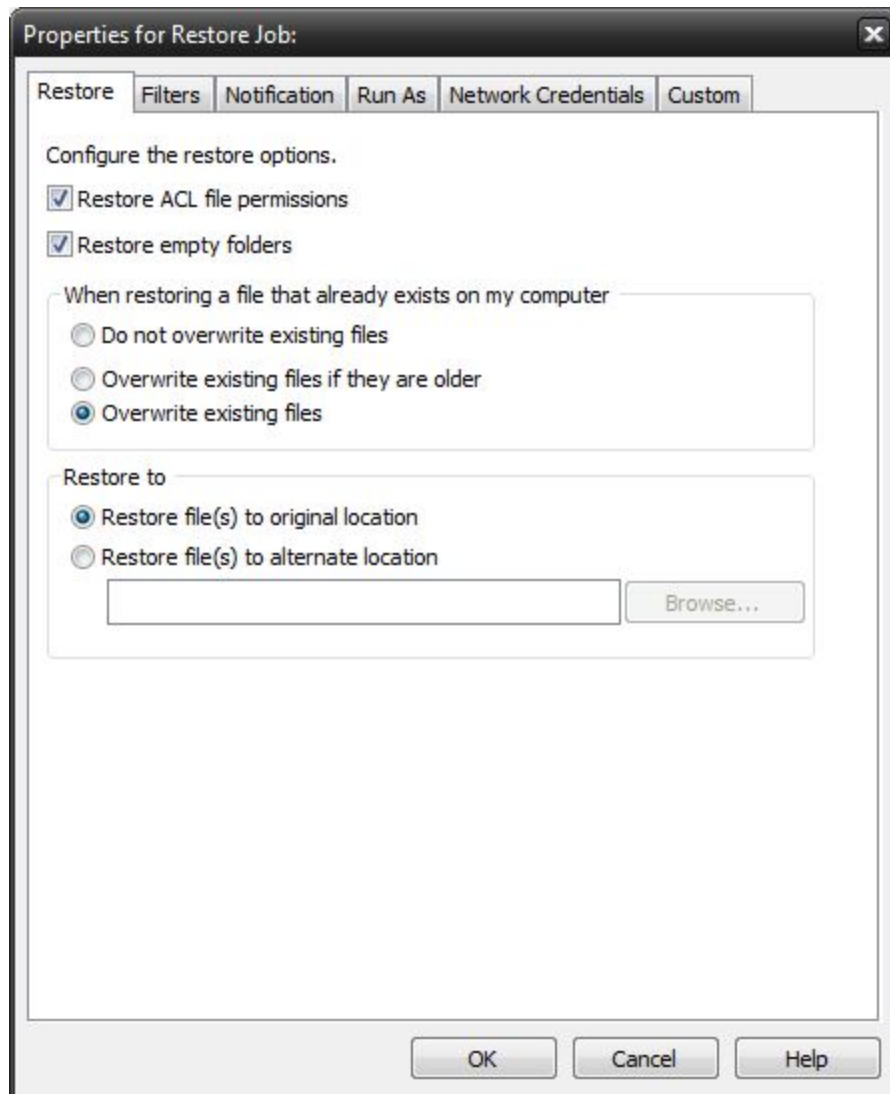
This feature enables a command to run before or after a backup job

To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the backup job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

Restore Job Options



Restore ACL File Permissions

Select this option to restore security permissions on files and subdirectories. Note that the backup ACL's option must have been selected during the original backup for them to be restored.

Restore empty folders

Select this option to restore empty folders.

Existing Files Options

The recommended setting is to not overwrite a file if it already exists on your computer. Other choices include only overwriting the file if the existing file is older or always overwriting the file.

Do not overwrite existing files

Upon restoration, files that already exist on your computer will not be overwritten by files from the backup

Overwrite existing files if they are older

Upon restoration, if a file is found to exist on your computer already, it will only be overwritten if the file on your computer is older than the one found in the backup.

Overwrite existing files

Upon restoration, if a file is found to already exist on your computer, it will always be overwritten.

Restore File Placement

The default setting is to restore the file(s) to the original location they were backed up from.

Restore file to its original location

Upon restoration, all files will be restored to their original location.

Restore file(s) to an alternate location

Upon restoration, all files will be restored to an alternate location. This location can be specified by typing the path to the restoration directory in the text box or by selecting a directory by clicking on the "Browse" button that will appear to the left of the text box when the radio button is selected.

Restore Job Filters

Properties for Restore Job:

Restore Filters Notification Run As Network Credentials Custom

Wildcards

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

Include Files with these Dates and Size

From To (including)

Modified: ☐ 4/ 9/2015 ☐ 4/ 9/2015

Size: ☐ 0 B ☐ 0 B

Exclude Files with these Attributes

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK Cancel Help

Wildcards

IncludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

ExcludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

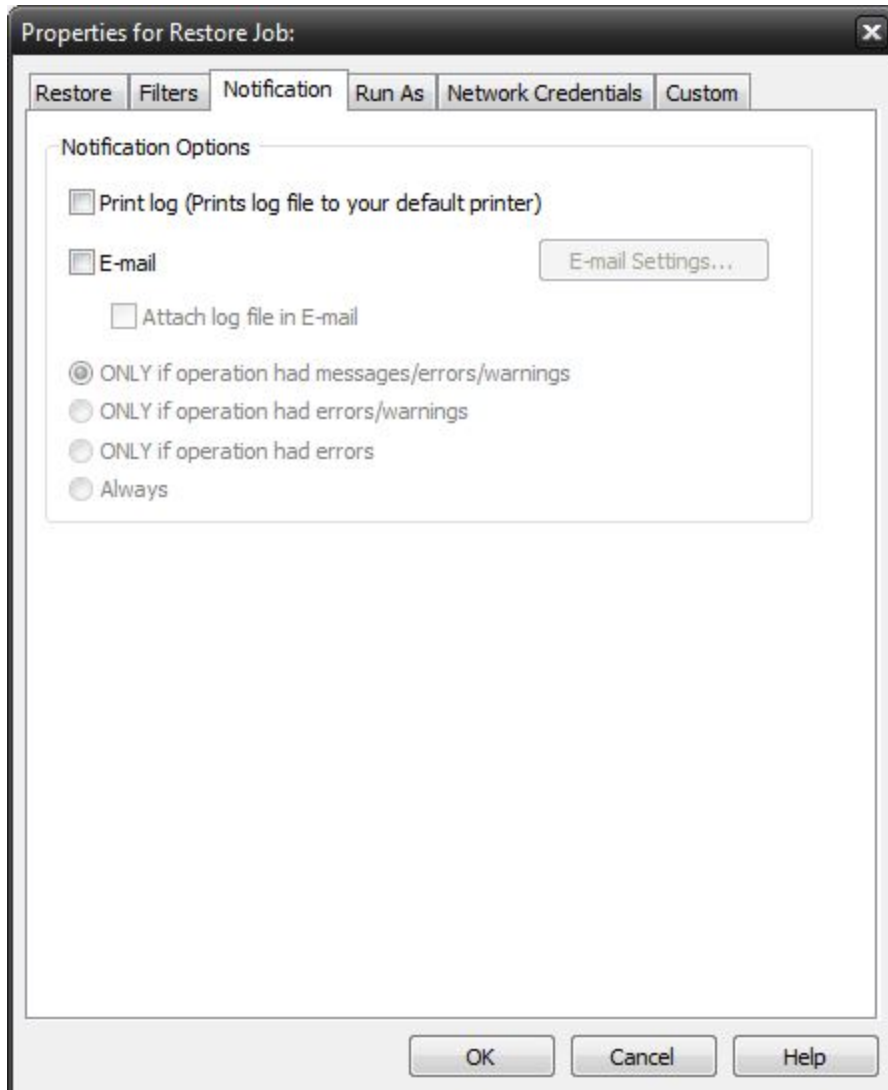
Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by there file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

