

Symantec NetBackup™ Commands Reference Guide

UNIX, Windows, and Linux

Release 7.1

Symantec NetBackup™ Commands Reference Guide

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Contents

Technical Support	4	
Chapter 1	Introduction	13
	About NetBackup commands	13
	Navigating multiple menu levels	14
	NetBackup command conventions	14
	NetBackup Media Manager command notes	15
Appendix A	NetBackup Commands	17
	acsd	24
	add_media_server_on_clients	26
	backupdbtrace	27
	backuptrace	29
	bmrc	31
	bmrconfig	34
	bmrepadm	39
	bmrprep	42
	bmrs	45
	bmrstadm	48
	bp	50
	bpadm	52
	bparchive	53
	bpbackup	58
	bpbackupdb	66
	bpcatarc	67
	bpcatlist	68
	bpcatres	71
	bpcatrm	72
	bpcd	73
	bpchangeprimary	75
	bpclient	79
	bpclimagelist	85
	bpclntcmd	88
	bpclusterutil	91
	bpcompatd	95

bpconfig	97
bpdbjobs	108
bpdbm	116
bpdgclone	119
bpdown	121
bpduplicate	122
bperror	131
bpexptime	140
bpfis	147
bpgetconfig	151
bpgetdebuglog	155
bpimage	156
bpimagerlist	160
bpimedia	168
bpimport	179
bpinst	186
bpkeyfile	193
bpkeyutil	195
bplabel	197
bplic	200
bpmedia	208
bpmedialist	212
bpminlicense	224
bpnbat	227
bpnbaz	234
bpfficorr	249
bpplclients	251
bppldelete	258
bpplinclude	260
bpplinfo	266
bppllist	278
bpplsched	280
bpplschedrep	293
bpolicynew	301
bppls	309
bppls	313
bpprd	314
bprecover	316
bprestore	319
bpschedule	333
bpschedulerep	340
bpsetconfig	346
bpstinfo	348

bpstuadd	354
bpstudel	364
bpstulist	367
bpsturep	374
bptestbpcd	383
bptestnetconn	386
bptpcinfo	390
bpup	395
bpverify	396
cat_convert	404
create_nbdb	410
duplicatetrace	412
importtrace	415
jbpSA	419
jnbSA	421
ltid	423
nbauditreport	425
nbcatsync	429
NBCC	432
NBCCR	437
nbcertupdater	439
nbclogs	443
nbdb_admin	447
nbdb_backup	450
nbdb_move	451
nbdb_ping	453
nbdb_restore	454
nbdb_unload	455
nbdbms_start_server	457
nbdbms_start_stop	458
nbdc	459
nbdecommission	462
nbdelete	464
nbdeployutil	467
nbdevconfig	473
nbdevquery	484
nbdna	489
nbemm	493
nbemmcmd	494
nbexecute	510
nbfirescan	512
nbftadm	513
nbftconfig	514

nbhba	524
nbjm	527
nbkmsutil	528
nbpem	532
nbpemreq	534
nbrb	538
nbrbutil	539
nregopsc	544
nreplicate	546
nbstl	548
nbstlutil	555
nbsu	563
nbsvrgrp	569
restoretrace	572
tl4d	574
tl8d	576
tl8cd	580
tldd	584
tlgcd	588
tlhd	592
tlhcd	596
tlmd	600
tpautoconf	603
tpclean	606
tpconfig	609
tpext	626
tpreq	627
tpunmount	630
verifytrace	632
vltadm	635
vltcontainers	636
vltject	641
vltinject	645
vloffsitemedia	647
vltopmenu	651
vltrun	653
vmadd	658
vmadm	661
vmchange	663
vmcheckxxx	670
vmd	672
vmdelete	674
vmoprcmd	676

vmphyinv	681
vmpool	685
vmquery	688
vmrule	693
vmupdate	696
vxlogcfg	699
vxlogmgr	707
vxlogview	712
Index	721

Introduction

This chapter includes the following topics:

- [About NetBackup commands](#)
- [Navigating multiple menu levels](#)
- [NetBackup command conventions](#)
- [NetBackup Media Manager command notes](#)

About NetBackup commands

This document contains all of the NetBackup man page commands. You can find a printable version of the command quickly and easily without searching through multiple books in the NetBackup Library.

This document contains detailed information on commands that run on UNIX and Linux systems as well as on Windows systems. Information that is pertinent only for UNIX and Linux systems versus Windows systems is noted accordingly.

Each command contains a brief description of the primary function of the command, a synopsis, and descriptions of each of the options listed in the synopsis. Some commands also contain notes, return values, examples, etc.

Included in this document are the NetBackup Server and NetBackup Enterprise Server commands. In most cases, a command pertains to both NetBackup products. However, there are instances where portions or options within a command apply specifically to one product such as NetBackup Enterprise Server. In these situations, a note has been inserted in the text to identify the information as information that only applies to one NetBackup product.

Navigating multiple menu levels

When navigating multiple menu levels, a greater-than sign (>) is used to indicate a continued action. The following example shows how the > is used to condense a series of menu selections into one step:

Start > Programs > Symantec NetBackup > NetBackup Administration Console.

The corresponding actions can be described in more steps as follows:

- 1 Click **Start** in the task bar.
- 2 Move your cursor to **Programs**.
- 3 Move your cursor to the right and highlight **Symantec NetBackup**.
- 4 Move your cursor to the right. First highlight and then click **NetBackup Administration Console**.

NetBackup command conventions

This document uses the following conventions when describing commands that are specific to NetBackup.

Run the following commands in the "Command Prompt" to see the results.

- The `-help` (`-h`) option prints a command line usage message when it is the only option on the command line. For example:

```
bpclient -help
```

- Brackets [] indicate that the enclosed component of the command line is optional.
- Curly braces {} indicate an association between the enclosed options. For example, {opt1 [opt2 ... optn]} means that if the command contains opt1, then the command may optionally contain opt2 ... optn.
- A vertical bar (or the pipe symbol) | separates optional arguments from which the user can choose. For example, if a command has the following format, you can choose `arg1` or `arg2` (but not both):

```
command [ arg1 | arg2 ]
```

- Italics indicate that the information is user supplied. For example, the user supplies `policy`, `schedule`, and `filename` in the following command:

```
bpbackup -p policy -s schedule filename
```

- An ellipsis (...) means that you can repeat the previous parameter. For example, consider the following command:

```
bpbackup [-S master_server [,master_server,...]] filename
```

Here, the `-s` option requires the first master server name. Additional names can be added, separated by commas and followed by a file name as in:

```
bpbackup -S mars,coyote,shark,minnow memofile.doc
```

NetBackup Media Manager command notes

In addition, Media Manager supports the following sets of commands that are used for device management; the NetBackup Device Manager service (`ltid`) starts or stops these commands as needed.

- `tpreq` and `tpunmount` are user commands for requesting tape mounts and unmounts for configured drives.
- `tpautoconf`, `tpclean`, `tpconfig`, and `vmopr cmd` are administrative commands for device management.
- `vmadd`, `vmchange`, `vmcheckxxx`, `vmdelete`, `vm pool`, `vmquery`, `vmrule`, and `vmupdate` are administrative commands for media management.