Restore Job Notification

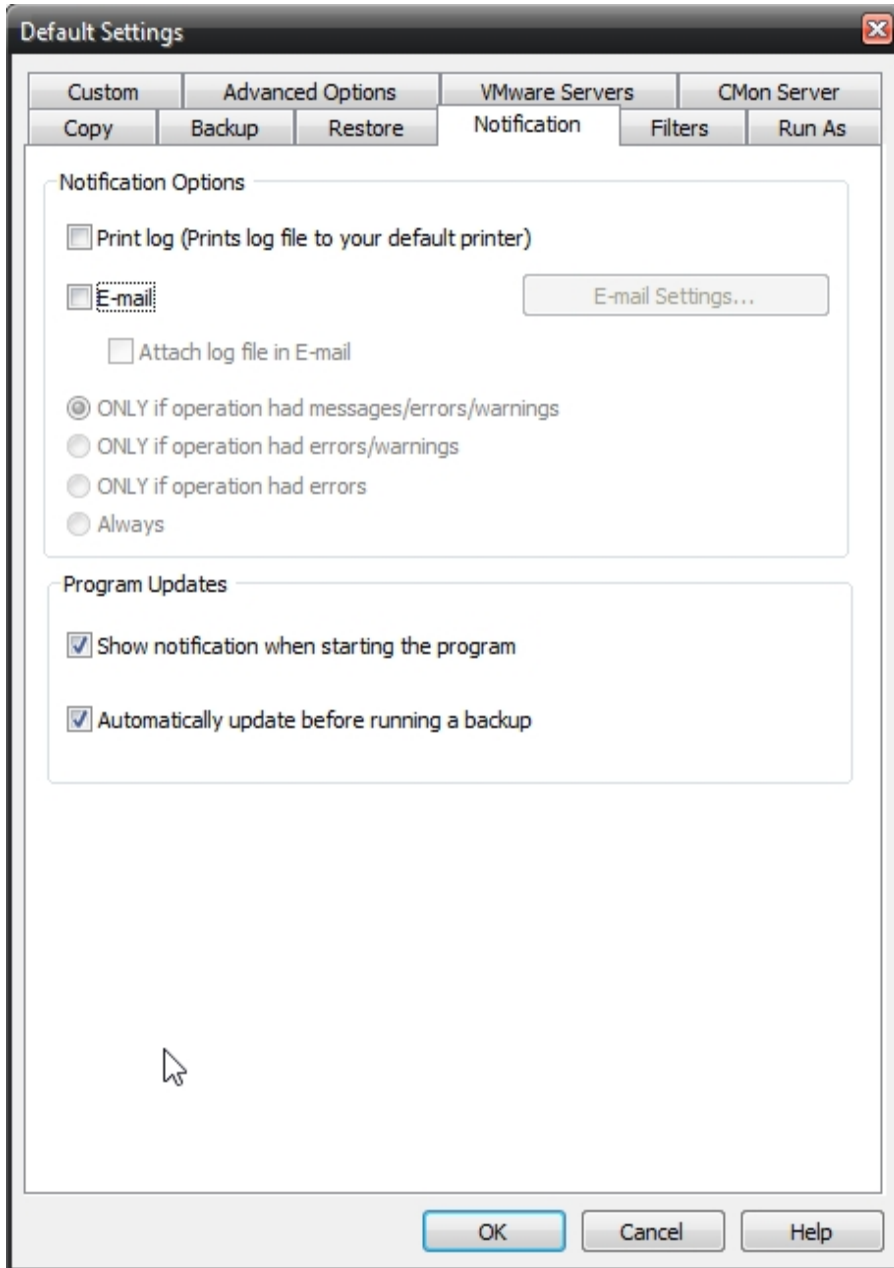


The screenshot shows a Windows-style dialog box titled "Properties for Restore Job:". It has a tabbed interface with the following tabs: "Restore", "Filters", "Notification" (which is currently selected), "Run As", "Network Credentials", and "Custom".

Inside the "Notification" tab, there is a section titled "Notification Options". It contains the following settings:

- ☐ Print log (Prints log file to your default printer)
- ☐ E-mail E-mail Settings...
 - ☐ Attach log file in E-mail
- ☒ ONLY if operation had messages/errors/warnings
- ☐ ONLY if operation had errors/warnings
- ☐ ONLY if operation had errors
- ☐ Always

At the bottom of the dialog box, there are three buttons: "OK", "Cancel", and "Help".



Notification Options

Email

Use this option to receive job notification in E-mail.

You have the option to allow the logs to be e-mailed to the specified email address. To utilize these settings you must first configure the e-mail options by clicking on the "E-Mail Settings" button.

E-mail Settings

Depending on your product, you may be able to choose to use the NovaBACKUP Alerts service to send your e-mail logs or to manually enter a custom SMTP configuration.

- If you choose to use the NovaBACKUP Alerts service, the only information you need to provide is the recipient e-mail address or addresses you would like to receive notifications.
- If you choose to use a Custom SMTP service, your SMTP server information may be acquired from your System Administrator or service provider.
 - You will need to input a valid e-mail addresses for both the sender and the recipient.
 - These can be the same e-mail address.
 - If your SMTP server requires authentication, you may do so by tagging the checkbox for authentication and supplying your user name and password.

NovaBACKUP Alerts

If your product supports it, you may have the ability to choose the NovaBACKUP Alerts service to send your e-mail notifications. The NovaBACKUP Alerts service is a pre-configured email notification service.

* It is not required to use this service and you should check with your System Administrator to see if sending e-mail notifications through a 3rd party service is allowed in your organization.

* By using the NovaBACKUP Alerts service, you are agreeing to our End-User Licensing Agreement and Privacy Policies.

Configure E-mail Settings

The following options are used to configure sending logs via e-mail. E-mail is delivered via SMTP only. A SMTP server must be specified along with a valid sender and recipient e-mail addresses.

Choose notification service

☒ NovaBACKUP Alerts
☐ Custom SMTP

User Information

Your Name

NovaBACKUP Alerts

E-Mail Address

noreply@novastor.com

Server Information

SMTP Server Name
SMTP Server Port

25

☐ Use SSL
☐ My SMTP server requires authentication

User Name
Password
Retries

1

Timeout Interval (in Seconds)

5

Recipient Information

Please use semicolons (;) to separate multiple e-mail addresses.

To

my-email@mydomain.com

CC
Subject

You may use any of the following substitutions within the subject:
%1 - Job name, %2 - Job status, %3 - User name
%4 - Computer name, %5 - Date, %6 - Time

Testing Your Email Settings...

After you have completed filling out the information above, you can test your email settings by pressing the Test Email Settings button.

Test Email Settings

Save

Cancel

Reset

E-mail notifications may contain custom Subject: lines. These may contain any sequence of characters that conform to Internet email standards. Recommended maximum length is less than 200 characters.

If the Subject field is left blank, NovaBACKUP inserts a default subject.

A custom subject may contain the following substitution variables:

Substitution Variable	Contents
%1	The job's name.
%2	Job's completion status.
%3	User name of the logged-on user under whom the job ran.
%4	Host name - name of the computer that ran the job.
%5	Date when the job finished. Format is the locale set on the computer.
%6	Timezone is the local time zone of the computer (local time, not GMT).
%6	Time when the job finished, formatted in locale format as set by the computer.

Timezone is local to the computer running the jobs (local time, not GMT).

Example, if the custom "Subject:" string is

MyCorp node %4 job %1: %2 at %6 %5

the notification email's "Subject:" appears as

MyCorp node RSRCH-SS-0987 job Daily: successful at 10:32:55pm 2/14/2017



Be sure to test your settings by clicking the "Test Email Settings" button

Print Log

Here, you have the option to print the log automatically to your default printer.

Notification Conditions

- ONLY if operation had messages/errors/warnings
- ONLY if operation had errors/warnings
- ONLY if operation had errors
- Always

Restore Job Run As

The screenshot shows a Windows-style dialog box titled "Properties for Restore Job:". It has a tabbed interface with the following tabs: "Restore", "Filters", "Notification", "Run As" (which is the active tab), "Network Credentials", and "Custom". The "Run As" tab contains the following elements:

- A label: "When running a job, login using this account"
- Two radio buttons:
 - ☒ Run as logged in user
 - ☐ Run as specific user
- Three text input fields:
 - Domain Name
 - User Name
 - User Password
- A "Check Credentials" button, which is currently disabled (grayed out).

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

When running a job, login using this account

Run as logged in user:

Run the job using the Windows login credentials in effect at that time.

Run as specific user:

Run the job using the specified credentials.