NetBackup Commands

This appendix includes the following topics:

- [acsd](#)
- [add_media_server_on_clients](#)
- [backupdbtrace](#)
- [backuptrace](#)
- [bmrc](#)
- [bmrconfig](#)
- [bmrepadm](#)
- [bmrprep](#)
- [bmrs](#)
- [bmrsrtadm](#)
- [bp](#)
- [bpadm](#)
- [bparchive](#)
- [bpbackup](#)
- [bpbackupdb](#)
- [bpcatarc](#)
- [bpcatlist](#)
- [bpcatres](#)

- `bpcatrm`
- `bpcd`
- `bpchangeprimary`
- `bpclient`
- `bpclimagelist`
- `bpclntcmd`
- `bpclusterutil`
- `bpcompatd`
- `bpconfig`
- `bpdbjobs`
- `bpdbm`
- `bpdgclone`
- `bpdown`
- `bpduplicate`
- `bperror`
- `bpexptime`
- `bpfis`
- `bpgetconfig`
- `bpgetdebuglog`
- `bpimage`
- `bpimagelist`
- `bpimmedia`
- `bpimport`
- `bpinst`
- `bpkeyfile`
- `bpkeyutil`
- `bplabel`

- `bplist`
- `bpmedia`
- `bpmedialist`
- `bpminlicense`
- `bpnbat`
- `bpnbaz`
- `bpfficorr`
- `bpplclients`
- `bppldelete`
- `bpplininclude`
- `bpplininfo`
- `bppllist`
- `bpplsched`
- `bpplschedrep`
- `bpolicynew`
- `bpps`
- `bpps`
- `bprd`
- `bprecover`
- `bprestore`
- `bpschedule`
- `bpschedulerep`
- `bpsetconfig`
- `bpstsinfo`
- `bpstuadd`
- `bpstudel`
- `bpstulist`

- `bpsturep`
- `bptestbpcd`
- `bptestnetconn`
- `bptpcinfo`
- `bpup`
- `bpverify`
- `cat_convert`
- `create_nbdb`
- `duplicatetrace`
- `importtrace`
- `jbpSA`
- `jnbSA`
- `ltid`
- `nbauditreport`
- `nbcatsync`
- `NBCC`
- `NBCCR`
- `nbcertupdater`
- `nbcplogs`
- `nbdb_admin`
- `nbdb_backup`
- `nbdb_move`
- `nbdb_ping`
- `nbdb_restore`
- `nbdb_unload`
- `nbdbms_start_server`
- `nbdbms_start_stop`

- `nbdc`
- `nbdecommission`
- `nbdelete`
- `nbdeployutil`
- `nbdevconfig`
- `nbdevquery`
- `nbdna`
- `nbemm`
- `nbemmcmd`
- `nbexecute`
- `nbfirescan`
- `nbftadm`
- `nbftconfig`
- `nbhba`
- `nbjm`
- `nbkmsutil`
- `nbpem`
- `nbpemreq`
- `nbrb`
- `nbrbutil`
- `nbgopsc`
- `nbreplicate`
- `nbstl`
- `nbstlutil`
- `nbsu`
- `nbsvgrp`
- `restoretrace`

- `tl4d`
- `tl8d`
- `tl8cd`
- `tldd`
- `tlcdc`
- `tlhd`
- `tlhcd`
- `tlmd`
- `tpautoconf`
- `tpclean`
- `tpconfig`
- `tpext`
- `tpreq`
- `tpunmount`
- `verifytrace`
- `vltadm`
- `vltcontainers`
- `vlteject`
- `vltinject`
- `vloffsitemedia`
- `vltopmenu`
- `vltrun`
- `vmadd`
- `vmadm`
- `vmchange`
- `vmcheckxxx`
- `vmd`

- `vmdelete`
- `vmoprcmd`
- `vmphyinv`
- `vmpool`
- `vmquery`
- `vmrule`
- `vmupdate`
- `vxlogcfg`
- `vxlogmgr`
- `vxlogview`

acsd

acsd – Automated Cartridge System (ACS) daemon (UNIX) or process (Windows)

SYNOPSIS

acsd [-v]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

acsd interfaces with Media Manager to mount and unmount tapes automatically that are under Automated Cartridge System (ACS) control. If the Media and Device Management of the Administration Console shows drives in an ACS robot, the `ltid` NetBackup Device Manager daemon or service (Windows) runs **acsd**. Stopping `ltid` stops **acsd**.

On UNIX and Linux systems, start or stop **acsd** independently of `ltid` by using `/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the **acsd** process ID. Then enter the following commands:

```
kill acsd_pid  
/usr/opensv/volmgr/bin/acsd [-v] &
```

acsd performs its tasks by sending requests to the ACS storage server Interface process (`acsssi`). It communicates with the server that controls the ACS.

On Windows systems, **acsd** performs its tasks by sending requests to the STK LibAttach service, which communicates with the server that controls the ACS.

When the connection is established, **acsd** puts the ACS robot in the UP state and can mount and unmount tapes. If the connection cannot be established or ACS errors exist, **acsd** changes the robot to the DOWN state. In this state, **acsd** still runs and returns the robot to the UP state when the problem no longer exists.

Use the following to address and define drives in the Media Manager: ACS number, LSM number, Panel number, and Drive number.

Configure drive cleaning for ACS robots by using ACS library software. You cannot define the cleaning volumes by using Media Manager. In addition, you cannot use the `tpclean` command for cleaning operations on drives under ACS robotic control.

On UNIX and Linux systems, the Internet service port number for `acsd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the file `/usr/opensv/volmgr/database/ports/acsd` with a single line that contains the service port number for `acsd`. The default service port number is 13702.

On Windows systems, the Internet service port number for `acsd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the file `install_path\Volmgr\database\ports\acsd` with a single line that contains the service port number for `acsd`. The default service port number is 13702.

Note: This command applies only to the NetBackup Enterprise Server.

OPTIONS

`-v` This option is used on UNIX and Linux systems only. It logs debug information using `syslogd`. If you start `ltid` with `-v`, `acsd` also starts with `-v`.

ERRORS

On UNIX and Linux systems, `acsd` returns an error message if a copy of `acsd` is in operation. Media Manager logs ACS and network errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN. `acsssi` logs to a log file in the `/usr/opensv/volmgr/debug/acsssi` directory.

On Windows systems, Media Manager logs ACS and network errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

SEE ALSO

See [ltid](#) on page 423.

See [tpconfig](#) on page 609.

See [vmadm](#) on page 661.

add_media_server_on_clients

`add_media_server_on_clients` - add media server on clients

SYNOPSIS

add_media_server_on_clients

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

Run the `add_media_server_on_clients` command from a NetBackup server to synchronize the server list from the server's configuration with the server lists on the known clients.

The `add_media_server_on_clients` command tries to connect to all configured clients (clients that are listed in backup policies).