Domain Name: The domain name you are logging into.

Run as User Name: The user name you want the job to run as.

Password: The password for the account you want the job to run as.



Note: The account information entered here is usually account you use to login to windows. However, you may need to use a different account when backing up network/shared drives.



Important: If you have entered credentials you must click the "Check Credentials" button to validate the account you have entered before proceeding forward.

Restore Job Network Credentials

Properties for Restore Job: ✕

Restore | Filters | Notification | Run As | Network Credentials | Custom

Use this option to grant access to a network location, such as a NAS device or network share with a specific username and password.

Domain Name:

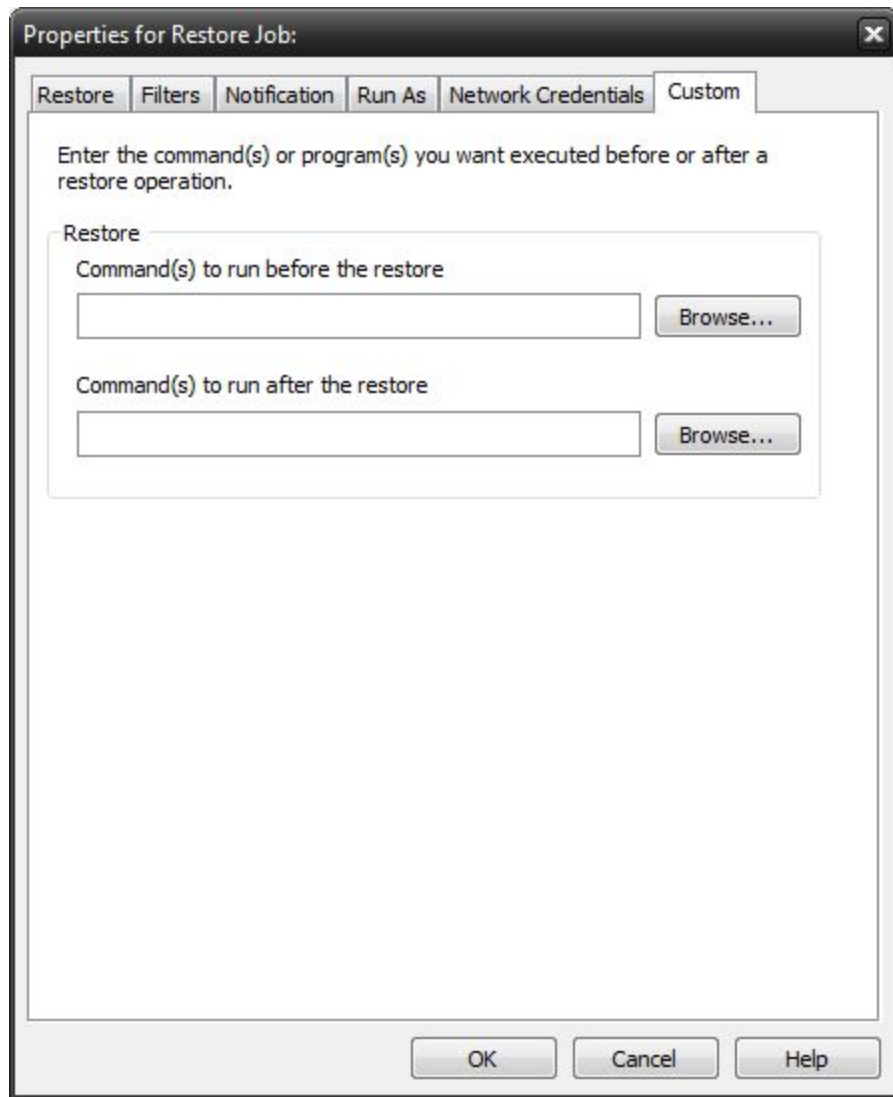
User Name:

User Password:

OK | Cancel | Help

This option may be used to access devices on the network which require different credentials than the defaults. You may use different credentials for this purpose than those set in the "Run As" Tab.

Restore Job Custom Commands



Properties for Restore Job:

Restore Filters Notification Run As Network Credentials Custom

Enter the command(s) or program(s) you want executed before or after a restore operation.

Restore

Command(s) to run before the restore

Browse...

Command(s) to run after the restore

Browse...

OK Cancel Help

This feature enables a command to run before or after a restore job

To select which program or command you would like to run before or after the copy operation, simply browse to the program or command using the "Browse" button.



The benefits of this feature are numerous. For instance, one would be able to stop Antivirus scanning by issuing a command to their Anti-virus program prior to NovaBACKUP beginning the restore job. Alternatively, a command can be issued at the end of the job to begin an anti-virus scan. Also one could issue a command to close a database at the beginning of a job and reopen it at the end of a job.

Logs Tab

From here, you can quickly determine the status of a Copy, Backup, Restore or Retention job that was performed.


[illegible]

The columns in the summery view include:

Operation: Includes - Copy, Backup, Restore & Import.

You can quickly determine the status of the backup by the color-coded icon next to each operation:

- Operation completed successfully
- Operation completed, but had warnings

 Operation had errors

Job Name: The name of the job for this log file

Date/Time: The Date & Time the specific job was run

Errors: The number of errors encountered after running the job

Warnings: The number of warnings encountered after running the job

Objects Selected: The number of objects selected before running the job

Objects Completed: The number of objects successfully completed after running the job

Size Completed: The total size of all objects successfully completed after running the job



You can quickly sort the logs view by clicking on the appropriate column heading at the top of the window

Button Functions

Configure Reports

Click this button to use the [summary reports](#) feature.

Delete Button

To delete a log file, simply select the log file and press the *Delete* button. To delete multiple log files, you may select more than one by using the Shift and/or Ctrl buttons on your keyboard to select the logs and pressing the Delete button.

View Button

To view the log file, select the log you would like to open and press the View button. Alternatively, you may also simply double-click the log file you want to view. For further details, see the [Using the Logs](#) section.

Viewing the Logs

Job Summary section

The top half of the log viewer displays the job summary. This section lists settings which apply to the job and a summary of the job status. A disabled setting is marked with a red 'X', and an enabled settings is marked with a checkmark.

Events section

The bottom half of the log viewer displays the job events. There are four types of events: Error, Warning, Informational, and Files. Each type can be shown or hidden by clicking its associated button.

When the log is first opened, the file list is not displayed. To see the list, click the 'Files' button. Each file entry in the list can be expanded to display additional details about that file.

Saving as a file

Logs displayed in the viewer can be saved as either HTML or Text files.

Click the 'save' icon at the top left of the viewer window. Browse to the desired location to save the file. Enter the filename, select 'r;HTML' or 'r;TXT' file type, then click the 'Save' button.

Printing

Click the print icon at the top left of the viewer window to launch a print preview window displaying the html formatted log.

Use page settings to adjust how the printed log will look. For example, the 'Print Background Colors and Images' option is disabled by default, but should be checked to print the log as shown. Access page settings by clicking the gear icon at the top of the print preview window.

The log viewer supports printing a file list of up to 500 entries. To print a log containing more than 500 file entries, you must click the 'files' button to hide the file list if it is currently displayed. To print a log containing over 500 file entries, save the log as a .txt file then use a text editor to open and print the file.

Opening a different log

After the log viewer is opened, click the 'open' icon at the top left of the viewer window to open a new log. This will display the 'open file' dialog. Browse to the log file to view, then click the 'open' button to view the log.

Summary Reports

Summary reports are scheduled reports which provide an aggregated view of recent jobs performed by NovaBACKUP. Summary reports include information about backup jobs such as:

- When the job was performed
- When the job finished
- The destination of the data
- The job type
- Whether the job was scheduled or run manually
- The number of files selected for backup and the number of files completed
- The total size for the job once completed

Configure Reports

Configure Summary Reports

Summary Reports are scheduled e-mails containing information about all NovaBACKUP activity for the desired time period.

Global report options

Select time to send reports: 10:00:00 AM

SMTP Server Settings

Daily Weekly Monthly

☐ Enable daily summary report

"To" email addresses:

"CC" email addresses:

☐ Print report with default printer

Save... Cancel

Global report options

Scheduled time

The selected time is when any / all reports will be sent. If multiple reports are scheduled to be sent on a particular day, they will be sent individually.

SMTP Server settings

The SMTP server settings for all reports to be sent with.

Note: Summary Reports default to using the new NovaBACKUP Alerts service.

Daily Reports

The daily report sends a report which summarizes the last 24 hours since the scheduled time.

Enable daily summary report

Check this box to enable or disable the daily summary report

To / CC addresses

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;).

Print report with default printer

Print the report with the default printer (if available)

Weekly Reports

The weekly report sends a report which summarizes the last 7 days since the scheduled time.

Enable weekly summary report

Check this box to enable or disable the weekly summary report

To / CC addresses

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;).

Day of week to send reports

Choose which day of the week the report is sent.

Print report with default printer

Print the report with the default printer (if available)

Monthly Reports

The monthly report sends a report which summarizes the last month since the scheduled time.

Note: If the current month does not have this date available, the report will process on the 1st of the next month.

Enable monthly summary report

Check this box to enable or disable the monthly summary report

To / CC addresses

Enter the e-mail addresses you wish to receive the report. Separate multiple addresses with a semicolon (;)

Print report with default printer

Print the report with the default printer (if available)

Filters Tab

Default Settings

Custom | Advanced Options | VMware Servers | CMon Server
Copy | Backup | Restore | Notification | **Filters** | Run As

Wildcards

File Mask (separate by comma):

☐ Include Wildcard:

☐ Exclude Wildcard:

Include Files with these Dates and Size

From To (including)

Created: ☐ 2/10/2017 ☐ 2/10/2017

Modified: ☐ 2/10/2017 ☐ 2/10/2017

Accessed: ☐ 2/10/2017 ☐ 2/10/2017

Size: ☐ B ☐ B

Exclude Files with these Attributes

File Attribute	Description
<input type="checkbox"/> Read-Only	Files that can be read but cannot be written or deleted.
<input type="checkbox"/> Hidden	Files that are not included in an ordinary listing.
<input type="checkbox"/> System	Files that are part of the operating system.

OK Cancel Help

Wildcards

Include Wildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

ExcludeWildcard: Enter all wildcards for files you want to include in the default job separated by a comma (example: *.doc, *.xls, *.dat)

Include Files with these Dates and Size

Under this section, you can create an include filter by selecting dates that files were last created, modified, or accessed or by their file size that you wish to ensure are included in your backup. This is helpful if you want to reduce the time or file size of a backup. You may want to exclude older files that are no longer accessed or larger files you have already backed up..

Exclude Files with these Attributes

Under this section, you can create an exclude filter based on the file attributes: "Read Only", "Hidden" and "System". For example, if you would to exclude System or Hidden files, check the appropriate box next to the attribute.

Online Storage Devices

NovaBACKUP includes the ability to backup to a number of online storage devices including Amazon's Simple Storage Service (S3) and NovaStor Web Storage Service (xSP).

Once you have configured an online storage device, you can utilize that device just as you would a local device. You will be able to perform backup and copy jobs to your configured online storage devices as well as local devices adding additional levels of protection to your data by permitting both local and remote backups to be performed.

Configuring S3 Storage Device

Select "Amazon Simple Storage Service " from the "Add Device" option drop down. This will display the S3 properties dialog

The image shows a Windows-style dialog box titled "S3 Properties". It has two tabs: "General" and "Device Settings", with "Device Settings" currently selected. The dialog contains the following elements:

- A text prompt: "If you don't already have an Amazon account, visit:" followed by a blue hyperlink <http://aws.amazon.com/s3>.
- A "Device Name" label and a text box containing "Amazon Simple Storage Services.0".
- An "Access Key ID" label and an empty text box.
- A "Secret Access Key" label and an empty text box.
- A "Check credentials" button.
- A "Bucket Name" label and an empty text box.
- A "Backup Directory" label and an empty text box.
- A note at the bottom: "Note: If you do not specify a bucket name, the default of 'StoragePort' will be used."
- At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help". The "OK" button is highlighted with a blue dashed border.

Device: Enter the name for this device.

Access Key ID: Enter the Amazon S3 Access Key ID for your account login.

Secret Access Key: Enter the Amazon S3 Secret Access Key for your account login.

Click "Check Credentials" to confirm your settings for Access Key ID and Secret Access Key.

Bucket Name: Enter the name of the S3 Bucket you want your data stored in.

Backup Directory: Enter the directory you want your data stored within the S3 Bucket.

Network Device Overview

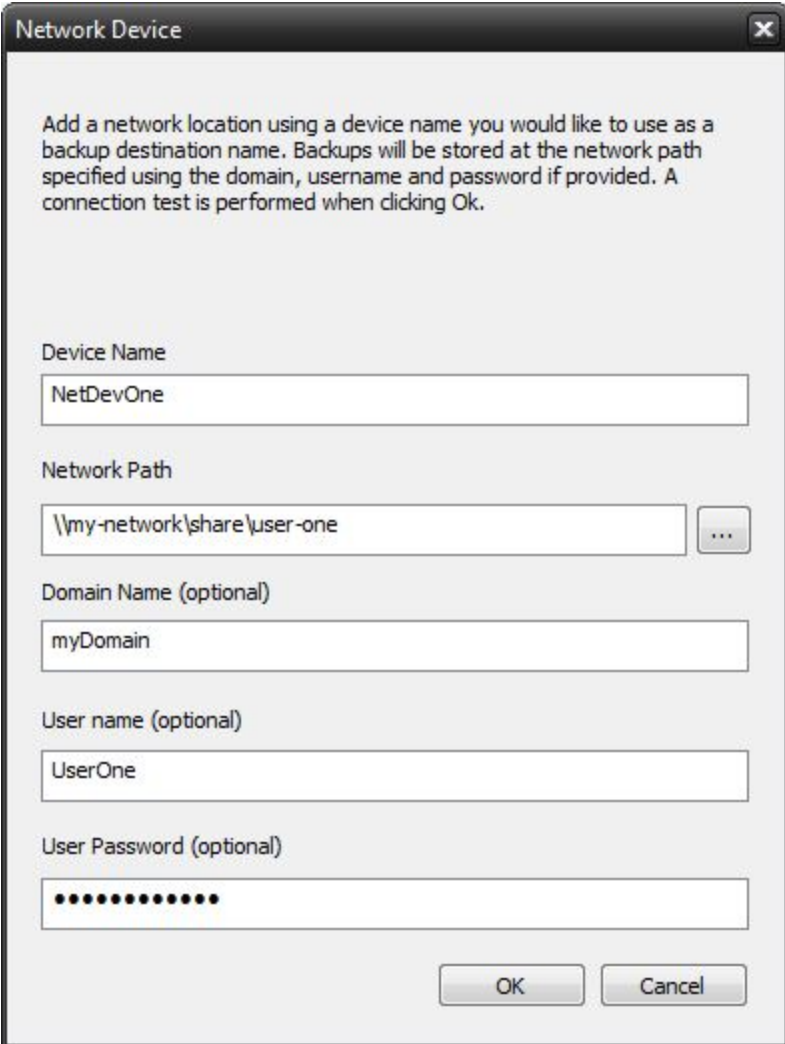
A network device may be used in cases where the user wishes to refer to a network location and related permissions as a named device for convenient reference like any other backup device. For example you may wish to store backups to \\my-net-work\share\user-one along with its required username and password credentials, but would like to refer to this using one simple name,

such as "NetUserOne". Network devices provide this convenience and allow several different named devices to exist as may be desired for any configuration.

Network devices may be created by clicking on "Add Network Device" in the home tab view, or by clicking the "Add" button in the device tab view.

For tips on backing up to a network device, such as a NAS, as well as help creating your network device, please follow the NovaBACKUP Knowledge Base article [here](#).

Network Device Settings



Network Device

Add a network location using a device name you would like to use as a backup destination name. Backups will be stored at the network path specified using the domain, username and password if provided. A connection test is performed when clicking Ok.

Device Name

NetDevOne

Network Path

\\my-network\share\user-one

Domain Name (optional)

myDomain

User name (optional)

UserOne

User Password (optional)

.....

OK Cancel

This screen is displayed when adding a network device, or when right clicking on the device listed in the device tab to view the its properties. The following values may be entered, some of which are optional as noted.