For each client to which it can connect, `add_media_server_on_clients` updates the client's configuration (if necessary) to include all the servers from the server's configuration.

backupdbtrace

backupdbtrace – trace debug logs of backupdb (image catalog backup) jobs

SYNOPSIS

```
backupdbtrace [-server name] [-job_id number] [-start_time hh:mm:ss]
[-end_time hh:mm:ss] mmdyy [mmdyy ...]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The `backupdbtrace` utility consolidates the debug log messages for the specified backup database jobs and writes them to standard output. It then sorts them by time. `backupdbtrace` tries to compensate for time zone changes and the clock drift between remote servers and clients.

At a minimum, you must enable debug logging for the administrator on the master server and for `bptm` and `bpbkar` on the media server. For best results, set the verbose logging level to 5. Then enable the debug logging for the following in addition to the processes already identified:

- `bpdbm` on the master server
- `bpcd` on all servers

`backupdbtrace` uses the `-job_id` option as the sole criterion for selecting the backupdb job to trace. If `-job_id` is not used, then `backupdbtrace` selects all the backupdb jobs that started on the days that the day stamps (*mmdyy*) specified. Use the `-start_time` and `-end_time` options to examine the debug logs on the specified time interval.

`backupdbtrace` writes error messages to standard error.

OPTIONS

`-server`

Name of the media server where the `backupdb` command is initiated. The default is the local host name.

`-job_id`

Job ID number of the `backupdb` job to analyze. Default is any job ID.

`-start_time`

Earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`

Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddyy`

One or more day stamps. This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) to analyze.

OUTPUT FORMAT

The following is the format of an output line:

`<daystamp>.<millisecs>.<program>.<sequence> <computer> <log_line>`

`daystamp`

The day that the log is generated in *yyyymmdd* format.

`millisecs`

The number of milliseconds since midnight on the local computer.

`program`

The name of the program (for example, BPBKAR) being logged.

`sequence`

Line number within the debug log file.

`computer`

The name of the NetBackup server or client.

`log_line`

The line that appears in the debug log file.

EXAMPLES

Example 1 - This example analyzes the log of a `backupdb` job with job ID 5 run on May 6, 2009.

```
# backupdbtrace -job_id 5 050609
```

Example 2 - This example analyzes the log of all the `backupdb` jobs that were run on August 5, 2009 and August 17, 2009.

```
# backupdbtrace 080507 081709
```

backuptrace

`backuptrace` - consolidate the debug logs for a NetBackup job

SYNOPSIS

```
backuptrace [-master_server name] [-job_id number] [-birth_time  
number] [-policy_name name] [-client_name name] [-start_time hh:mm:ss]  
[-end_time hh:mm:ss] mmddyy [mmddyy...]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `backuptrace` utility consolidates the debug logs for specified NetBackup job or jobs. The debug log messages relevant to the specified backup jobs are written to standard output. Then the messages sort by time. The `backuptrace` utility tries to compensate for time zone changes and the clock drift between remote servers and clients. The output is formatted so that you can more easily sort or group by timestamp, program name, server name, or client name.

At a minimum, you must enable debug logging for the following:

- `nbjm` on the master server
- `bpbrm`, `bptm`, and `bpdm` on the media server
- `bpbkar` on the client

For best results, set the verbose logging level to 5 and enable debug logging for the following in addition to the processes already identified:

- `bpdbm` and `bprd` on the master server
- `bpcd` on all servers and clients

Use the `backuptrace` utility for regular file system, database extension, and alternate backup method backup jobs.

OPTIONS

`-master_server name`

Name of the master server. Default is the local host name.

`-job_id` number
Job ID number of the backup job to analyze.

`-birth_time` number
Birth time (seconds since 1970) of the backup job to analyze.

`-policy_name` name
Policy name of the jobs to analyze.

`-client_name` name
Client name of the jobs to analyze.

`-start_time` hh:mm:ss
Earliest timestamp to start analyzing the logs.

`-end_time` hh:mm:ss
Latest timestamp to finish analyzing the logs.

`mmddyy` [mmddyy]
One or more day stamps. This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) to analyze.

NOTES

Media Manager logs are not analyzed.

EXAMPLES

```
/usr/opensv/netbackup/bin/admincmd/backuptrace -job_id 289  
041105 > /tmp/job.log.289
```

```
C:\Program Files\VERITAS\NetBackup\bin\admincmd\backuptrace  
policy weekly_bkups 051205 >/tmp/jobs.weekly_bkups
```

Use this utility to consolidate logs for all jobs that are started for the policy *weekly_bkups* on the specified date. Use the `-start_time`/`-end_time` arguments to limit the window for which the jobs are to be evaluated.

bmr

bmr - submit requests to the Bare Metal Restore server daemon

SYNOPSIS

```

bmr -operation change -resource { restoretask | discovertask }
[-client clientName] -state numericCode -progress numericCode
bmr -operation complete -resource { restoretask | discovertask }
[-client clientName] -state numericStateCode
bmr -operation create -resource log [-client clientName]
bmr -operation create -resource message [-client clientName] -msg
messageText
bmr -operation pull -resource { info | procedure } [-client
clientName] -source sourceFileName -destination destinationFileName
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

```

DESCRIPTION

The **bmr** client program runs on a Bare Metal Restore (BMR) client and submits requests to the BMR server daemon. The operation and resource are specified as arguments.

When you initiate **bmr** from an external procedure in the repair environment on a restoring client, specify the path to the **bmr** command as follows:

On UNIX and Linux systems, /usr/opensv/netbackup/bin

On Windows systems, %SystemDrive%\BMR\NBU\bin

At the first boot external procedure point, **bmr** is in *install_path*\NetBackup\bin.

OPTIONS

-client *clientName*

Name of the Bare Metal Restore client.

On UNIX and Linux systems, *-client* is optional if `CLIENT_NAME` is defined in /usr/opensv/netbackup/bp.conf on the client system.

`-destination destinationFileName`
On pull operation, the pathname of the file to be created on the local host.

`-msg messageText`
Text message to be added to the log on the server.

`-operation operationName`
An operation to perform:

- change
- complete
- create
- pull

`-progress numericCode`
A numeric progress code that is used internally by Bare Metal Restore.

`-resource resourceName`
A resource on which to perform the operation:

- discovertask
- info
- log
- message
- procedure
- restoretask

`-source sourceFileName`
On pull operation, name of file to retrieve from database.

`-state numericCode`
A numeric state code that is used internally by Bare Metal Restore.

EXAMPLES

Example 1 - Change the status of a discovery task:

```
# bmrc -operation change -resource discovertask -client clientName  
-state numericCode -progress numericCode
```

Example 2 - Change the status of a restore task:

```
# bmrc -operation change -resource restoretask -client clientName  
-state numericCode -progress numericCode
```

Example 3 - Complete a discovery task and set a final status code:

```
# bmcrc -operation complete -resource discovertask -client clientName  
-status numericStatus
```

Example 4 - Complete a restore task and set a final status code:

```
# bmcrc -operation complete -resource restoretask -client clientName  
-status numericStatus
```

Example 5 - Create a log on the server from standard input to this command:

```
# bmcrc -operation create -resource log -client clientName
```

Example 6 - Create a message, which is added to a log on the server:

```
# bmcrc -operation create -resource message -client clientName -msg  
message text
```

Example 7 - Pull a file from the server:

```
# bmcrc -operation pull -resource info -client clientName -source  
sourceFileName -destination destinationFileName
```

Example 8 - Pull an external procedure from the server:

```
# bmcrc -operation pull -resource procedure -client clientName  
-source sourceFileName -destination destinationFileName
```

NOTES

If you use NetBackup Access Management and the user credentials and computer credentials are expired, renew them before you perform prepare-to-restore operations. Use the `bpnbat` command and `-Login` option to renew your user credentials. Use the `bpnbat` command and `-LoginMachine` option to renew the computer credentials.