Device name

This name entered here is used to identify the device. This name will appear when devices are listed to reference this device throughout the application.

Network Path

This is the path where backups are to be stored using this device.

Domain Name

This optional parameter is used to specify the domain for the network path. When no value entered the current domain, if any, will be in effect.

User Name

This optional parameter is used to specify the user who has permission to access the network path.

User Password

This optional parameter is used to specify the user's password who has permission to access the network path.

xSP Storage Device Overview

The xSP storage device is used for backup to an online server.

To access settings first select the device tab.

To add a new device click the Add button then select the xSP device type.

To edit an existing device select its name in the device list then click the properties button, or right click then select properties.

The configure screen will be displayed when adding a new device or selecting properties. Use the configure screen to edit all settings for the xSP device.

Click Test Connection if you wish to just test the specified settings.

Click OK to commit the settings or Cancel to avoid making changes.

xSP Account Settings

Configure Device

Account | Security | Advanced | Staging | Proxy | Restore

Device Name

Name for this configuration:
xSP device.1

Backup server location

Use these settings for transferring data to a Backup Server on the Internet or on a local Intranet.

Server Name or IP Address:

Backup server authentication

Use these settings to configure the username and password for your account on the backup server.

Specify credentials for authentication

Username:

Password:

Re-enter Password:

☐ Use my current Windows login credentials

Test Connection OK Cancel Help

Device Name

- Name for this configuration

This field is used to specify any name you wish to identify the device.

Backup server location

- Server Name or IP Address

This field is used to specify the IP address or the host name of the backup server. If this value is already populated, you can disregard this entry. If this value is unknown, it can be obtained from the network administrator or backup service provider.

Backup server authentication

To enter specific credentials:

- Username: Enter in the unique username used to access the backup server.
- Password: This is your logon password

- Re-Enter Password: Re-enter your password to confirm

To use your current Windows login credentials:

- Selecting this option will use the current Windows login credentials for authentication on the backup server.

xSP Security Settings

The screenshot shows the 'Configure Device' dialog box with the 'Security' tab selected. The dialog has five tabs: 'Account', 'Security', 'Advanced', 'Staging', 'Proxy', and 'Restore'. The 'Security' tab contains three sections: 'Encryption', 'Secret key configuration', and 'Secret key'. The 'Encryption' section shows 'Encryption used:' with a padlock icon and the text 'AES encryption enabled - strength: 128 bits'. The 'Secret key configuration' section shows 'Secret Key to encrypt all files:' with two radio buttons: 'Use my logon password as the secret key.' (selected) and 'Specify my own secret key for encryption.' The 'Secret key' section shows 'Secret encryption key:' with a text box, 'Re-enter Secret encryption key:' with a text box, and 'Optional Hint for secret encryption key:' with a text box. At the bottom are four buttons: 'Test Connection', 'OK', 'Cancel', and 'Help'.

Configure Device

Account Security Advanced Staging Proxy Restore

Encryption

Encryption used:
AES encryption enabled - strength: 128 bits

Secret key configuration

Secret Key to encrypt all files:

☒ Use my logon password as the secret key.
☐ Specify my own secret key for encryption.

Secret key

Secret encryption key:
Re-enter Secret encryption key:
Optional Hint for secret encryption key:

Test Connection OK Cancel Help

Encryption

- Encryption used

Indicates the encryption type in effect.

Secret Key Configuration

- Use my logon password to encrypt my files

This option will cause the backup server logon password to be used to encrypt all files.

- Set a special secret key to encrypt my files

This option will allow a private secret key of your choosing to be specified for file encryption.

Note: If the secret key is forgotten or lost, the backup server administrator may not be able to recover the data residing on the server.

Secret Key

The secret key is a special text string used to encrypt all data that is stored on the server. The secret key can be changed at any time in between backups or restores. If the secret key is forgotten or lost, the backup server administrator may not be able to recover the data on the server.

- Secret encryption key

This field is the secret key. The text can be any length and is case-sensitive. The secret key should be written down and kept it in a safe place so that it is not forgotten.

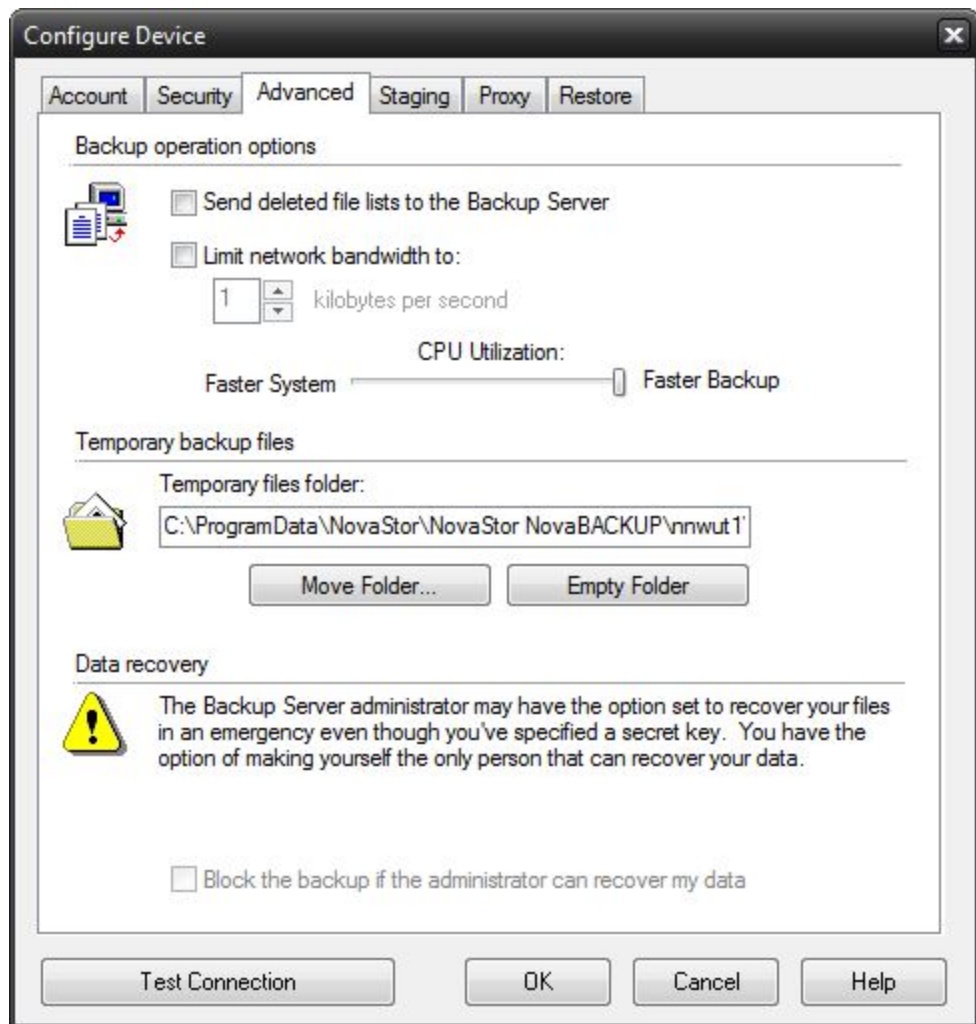
- Secret encryption key verification

This field is where the secret key should be re-typed. It is used for verification only.

- Optional hint for secret encryption key

This field is where a text phrase can be entered to allow the secret key to be remembered. If it is necessary to restore files to a fresh system and the secret key is forgotten or lost, the text phrase will be displayed so that the secret key can be recalled more easily. This field is optional. If security is a concern because somebody may be able to use the hint to guess the secret key, this field should probably be left empty.

xSP Advanced Settings



Backup operation options

- Send deleted file lists to the Backup Server

Selecting this option will allow the backup server to be notified when files are deleted or removed from the selection list. Eventually, the files will also be deleted from the backup server. This occurs after the deletion date has gone out of the scope of the allowable restore window on the backup server. The allowable restore window is configured by the backup server administrator.

- Limit network bandwidth to:

This setting can be used to reduce the amount of data sent over the network in case other processes need greater access or speed.

- CPU Utilization

This setting can be used to adjust how much CPU usage may be desired for the backup process. It may be preferable to reduce CPU usage for backup so other processes on the system can run faster.