Specifying `-?` displays the command's usage statement when it is the only option on the command line.

bmrconfig

`bmrconfig` - change configuration settings

SYNOPSIS

bmrconfig [-resource *resourceType* [-platform win | hp | aix | solaris | linux] [-manager ldm | lvm | native | sfw | svm | vxvm] [-operation add | change | clearly | delete | display | list | map]]

bmrconfig -operation verify -client *clientName* -configuration *configName*

bmrconfig -operation initialize -resource disk | network | all -client *clientName* -configuration *configName* -sourceconfiguration *source_configName*

bmrconfig -operation initialize -resource disk | network | all -client *clientName* -configuration *configName* -sourceclient *source_clientName* -sourceconfiguration *source_configName*

bmrconfig -operation add | change | clearly | delete | display | list | map -resource *resourceType* [-name *resourceName*] [-manager ldm | lvm | native | sfw | svm | vxvm] -client *clientName* -configuration *configName* [-attributes "key=value" ["key=value" ...]]

On UNIX and Linux systems, the directory path to this command is `/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is `<install_path>\NetBackup\bin\`

DESCRIPTION

The `bmrconfig` command changes a configuration's system, network, volume, driver, and NetBackup settings. The read-only current configuration and discovered configuration cannot be changed. Use the `bmrs` command to create a copy of a configuration that you can change.

OPTIONS

`-attributes`

Attributes of the resource are specified as name-value pairs. The name is always an alphanumeric string. The value is free form but must be double quoted. To determine the specific set of attributes that apply to a resource, use `bmrconfig -operation list -resource resourceType`.

`-client clientName`
The NetBackup client name.

`-configuration configName`
The configuration to operate on.

`-force`
Forces the removal of a resource and all of its dependent resources.

`-manager`
The volume manager that controls the resource. Volume managers are as follows:

- `ldm` - Windows Logical Disk Manager
- `lvm` - AIX or HP-UX Logical Volume Manager
- `native` - the volume manager native to the operating system
- `sfw` - Veritas Storage Foundation for Windows
- `svm` - Solaris Volume Manager
- `vxvm` - Veritas Volume Manager

`-name resourceName`
The name of the resource to act on. The various volume managers determine the valid characters in a resource name.

`-operation operation_name`
The operation to perform. Operations are as follows:

- `add` - adds a resource to the configuration
- `change` - changes specific attributes of a resource
- `clearly` - removes all resources except disks from a disk group
- `delete` - removes a resource from the configuration
- `display` - prints high-level information about the resource
- `help` - prints the required resources and the optional attributes and values
- `initialize` - initializes a configuration's hardware from a discovered configuration
- `list` - prints all the instances of the specified resource type
- `map` - maps a resource that includes dependent resources, from the original configuration to the working configuration
- `verify` - checks that a config has sufficient data for a restore to succeed

`-resource resourceType`

The type of the resource on which the operation is performed. Resource types are as follows:

`all` - all resources

`accesspath` - a Windows access path

`disk` - a physical storage device

`diskgroup` - a logical grouping of disks

`diskset` - a Solaris Volume Manager disk set

`driveletter` - a Windows drive letter

`esm` - backup client identity

`filesystem` - a file system for UNIX, Linux, and Windows

`gateway` - a network gateway

`host` - a network server

`hotfix` - a Windows hotfix

`hotsparepool` - a set of the slices that are used for SVM failover

`ip` - network identity

`license` - a product license key

`logicaldrive` - a Windows extended partition; first one implicitly adds container

`logicalvolume` - an AIX or HP-UX logical volume

`metadb` - an SVM database replica slice

`mountpoint` - a path that serves as an access point to a volume

`msd` - a mass storage driver

`multidevice` - a Linux multidevice

`native disk` - Solaris Native disk resource

`nativepart` - Solaris Native partition resource

`network` - a sub network

`nic` - a network interface card

`nicpkg` - a network interface card driver

`partition` - Windows primary partition

physical volume - an AIX or HP-UX physical volume

slice - a Solaris slice; equivalent to volume

softpart - an SVM soft partition

volume - a logical division of a disk or a disk group

volumegroup - an AIX or HP-UX volume group

`-sourceconfiguration source_configName`

The configuration that is the source in an initialized configuration operation.

`-sourceclient source_clientName`

The client that serves as the source in an initialized configuration operation. If a source client is not specified, the configuration comes from the list of discovered configurations.

EXAMPLES

EXAMPLE 1

Example 2 - List the physical volumes in a configuration for client aixp31:

```
# bmrconfig -operation list -resource physical volume -configuration  
current -client aixp31
```

Example 3 - Map Native partitions on Solaris:

```
# bmrconfig -op map -re nativepart -name /dev/dsk/clt0d0p1 -client  
client1 -config config1 -attributes disk=/dev/dsk/clt1d0p0  
percent=50 partid=191 active=true
```

Example 4 - List the volume groups in a configuration for client aixp31:

```
# bmrconfig -operation list -resource volume group -configuration  
current -client aixp31
```

Example 5 - Display the attributes of a volume group for client aixp31:

```
# bmrconfig -operation display -resource volume group -configuration  
current -client aixp31 -name rootvg
```

Example 6 - Initialize the new configuration with the discovered hardware for client aixp31:

```
# bmrconfig -operation initialize -resource config -configuration  
mynew -client aixp31 -sourceconfiguration discover
```

Example 7 - Add a volume group to a configuration for client aixp31:

```
# bmrconfig -operation add -configuration mynew -client aixp31  
-resource volume group -name rootvg -attributes physical  
volume=hdisk1
```

Example 8 - Add a disk to a volume group for client aixp31 (requires a full list of physical volumes to be specified):

```
# bmrconfig -operation modify -configuration my new -client aixp31  
-resource volume group -name rootvg -attributes physical  
volume=hdisk1 physical volume=hdisk0
```

Example 9 - Remove a physical volume from a volume group for client aixp31:

```
# bmrconfig -operation modify -configuration my new -client aixp31  
-resource volume group -name rootvg -attributes physical  
volume=hdisk0
```

Example 10 - Map a volume group from the original configuration for client aixp31:

```
# bmrconfig -operation map -configuration my new -client aixp31  
-resource volume group -name rootvg
```

NOTES

If you use NetBackup Access Management, and the user credentials and computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials. Use the `bpnbat -LoginMachine` command to renew the computer credentials.

SEE ALSO

See [bmrs](#) on page 45.

bmrepadm

bmrepadm - manage external procedures

SYNOPSIS

bmrepadm [-data] -list [*pattern*]

bmrepadm [-data] -delete *procedureName*

bmrepadm [-data] -extract *procedureName*

bmrepadm [-data] -add *fileName*

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\

DESCRIPTION

The **bmrepadm** command lists, adds, extracts, or deletes external procedures from the database. The **bmrepadm** command is installed and run on the NetBackup master server that is licensed for BMR.

A procedure name (*procedure Name*) must be in the form *type.os* or *name_type*.
type is one of the following strings:

- prediscover
- preformat
- prerestore
- postrestore
- firstboot

os is one of following strings:

- aix
- hp
- linux
- Sol
- win

name is the name of a Bare Metal Restore client.

OPTIONS

`-add pathName`

Adds the external procedure in *pathName* to the database. The last component of *pathName* must be a valid external *procedure Name*.

`-data`

Manipulates an arbitrary user-supplied data file instead of an external procedure. This option also relaxes all of the naming convention rules for procedure and file name argument values. The names of data files can be anything except a valid external procedure name.

`-delete procedure Name`

Deletes the *procedure Name* external procedure from the database. The *procedure Name* must be a valid external procedure name.

`-extract procedure Name`

Extracts an external procedure from the database and writes it to the current directory. The procedure name must be a valid external *procedure Name*.

`-list [pattern]`

Lists the entries (external procedures or user-supplied data files) in the database. Only the entries that match the *pattern* are listed; if no *pattern* is specified, all entries in the database are listed. The "*" character may be used in the pattern to match any sequence of characters.

NOTES

bmrepadm does not validate client names. That is, you can add an external procedure for a nonexistent client).

If you use NetBackup Access Management and if your user credentials and the computer credentials expire, renew them before you perform prepare-to-restore operations. Use the bpnbat command and -Login option to renew your user credentials. Use the bpnbat command and -LoginMachine option to renew the computer credentials.

Specifying -? displays a synopsis of command usage when it is the only option on the command line.

EXAMPLES

Example 1 - Add a data file:

```
# bmrepadm -data -add nameNotMatchingEPname
```

Example 2 - List the data files:

```
# bmrepadm -data -list
```

Example 3 - Add an external procedure that runs for all Solaris clients after the NetBackup restore phase of restoration:

```
bmrepadm -add <pathname>postrestore.sol
```

Example 4 - Add an external procedure that runs before the disks are formatted on a client that is named zanzibar:

```
bmrepadm -add <pathname>zanzibar_preformat
```

bmrprep

bmrprep – prepare a client for restore or discovery

SYNOPSIS

```
bmrprep -restore -client clientName -config configurationName -srt  
srtName [-policy policyName] [-logging] [-runep] [-systemonly]
```

```
[-import] [-enddate enddate] [-quickformat]
```

```
bmrprep -discover -newconfig configurationName -srt srtName [-client  
clientName -config configurationName] -address clientAddress -default  
defaultGateway -netmask netmask -mac clientMacAddress -server  
nbuServerAddress -console consoleDeviceName -architecture  
architectureName [-gateway serverGateway] [-logging] [-runep]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\

DESCRIPTION

The `bmrprep` command prepares a Bare Metal Restore client for a restore or for a hardware discovery process. This command only runs on the Bare Metal Restore master server.

OPTIONS

-address *clientAddress*

(UNIX and Linux clients only.) IP address of the client, in dotted decimal notation. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

-architecture *architectureName*

(UNIX and Linux clients only.) Architecture of the client to be discovered. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

-client *clientName*

Name of the client to restore.

-config *configurationName*

Name of the configuration to use.

- `-console consoleDeviceName`
(UNIX and Linux clients only.) Name of the console device to use during discovery. Required only for a `-discover` operation; optional if you specify the `-client` and `-config` options or use media boot.
- `-default defaultGateway`
(UNIX and Linux clients only.) Default gateway address, in dotted decimal notation. Required only for a `-discover` operation; optional if you specify the `-client` and `-config` options or use media boot.
- `-discover`
(UNIX and Linux clients only.) Perform a hardware discovery. Cannot be used with `-restore`.
- `-enddate enddate`
Date for point-in-time restores.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.
- `-gateway serverGateway`
(UNIX and Linux clients only.) Gateway to a NetBackup server, in dotted decimal notation. Required only for a `-discover` operation.
- `-import`
Import non-system volume groups.

For more information about how to use this flag, see "Prepare to Restore Client dialog box " in the *Bare Metal Restore Administrator's Guide*.
- `-logging`
Enable logging.
- `-mac clientMacAddress`
(UNIX and Linux clients only.) MAC address of the client. Required only for a `-discover` operation. (Exception: Optional if the IP address is configured during initial program load (IPL)); optional if you specify the `-client` and `-config` options or use media boot.

`-netmask netmask`

(UNIX and Linux clients only.) Netmask of the client, in dotted decimal notation. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

`-newconfig configurationName`

(UNIX and Linux clients only.) Name to be given to the discovered configuration.

`-policy policyName`

Name of the policy to be used.

`-quickformat`

(Windows clients only.) Quickly formats Windows partitions.

`-restore`

Performs a normal restore. Cannot be used with `-discover`.

`-runep`

Runs external procedures.

`-server nbuServerAddress`

(UNIX and Linux clients only.) A NetBackup server address, in dotted decimal notation. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

`-srt srtName`

Name of the shared resource tree to use.

`-systemonly`

Restores system volume groups only.

For more information about how to use this option, see "Prepare to Restore Client dialog box " in the *Bare Metal Restore Administrator's Guide*.

NOTES

If you use NetBackup Access Management and your user credentials and the machine credentials expire, to renew them before you perform prepare-to-restore operations. Use the `bpnbat` command and `-Login` option to renew your user credentials. Use the `bpnbat` command and `-LoginMachine` option to renew the machine credentials.

You can specify `-?` to display a synopsis of command usage when it is the only option on the command line.

bmrs

bmrs - manage resources in the Bare Metal Restore database

SYNOPSIS

```
bmrs -operation delete -resource config -name configName -client  
clientName -resource client -name clientName -resource package -name  
packageName -resource srt -name srtName -resource discovertasklog  
-id idvalue -resource restoretasklog -id idvalue
```

```
bmrs -operation complete -resource discovertask -client clientName  
-status numericStatus -resource restoretask -client clientName -status  
numericStatus
```

```
bmrs -operation verify -resource srt -name srtName [-client  
clientName]
```

```
bmrs -operation copy -resource config -name configName -client  
clientName -destination newConfigName
```

```
bmrs -operation retrieve -resource config -client clientName  
-destination newConfigName [-enddate date] [-epochenddate eEnddate]  
[-policy policyName]
```

```
bmrs -operation import -resource config -path bundlePath [-client  
clientName] [-destination newConfigName]
```

```
bmrs -operation list -resource resourceName
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The **bmrs** command manages resources in the Bare Metal Restore database. The **bmrs** command runs only on the master server.

OPTIONS

`-client clientName`

Name of the Bare Metal Restore client.

`-destination newConfigName`

Name of the destination configuration to create.

`-enddate date`

The date for point-in-time restore configurations. If both `-enddate` and `-epochenddate` are specified, `-epochenddate` takes precedence.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

`-epochenddate eEnddate`

The date for the point-in-time restore configurations. This date is specified in the number of seconds since January 1, 1970. If both `-enddate` and `-epochenddate` are specified, `-epochenddate` takes precedence.

`-id idvalue`

Database record ID of the resource to use for this operation. It is either `discoverTaskLogId` or `restoreTaskLogId`.

`-name value`

Name of the resource to use for this operation: `clientName`, `configName`, `packageName`, or `srtName`.

`-operation operationName`

Possible operations are complete, copy, delete, import, list, retrieve, and verify.

`-path bundlePath`

Pathname to a bundle file that the `bmrsavecfg` command creates.

`-policy policyName`

Name of the policy to be used.

`-resource resourceName`

A resource on which to perform the operation. The allowed resources vary with operation specified. For `-operation list`, the following resources are supported:

```
bootserver
client
config
discovertask
```

```
discovertasklog  
package  
restoretask  
restoretasklog  
srt
```

```
-status numericStatus
```

A numeric completion status code, used internally by Bare Metal Restore.