Temporary backup files

- Temporary files folder

This option can be used to specify where the backup "work files" should be saved. These files contain important information pertaining to backups. At any point in time, the contents of this folder can be moved to a different location or the folder can be emptied. Emptying the folder will remove all the files in the disk cache.

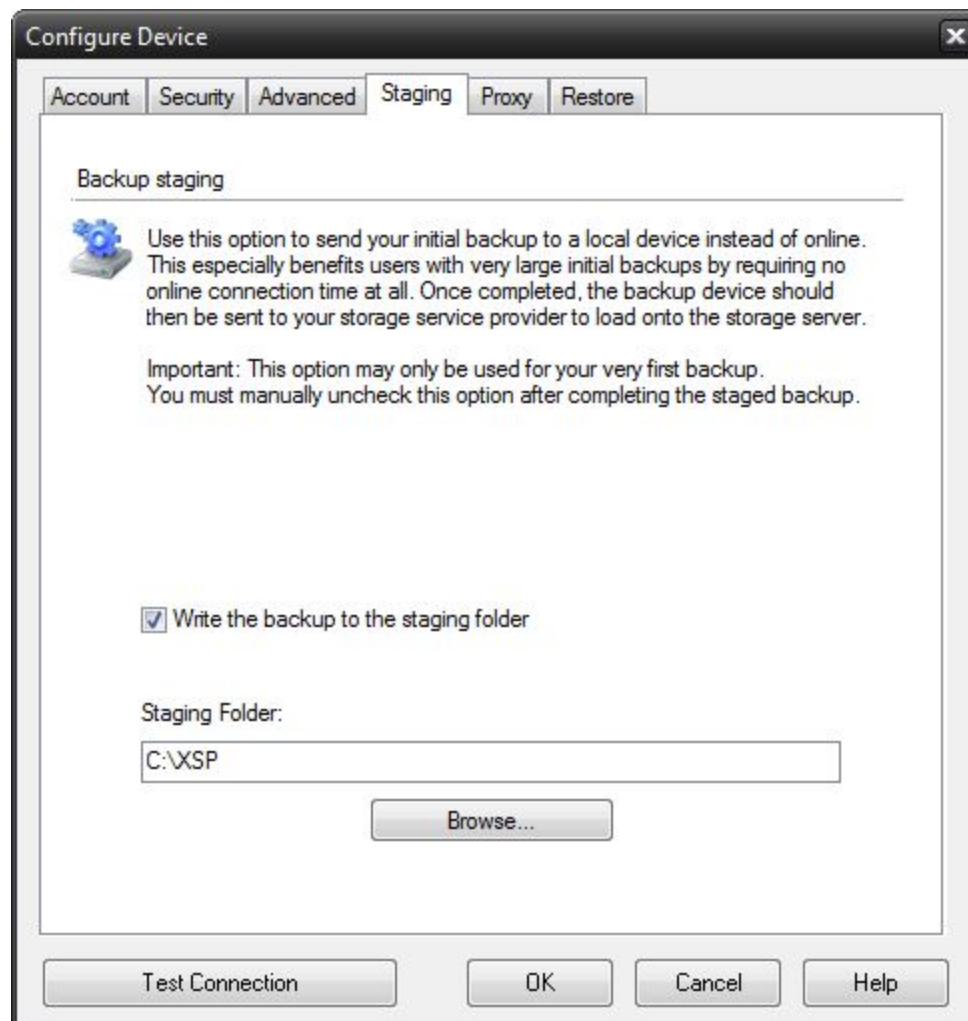
Data recovery

- Block the backup if the administrator can recover my data

In certain situations, such as a corporate environment, it may be a requirement for the corporation to have access to all the corporation's data. The backup server administrator may set an option to allow the recovery of data without requiring the secret key.

This option should be selected to guarantee that absolutely no one else is able to recover the data for this account. IF THIS OPTION IS SET AND THE SECRET KEY IS LOST OR FORGOTTEN, THE DATA CANNOT BE RECOVERED

xSP Staging Settings

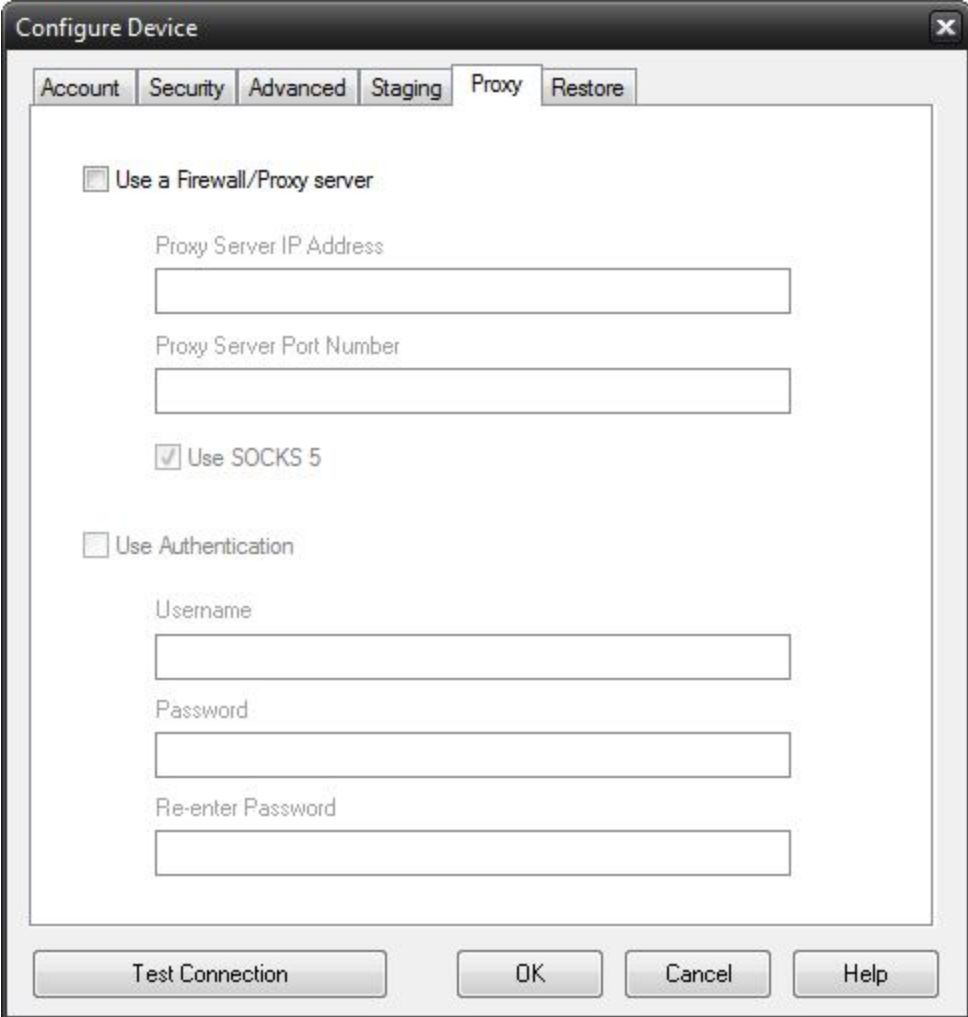


Use this option to send your initial backup to a local device instead of online.

This especially benefits users with very large initial backups by requiring no online connection time at all. Once completed, the backup device should then be sent to your storage service provider to load onto the storage server.

Important: This option may only be used for your very first backup. You must manually uncheck this option after completing the staged backup.

xSP Proxy Settings



The screenshot shows a 'Configure Device' dialog box with a tabbed interface. The 'Proxy' tab is selected. It contains several settings for proxy configuration. At the top, there are tabs for 'Account', 'Security', 'Advanced', 'Staging', 'Proxy', and 'Restore'. The 'Proxy' tab contains the following elements:

- A checkbox labeled 'Use a Firewall/Proxy server' which is currently unchecked.
- Two text input fields: 'Proxy Server IP Address' and 'Proxy Server Port Number'.
- A checkbox labeled 'Use SOCKS 5' which is currently checked.
- A checkbox labeled 'Use Authentication' which is currently unchecked.
- Three text input fields: 'Username', 'Password', and 'Re-enter Password'.