EXAMPLES

Example 1 - List the configurations in the BMR database:

```
bMrs -operation list -resource config
```

Example 2 - Copy the current configuration (read-only) and create a new configuration (*mynew*) that you can edit for client *aixp31*:

```
bMrs -operation copy -resource config -name current -client aixp31  
-destination mynew
```

Example 3 - Delete configuration *mynew* for client *aixp31*:

```
bMrs -operation delete -resource config -name mynew -client aixp31
```

Example 4 - Verify the integrity of shared resource tree *aixsrt*:

```
bMrs -operation verify -resource srt -name aixsrt
```

NOTES

Specifying `-?` displays a synopsis of command usage when it is the only option on the command line.

If you use NetBackup Access Management and your user credentials and the machine credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat` command and `-Login` option to renew your user credentials. Use the `bpnbat` command and `-LoginMachine` option to renew the machine credentials.

SEE ALSO

See [bmrc](#) on page 31.

bmrstadm

`bmrstadm` - create and manage SRTs and create bootable CD images

SYNOPSIS

`<nbu_dir_path>bmrstadm`

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

On UNIX and Linux systems, the `bmrstadm` command interactively manages shared resource trees.

On Windows systems, the `bmrstadm` command launches the Create Shared Resource Tree wizard.

Use `bmrstadm` on a BMR boot server (UNIX) or the Create Shared Resource Tree wizard on a BMR boot server (Windows) to do the following:

- Create a new shared resource tree.
- Create a bootable CD image that contains a copy of an existing shared resource tree.
- Install additional software into an existing shared resource tree.
- Copy an existing shared resource tree to a new location.
- Delete an existing shared resource tree.
- List available shared resource trees (on UNIX and Linux systems).
- Enable and disable a shared resource tree for exclusive use (on UNIX and Linux systems).

NOTES

On UNIX and Linux systems, if you use NetBackup Access Management and your user credentials and the machine credentials expire, do the following: renew them before you perform prepare-to-restore operations. Use the `bpnbat` command and `-Login` option to renew your user credentials. Use the `bpnbat` command and `-LoginMachine` option to renew the machine credentials.

Specifying `-?` displays a synopsis of command usage when it is the only option on the command line.

bp

bp – start NetBackup menu interface for users

SYNOPSIS

```
/usr/opensv/netbackup/bin/bp [-a | -ra | -b | -r | -rr | -o | -ro |  
-s | -rs | -i | -ri | -k | -rk | -rti | -p | -rp | -2 | -r2]  
[-verbose]  
/usr/opensv/netbackup/bin/bp [ -b | -a | -r | -ra ] [-verbose]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `bp` command starts a menu interface that lets users archive, back up, and restore files, directories, or raw partitions from their client workstations. You can run this interface from any character-based terminal (or terminal emulation window) where you have a `termcap` or a `terminfo` definition.

The `bp` online Help provides detailed operating instructions.

OPTIONS

The startup menu depends on the options that are used with the `bp` command. If you run the `bp` command without specifying an option, the utility starts at the main menu. To start the utility at a secondary menu, specify one of the following options:

- a Starts `bp` in the Archive of Files and Directories menu.
- ra Starts `bp` in the Restore Archives menu.
- b Starts `bp` in the Backup of Files and Directories menu.
- r Starts `bp` in the Restore Backups menu.
- rr Starts `bp` in the Restore Raw Partitions Backups menu.
- o Starts `bp` in the Backup Oracle DB menu.
- ro Starts `bp` in the Restore Oracle DB menu.
- s Starts `bp` in the Backup Sybase DB menu.

- rs
Starts bp in the Restore Sybase DB menu.
 - i Starts bp in the Backup Informix DB menu.
 - ri
Starts bp in the Restore Informix DB menu.
 - rti
Starts bp in the Restore True Image Backups menu.
- Note that the following options apply only to the NetBackup Enterprise Server.
- p Starts bp in the Backup SAP DB menu.
 - rp
Starts bp in the Restore SAP DB menu.
 - 2 Starts bp in the Backup DB2 DB menu.
 - r2
Starts bp in the Restore DB2 DB menu.
 - k Starts bp in the Backup SQL-BackTrack DB menu.
 - rk
Starts bp in the Restore SQL-BackTrack DB menu.
 - verbose
Provides a verbose response.

FILES

```
/usr/opensv/netbackup/help/bp/*  
/usr/opensv/netbackup/logs/bp/*  
/usr/opensv/netbackup/bp.conf
```

SEE ALSO

- See [bparchive](#) on page 53.
- See [bpbackup](#) on page 58.
- See [bprestore](#) on page 319.

bpadm

`bpadm` – start NetBackup menu interface for administrators

SYNOPSIS

```
/usr/opensv/netbackup/bin/bpadm
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `bpadm` utility has a menu interface that administrators can use to configure NetBackup and monitor its operations. `bpadm` requires superuser privileges. Administrators can use this interface from any character-based terminal (or terminal emulation window) where the administrator has a `termcap` or a `terminfo` definition.

See the *NetBackup Administrator's Guide* and the `bpadm` online Help for detailed operating instructions.

FILES

```
/usr/opensv/netbackup/help/bpadm/*  
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/bin/initbprd  
/usr/opensv/netbackup/bp.conf
```

SEE ALSO

See [bprd](#) on page 314.

barchive

barchive - archive files to the NetBackup server

SYNOPSIS

```
barchive [-p policy] [-s schedule] [-L progress_log [-en]] [-S  
master_server [,master_server,...]] [-t policy_type] [-w [hh:mm:ss]]  
[-k "keyword_phrase"] -f listfile | filenames
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

`barchive` processes the files that are listed on the command line or in the file that is specified by the `-f listfile` option. Any file path that is entered can be a file name or a directory name. If the list of files includes a directory, it archives all files and subdirectories of that directory and starts at the directory itself.

By default, you return to the system prompt after `barchive` is successfully submitted. The command works in the background and does not return completion status directly to you. Use the `-w` option to change `barchive` to work in the foreground and to return completion status after a specified time period.

`barchive` writes informative and error messages to a progress-log file if the file is created. Create the file before you run the `barchive` command and specify it with the `-L progress_log` option. If `barchive` cannot archive any of the requested files or directories, use the progress log to determine the reason for the failure.

If you create a directory with write access, `barchive` creates a debug log file in this directory to use for troubleshooting.

On Windows systems, `<nbu_dir_path>` is
`<install_path>\NetBackup\logs\barchive\`

On UNIX and Linux systems, the directory is
`/usr/opensv/netbackup/logs/barchive/`

NetBackup sends mail on the archive completion status to `mail_address` if `USEMAIL = mail_address`. It is entered as follows: non-administrator users specify it on the `$HOME/bp.conf` file; administrators specify it in the `/usr/opensv/netbackup/bp.conf` file. This message is sent when the archive process is complete.

The following restrictions apply to this command:

- On UNIX and Linux systems: To archive a file with `bparchive`, you must be the root or the owner and a member of the primary group (as owner) to delete. Also, the file must not be read only. Otherwise, NetBackup saves the files but cannot reset their access time (`utime`) and does not delete them from the disk.
- On Windows systems, to archive a file with `bparchive`, you must have permission to delete the file and the file must not be read only. Otherwise, NetBackup saves the files but does not delete them from the disk.
- On UNIX and Linux systems: If you specify a UNIX file that is a link, `bparchive` archives only the link itself, not the file to which it links.
- `bparchive` does not archive the "." or ".." directory entries, and does not archive disk-image backups.

OPTIONS

`-p policy`

Names the policy to use for the user archive. If it is not specified, the NetBackup server uses the first policy it finds that includes the client and a user archive schedule.

`-s schedule`

Names the schedule to use for the user archive. If it is not specified, the NetBackup server uses the first user archive schedule it finds in the policy it currently uses. (See the `-p` option.)

`-S master_server`

On UNIX and Linux systems, this option specifies the name of the NetBackup master server. The default is the first `SERVER` entry in the `/usr/opensv/netbackup/bp.conf` file.

On Windows systems, this option specifies the name of the NetBackup master server. The default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-t policy_type`

Specifies one of the following numbers that correspond to the policy type. The default for Windows clients is 13. For Netware clients the default is 10. The default for all others is 0:

0 = Standard

- 4 = Oracle
- 6 = Informix-On-BAR
- 7 = Sybase
- 10 = NetWare
- 13 = MS-Windows
- 14 = OS/2
- 15 = MS-SQL-Server
- 16 = MS-Exchange-Server
- 19 = NDMP

The following policy types apply only to NetBackup Enterprise Server:

- 11 = DataTools-SQL-BackTrack
- 17 = SAP
- 18 = DB2
- 20 = FlashBackup
- 21 = Split-Mirror
- 22 = AFS
- 39 = Enterprise-Vault

`-L progress_log [-en]`

Specifies the name of an existing file in which to write progress information.

On UNIX and Linux systems, the file name must begin with `/`.

For example: `/home/tlc/proglog`.

On Windows systems an example is `c:\proglog`.

The default is to not use a progress log.

Include the `-en` option to generate a progress log that is in English. The name of the log contains the string `_en`. This option is useful to support personnel in a distributed environment where different locales may create logs of various languages.

`-w [hh:mm:ss]`

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opencv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the archive is complete, the command exits with a timeout status. The archive, however, still completes on the server.

If you use `-w` without specifying the wait time or if you specify a value of 0, NetBackup waits indefinitely for the completion status.

`-k keyword_phrase`

Specifies a keyword phrase that NetBackup associates with the image created by this archive operation. You then can restore the image by specifying the keyword phrase with the `-k` option on the `bprestore` command.

The keyword phrase is a textual description of the archive that is a maximum of 128 characters in length. All printable characters are permitted including space (" ") and period (".").

Enclose the phrase in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

`-f listfile`

Specifies a file (*listfile*) that contains a list of files to be archived and can be used instead of the `filenames` option. In *listfile*, place each file path on a separate line.

The required file list format depends on whether the files have spaces, newlines, or returns in the names. To archive the files that do not have spaces or newlines or returns in the names, use the following format:

filepath

The path to the file you want to archive. Some examples on UNIX and Linux systems are: `/home`, `/etc`, and `/var`. Some examples on Windows systems are: `c:\Programs` and `c:\documents\old_memos`

To archive the files that have spaces or newlines or returns in the names, use this format:

filepathlen filepath

filepath is the path to the file you want to archive and *filepathlen* is the number of characters in the file path.

The path to the file you want to archive. Some examples on UNIX and Linux systems are: /home, /etc, and /var. Some examples on Windows systems are: c:\Programs and c:\documents\old_memos

Examples on UNIX and Linux systems are the following:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
```

Examples on Windows systems are the following:

```
11 c:\Programs
8 c:\winnt
22 c:\documents\old memos
```

filenames

Names one or more files to be archived and can be used instead of the `-f` option. Any files that you specify must be listed at the end, after all other options.

EXAMPLES

Example 1 - Archive a single file:

UNIX and Linux systems: `barchive /usr/user1/file1`

Windows systems: `barchive c:\usr\user1\file1`

Example 2 - Archive the files that are listed in a file that is named `archive_list`:

```
barchive -f archive_list
```

Example 3 - Associate keyword phrase "Archive My Home Directory 02/02/10" to the archive of a directory named `kwc` and use a progress log that is named `arch.log`:

UNIX and Linux systems: `barchive -k "Archive My Home Directory 02/02/10" \-L /home/kwc/arch.log /home/kwc`

Windows systems: `barchive -k "Archive My Home Directory 02/02/10" \-L c:\home\kwc c:\home\kwc\arch.log`