At the bottom of the dialog box, there are four buttons: 'Test Connection', 'OK', 'Cancel', and 'Help'.

Use this option to connect to your backup server through a proxy server connection.

xSP Restore Settings



Use local restore if you wish to restore from server storage that has been copied to your computer rather than connecting to the backup server online.

Restore from local storage

This must be checked to enable local restore mode.

Storage Folder

Enter the path where you have copied the server storage or use the browse button to locate that path for you.

xSP FastBIT Settings



This option is provided so that you can easily upgrade to the latest FastBIT implementation. This tab will only appear if you are not already using FastBIT3.

File Selection, System State & Registry

Overview

Security Information Backups

Depending on your system configuration, you can have special security configurations for files, drives and/or subdirectories. NovaBACKUP has full support for this information. This data is backed up each time you backup your registry. Please note that this information will ONLY be restored if you restore your registry, it is not stored on a file-by-file basis due to potential security issues.

Details on Backing Up System State Data

System state data is comprised of the following files:

- Boot files, including the system files, and all files protected by Windows File Protection (WFP).
- Active Directory (on a domain controller only).
- Sysvol (on a domain controller only).
- Certificate Services (on certification authority only).
- Cluster database (on a cluster node only).
- The registry.
- Performance counter configuration information.
- Component Services Class registration database.

The system state data can be backed up in any order. Restoration of the system state replaces boot files first and commits the system hive of the registry as a final step in the process.

System state backup and restore operations include all system state data: you cannot choose to backup or restore individual components due to dependencies among the system state components. However, you can restore system state data to an alternate location in which only the registry files, Sysvol directory files, and system boot files are restored. The Active Directory database, Certificate Services database, and Component Services Class Registration database are not restored to the alternate location.

You cannot change which components of the system state are backed up.

NOTE: *If you have more than one domain controller in your organization and Active Directory is replicated to any of these other servers, you might have to authoritatively restore any Active Directory data that you want to restore.*

For more information about authoritative restores, see the Microsoft® Windows® 2000/2003 Server Resource Kit Distributed Systems Guide.



Keep the following in mind when you are backing up system state data:

1. *You must be an administrator or a backup operator to back up files and folders.*
2. *You can only back up the system state data on a local computer. You cannot back up the system state data on a remote computer.*

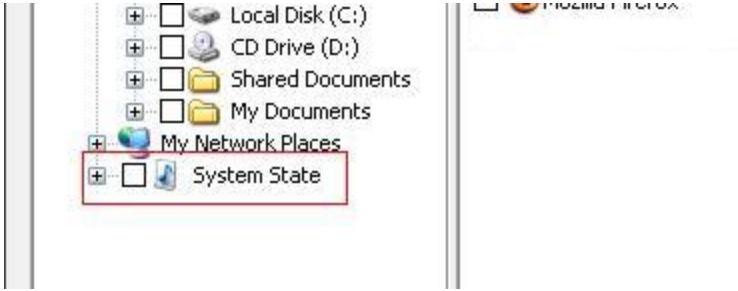


To select files to be backed up from other PCs on a peer to peer network, once you click on Backup, in the left window click the plus sign next to My Network Places. Then click on Entire Network, and click on Microsoft Windows Network. There, you should find the other PCs.

To backup to a network device, it is recommended that you select the UNC path and not the mapped drive letter. Example \\server\path and not use a drive mapping (S:\path)

Registry & System State Backup

In Windows®2000, Windows®2003, Windows®XP and Windows®Vista, you have the option to backup the System State with a backup. The System State will be seen as an item in the selection window while you are selecting other files and folders from the Backup Tab. All you need to do to backup the System State is to tag the checkbox next to it prior to running the backup.



What is the System State? *The System State is actually a combination of a few things:*

- *Boot files, including the system files, and all files protected by Windows File Protection (WFP).*
- *Active Directory (on a domain controller only).*
- *Sysvol (on a domain controller only).*
- *Certificate Services (on certification authority only).*
- *Cluster database (on a cluster node only).*
- *The registry.*
- *Performance counter configuration information.*
- *Component Services Class registration database.*

These are the items seen in the right selection window when System State is selected.



Does NovaBACKUP support backing up Active Directory? *Yes, in fact, NovaBACKUP features include the ability to backup Active Directory when you are backing up the System State.*

System State backup and restore operations include all System State data. You cannot choose to back up or restore individual components because of dependencies among the System State components. However, you can restore System State data to an altern-

ate location in which only the registry files and system boot files are restored. The Component Services class registration database is not restored to the alternate location.

Microsoft Exchange Plug-In

Using the Microsoft Exchange Plug-in

The Exchange server plug-in works on the following Microsoft Exchange server version: 2007, 2010, 2013 and 2016. View the NovaBACKUP System Requirements PDF document [here](#) to know the specific requirements that we have for Microsoft Exchange versions and service pack levels, which are required to perform backup and restore of this item.

Backup using the Exchange Plug-in

If the client is installed on one of the supported platforms listed above and you have an active Exchange plug-in, you may select your Exchange server for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the server name, all storage groups (if multiple) will be selected for backup. To select only a specific storage group, expand the Exchange Server object by clicking on the + symbol and check only the appropriate storage groups you want to backup.

Note: In order to perform a complete and accurate backup of Microsoft Exchange, you should also select the "System State" object within the same backup set. For more information, review the Backup up System State section of this help file.

Restore using the Exchange Plug-in

If the client is installed on one of the supported platforms listed above and you have an active Exchange plug-in, you may restore a previous Exchange backup using the plug-in by selecting the Exchange server using the file selection tree or list view under the Restore Tab.

Note: To restore an Exchange storage group, you must mark the database as being able to be overwritten by a restore in the properties of the exchange store you want to restore using the Exchange System Manager. You also need to dismount the store. (For more information on using the Exchange System Manager, refer to your Exchange server documentation).

This will permit you to restore the exchange storage group to the original location on the original backed up machine or on a new system with the same machine name. Also note that if you are doing a full restore of exchange you need to restore the System State BEFORE you restore the Exchange Storage Group.

Microsoft SQL Server Plug-In

Using the Microsoft SQL Plug-in

The SQL server plug-in works on the following Microsoft SQL servers: 2008, 2008 R2, 2012, 2014, and 2016. View the NovaBACKUP System Requirements PDF document [here](#) to know the specific requirements that we have for Microsoft SQL versions and service pack levels, which are required to perform backup and restore of this item.

Backup using the SQL Plug-in

If the client is installed on one of the supported platforms listed above and you have an active SQL plug-in, you may select your SQL server for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the server name, all databases will be selected for backup. To select only a specific database, expand the SQL Server object by clicking on the + symbol and check only the appropriate databases you want to backup.

Restore using the SQL Plug-in

If the client is installed on one of the supported platforms listed above and you have an active SQL plug-in, you may restore a previous SQL backup using the plug-in by selecting the SQL server using the file selection tree or list view under the Restore Tab.

If you check the box next to the server name, all databases will be selected for restore. To select only a specific database, expand the SQL Server object by clicking on the + symbol and check only the appropriate databases you want to restore.

This will permit you to restore the SQL database(s) to their original location on the original backed up machine or on a new system with the same machine name.

VMware Plug-In

Using the VMware Plug-in

The computer with NovaBACKUP installed needs to have connectivity to either the vSphere server or the ESX(i) server. NovaBACKUP can alternatively be installed on the vSphere server or on a Virtual Machine. VMware version and license requirements are contained in the NovaBACKUP System Requirements PDF document [here](#). VMware with the vStorage API licensed feature is required to utilize the VMware plug-in for NovaBACKUP can communicate.

Backup using the VMware Plug-in

Clicking on each ESX(i) or vSphere server node will display the Virtual Machines that are available to backup. These machines may be backed up individually, or all of them may be backed up at once.

You must specify the server name and user credentials for each VMware server you want to appear in the backup file selection tree. This is provided in the VMware Servers tab in the program default settings screen.

Restore using the VMware Plug-in

Restoring a Virtual Machine is quite easy. Simply select the Virtual Machine to restore in the restore screen and click the restore button.

More Information

For additional information such as techniques for differential backup and restore please download the document detailing all the VMware plug-in features.

Hyper-V Plug-In

Using the Hyper-V Plug-in

The Hyper-V plug-in supports direct backup and restore of Hyper-V virtual machines which reside on the same system as your backup client. Unlike VMware backups, NovaBACKUP must be installed on the Hyper-V host where the virtual machine desired to be backed up is located. The virtual machines can be either running or stopped when doing a backup.

View the NovaBACKUP System Requirements PDF document [here](#) to know the specific requirements that we have for Hyper-V versions and service pack levels required to utilize the Hyper-V plug-in for NovaBACKUP.

Backup using the Hyper-V Plug-in

If you have an active Hyper-V plug-in, you may select your Hyper-V virtual machines for backup using the file selection tree or list view under the Backup Tab.

If you check the box next to the Hyper-V name, all virtual machines will be selected for backup. To select only a specific virtual machine, expand the Hyper-V object by clicking on the + symbol and check only the virtual machines you want to backup.

Restore using the Hyper-V Plug-in

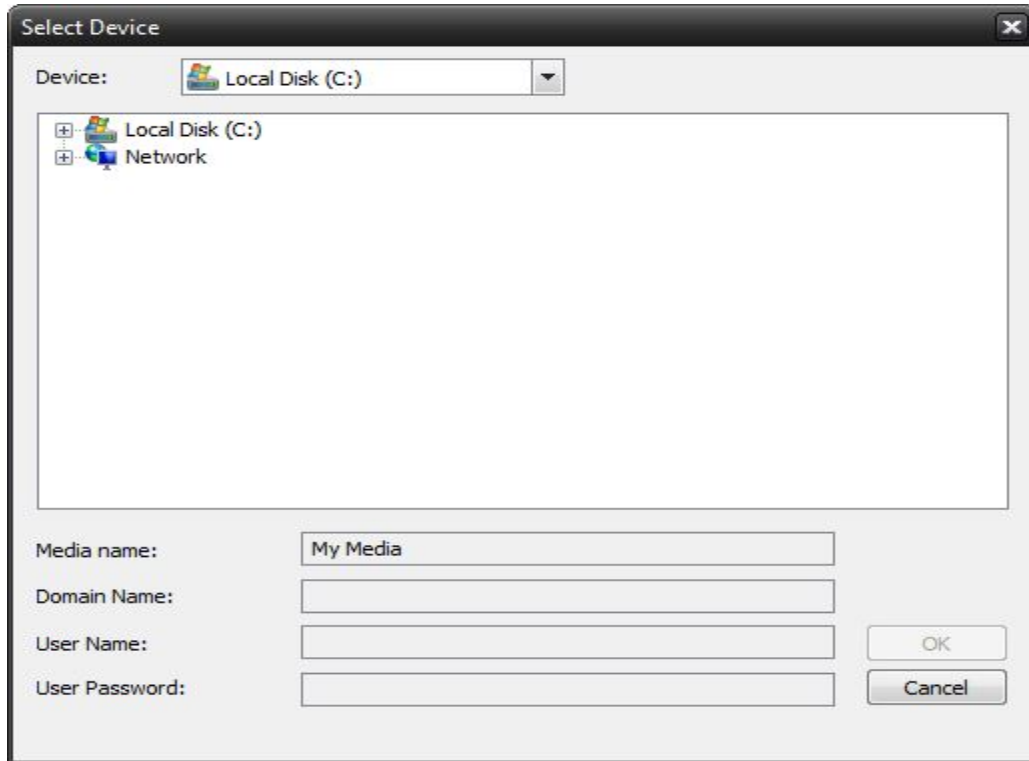
If you have an active Hyper-V plug-in, you may restore a previous Hyper-V backup by selecting the Hyper-V name using the file selection tree or list view under the Restore Tab.

If you check the box next to the Hyper-V name, all virtual machines will be selected for restore. To select only a specific virtual machine, expand the Hyper-V object by clicking on the + symbol and check only the virtual machines you want to restore. Restoring a Hyper-V virtual machine will overwrite the current version of the Hyper-V virtual machine that is there.

Importing Backups

Importing a backup from media may become necessary if your machine crashes or you wish to restore a backup created on one computer to another computer. The process is simple. To get the backup contents into the current, local NovaBACKUP database (and therefore be able to select files, folders and drives for restoration), follow these steps: From the Restore tab, first click on the "Import" button located near the bottom of the screen. Alternatively, you can select "Import Backup Job" from the Launch Button.

If you run the import from the Restore Tab, you will receive an Import Source selection screen. (If selecting import source from the toolbar, you will forgo this window.)



Browse to the backup file you would like to import, and select it. If your backup is on a network, browse to the network location and select the backup file. Then enter the username and password for network credentials. Click OK to switch to the job status view and start the import process.

If your import source is Tape, then you will be given a Tape Drive selection screen. Select the tape device you would like to import and press "OK." A progress window will then appear and the import process will begin immediately.



If you are importing from a complete set of spanned media, you should always select the first piece of media as your first import. NovaBACKUP will then prompt you to insert each subsequent piece of media if required. It is necessary to have the complete backup, all media available to do the import and subsequent restore. For example; If your backup consists of 5 pieces of media and media #3 is corrupt/missing/ damaged, you will only be able to restore data from the first two pieces of media.

After importing the media, it may be necessary to press the "Refresh" button on the Restore tab. All imported backups will appear under an "Imported Backups" heading in the Media View.



Importing vs. Restoring

It is important to know the difference between importing and restoring. The import process does NOT restore your data to your hard drive. What it simply does is import a "listing" of available data on the imported media. This information is imported into the database and enables NovaBACKUP to create a tree listing of the data in the Restore view. From there, you will be able to select the data you would like to restore from the media and complete a restoration just like you would any other restoration.

Command Line Options

You can use the command line and several options to run your backups and other scripts. This quick method will allow a user to input a single command into a command prompt to begin running a specific NovaBACKUP job script. For more details please read the steps below.

Getting Started:

1. To begin, open the START menu button and then select RUN.
2. Type CMD in the line provided by the RUN program.
3. This will open a "Command Prompt" window, resembling the old Microsoft DOS.
4. Now type CD C:\Program Files\NovaStor\NovaStor NovaBACKUP
5. This will change the directory you are running commands from so that you are now in the NovaBACKUP program directory, and ready to run your command.

Syntax:

```
nscmd -u [User name] -d [Domain] -p [Password] [Options] -s [Job Script (.nbk) location]
```

Example 1: A basic command

```
nscmd -s "C:\file location\backup.nbk"
```

Example 2: Running a job script, specifying credentials and queuing

```
nscmd -u John -d Mydomain -p Password -q -s "C:\file location\backup.nbk"
```

General Options:

-q Use this option to allow queuing for the job script.

-h This option will hide the console when the job script runs.

IMPORTANT:

In Windows 7 operating systems and above, NovaBACKUP job script files (.nbk) are stored in these folder structures by default:

File based backup jobs are stored by default in: C:\ProgramData\NovaStor\NovaStor NovaBACKUP\UserScripts\your_username\Backup\.

File based restore jobs are stored by default in: C:\ProgramData\NovaStor\NovaStor NovaBACKUP\UserScripts\your_username\Restore\.

Image based backup jobs are stored by default in: C:\ProgramData\NovaStor\NovaStor NovaBACKUP\UserScripts\your_username\DR\.

Scripted Environment Variables

NovaBackX is able to use Windows environment variables in the script file. Though in order to use these variables you will have to manually edit the script file. User set environment variables are not available for use, just the default Windows environment variables. Below is an example of a script excerpt using these environment variables, please notice that you have to define the variables that you want to use at the bottom of the script.

Example portion of a script file:

(...)

[select]

path.item.0=+\$Env Variable.item.0\$

path.numberOfItems=1

(...)

[device]

SessionLogicalId=0

SessionName=My Backup

SessionId=00

MediaLogicalId=0

MediaExtension=nbd

MediaName=My Media

MediaId=00

DeviceUnit=\\Server\HomeDrive\\$Env Variable.item.1\$

DeviceName=Network

DeviceId=0900dcfe0b0000f0a98187492b78000002000000

DeviceClassId=ntwk://

(...)

[Environment variable]

Env Variable.item.0=%USERPROFILE%

Env Variable.item.1=%USERNAME%

Env Variable.numberOfItems=2