bpbackup

`bpbackup` – back up files to the NetBackup server

SYNOPSIS

```
bpbackup -f listfile | filenames [-p policy] [-s schedule] [-S  
master_server...] [-t policy_type] [-L progress_log [-en]] [-w  
[hh:mm:ss]] [-k "keyword_phrase"]
```

```
bpbackup -i [-p policy] [-h hostname] [-s schedule] [-S  
master_server...] [-t policy_type] [-L progress_log [-en]] [-w  
[hh:mm:ss]] [-k "keyword_phrase"]
```

```
bpbackup -dssu DSSUname [-S master_server] [-w [hh:mm:ss]]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `bpbackup` command can start a process on clients and master servers.

On clients:

The `-f` option of `bpbackup` starts a user backup equivalent to what is performed by using the interface on the client. This type of backup can be started from any NetBackup client to back up files from that client.

`bpbackup` processes the files that you list on the command line or in the file that you specify with the `-f listfile` option. A file path can be a file name or a directory name. If the named files include a directory, `bpbackup` backs up all files and subdirectories of that directory; it starts at the directory itself.

Note: In addition to listing individual files or directories, `bpbackup` can also use directives to indicate the files to be backed up. For example: `bpbackup "/Shadow Copy Components/"` or `bpbackup "/System State/"`. Clients can enter the directive in the listfile using the `bpbackup -f <listfile>` option.

On master servers:

The `-i` option of `bpbackup` starts an immediate manual backup of a client. The `bpbackup` option is available only to the administrator on the master server. It is

equivalent to when you start a manual backup from the NetBackup Administration Console. Use the `-h` option to specify the host.

Because progress logs are written only on clients and this form of `bpbbackup` is run from the master server only, the `-L` option is undefined.

The following restrictions apply to this command:

- You must be the owner of the file or an administrator to back up a file with `bpbbackup`.
- You can back up files and the directories that other users own if you have the necessary permissions.
- On UNIX and Linux systems: If you specify a file that is a link, `bpbbackup` backs up only the link itself, not the file to which it links.
- `bpbbackup` does not back up the "." or ".." directory entries.

By default, you return to the system prompt after `bpbbackup` is successfully submitted. The command works in the background and does not return completion status directly to you. The `-w` option lets you change this behavior so the command works in the foreground. It returns completion status after a specified time period.

If you create the file before you run the `bpbbackup` command and then specify the file with the `-L progress_log` option, the following occurs: `bpbbackup` writes informative and error messages to a progress-log file. If `bpbbackup` cannot back up the requested files or directories, use the progress log to determine the reason for the failure.

Note: The `-L` option is not supported for NDMP clients.

If you create the following directory with public-write access, `bpbbackup` creates a debug log file in the directory that you can use for troubleshooting:

On Windows systems: `install_path\NetBackup\logs\bpbbackup\`

On UNIX and Linux systems: `usr/openv/netbackup/logs/bpbbackup/`

NetBackup sends mail on the backup completion status when the backup process is complete to *mail_address* when users specify the following:

- A nonroot user specifies `USEMAIL = mail_address` in the `$HOME/bp.conf` file
- A root user specifies `USEMAIL = mail_address` in the `/usr/openv/netbackup/bp.conf` file

OPTIONS

`-p policy`

Names the policy to use for the backup.

If this option is not specified, NetBackup uses the first policy it finds that includes the client and a user backup schedule.

The `-p` option is required for an immediate-manual backup (`-i` option).

`-i`

Starts an immediate-manual backup. It is equivalent to when you start a manual backup from the NetBackup administrator interface. You must be the administrator on the master server to use the `-i` option.

`-dssu DSSUname`

NetBackup immediately runs the schedule that is associated with the disk staging storage unit. The `-i` option is the implied behavior and is not necessary.

`-h hostname`

Names the client host on which to run the backup. If it is not specified, NetBackup runs the backup on all clients in the policy.

`-s schedule`

Names the schedule to use for the backup. If it is not specified, the NetBackup server uses the first user backup schedule it finds for the client in the policy currently in use.

See the `-p` option.

`-S master_server [,master_server,...]`

On UNIX and Linux systems, `-S` specifies the name(s) of the NetBackup master server(s). The default is the first `SERVER` entry that is found in the `/usr/opensv/netbackup/bp.conf` file.

On Windows systems, `-S` specifies the name(s) of the NetBackup master server(s). The default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-t policy_type`

Specifies one of the following numbers that correspond to the policy type. The default for Windows clients is 13, for Netware clients the default is 10, and the default for all others is 0:

0 = Standard

- 4 = Oracle
- 6 = Informix-On-BAR
- 7 = Sybase
- 8 = MS-SharePoint
- 10 = NetWare
- 13 = MS-Windows
- 14 = OS/2
- 15 = MS-SQL-Server
- 16 = MS-Exchange-Server
- 19 = NDMP

Note that the following policy types apply only to the NetBackup Enterprise Server.

- 11 = DataTools-SQL-BackTrack
- 17 = SAP
- 18 = DB2
- 20 = FlashBackup
- 21 = Split-Mirror
- 22 = AFS
- 39 = Enterprise-Vault

`-L progress_log [-en]`

Specifies the name of a file in which to write progress information. NetBackup creates the file if it does not exist.

On Windows systems, for example: `c:\proglog`

On UNIX and Linux systems, for example: `/home/tlc/proglog`

The default is not to use a progress log.

The `-L` option is not supported for NDMP clients.

Include the `-en` option to generate a progress log that is in English. The name of the log contains the string `_en`. This option is useful to support personnel in a distributed environment where different locales may create logs of various languages.

`-w [hh:mm:ss]`

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the backup is complete, the command exits with a timeout status. The backup, however, still completes on the server.

The `bpbbackup -w` option causes the shell to wait for a return code. The operating system shell can only return one return code. Therefore, if you use `-w` without specifying a wait time or you specify a value of 0, NetBackup waits indefinitely for the completion status.

You can start a manual or an administrative backup using `bpbbackup -i` along with the `-w` function. This type of backup has the potential to start multiple jobs because it is based on policy attributes. If the manual backup starts multiple jobs, the `-w` function still only returns one return code to the shell.

If you use `-i` with `-w` and more than one job begins, NetBackup waits until all jobs complete before it returns a completion status. However, because NetBackup only returns one status code to the shell, the job ID that the status code belongs to is unknown.

If multiple jobs are due to multiple clients and Allow Multiple Data Streams is not selected, use `-h` to restrict the operation to one client. However, if Allow Multiple Data Streams is selected in the policy and the selected client has multiple jobs, the returned status code is again unknown.

`-k keyword_phrase`

Specifies a keyword phrase that NetBackup associates with the image that this backup operation creates. You then can restore the image by specifying the keyword phrase with the `-k` option on the `bprestore` command.

If you use the `-i` option with `-k`, NetBackup establishes an association between the keyword phrase and the backup policy and image.

The keyword phrase is a textual description of the backup that is a maximum of 128 characters in length.

On UNIX and Linux systems, all printable characters are permitted including space (" ") and period ("."). Enclose the phrase in double quotes ("...") or single quotes ('...') to avoid conflict with the UNIX shell.

On Windows systems, all printable characters are permitted including space (" ") and period ("."). Enclose the phrase in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

`-f listfile`

Specifies a file (*listfile*) that contains a list of files to back up. You can use this option instead of the *filenames* option, but you cannot use it with the *-i* option. List each file on a separate line.

The format that is required for the file list depends on whether the files have spaces, newlines, or returns in the names.

To back up the files that do not have spaces, newlines, or returns in the names, use the following format:

filepath

Where *filepath* is the path to the file you want to back up.

On UNIX and Linux systems, examples are `/home`, `/etc`, and `/var`.

On Windows systems, examples are `c:\Programs`, `c:\winnt`, and `c:\documents\old_memos`

To back up the files that have spaces, newlines, or returns in the names, use the following format:

filepathlen filepath

Where *filepath* is the path to the file you want to back up and *filepathlen* is the number of characters in the file path.

Examples on UNIX and Linux systems are the following:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
```

Examples on Windows systems are the following:

```
11 c:\Programs
8 c:\winnt
22 c:\documents\old memos
```

filenames

Names one or more files to back up. You can use this option instead of the `-f` option, but you cannot use it with the `-i` option. You must list any files that you specify at the end, following all other options.

EXAMPLES

Example 1 - Perform a user backup of a single file, enter:

On UNIX and Linux systems: `bpbackup /usr/user1/file1`

On Windows systems: `bpbackup c:\users\user1\file1`

Example 2 - Start a user backup of the files that are listed in a file that is named `backup_list`:

```
bpbackup -f backup_list
```

Example 3 - Start an immediate-manual backup (all on one line) of the client host named `diablo`, in the policy named `cis_co`. The policy type is Standard policy and is in the configuration on the master server named `hoss`.

UNIX and Linux: `bpbackup -p cis_co -i -h diablo -S hoss -t 0`

Windows: `bpbackup -p cis_co -i -h diablo -S hoss -t 0`

Example 4 - On Windows systems: Associate the keyword phrase "Backup My Home Directory 01/01/01" to the user backup of the directory `C:\home\kwc`. (Enter the command on one line.)

```
bpbackup -k "Backup My Home Directory 01/01/01" -L
c:\home\kwc\bkup.log C:\home\kwc
```

On UNIX and Linux systems: The following command associates the keyword phrase "Backup Home Dir 01/01/01" to the user backup of the directory `/home/kwc`. (Enter the command on one line or use the backslash continuation character.)

```
bpbackup -k "Backup Home Dir 01/01/01" -L /home/kwc/bkup.log \
/home/kwc
```

Example 5 - Associate the keyword phrase "Policy Win 01/01/01" to the immediate-manual backup of the client host named slater in the policy named win_nt_policy. (Enter the command all on one line.)

UNIX and Linux: bpbackup -k "Policy Win 01/01/01" -i -h slater \-p win_nt_policy -t 13

Windows: bpbackup -k "Policy Win 01/01/01" -i -h slater -p win_nt_policy -t 13

FILES

UNIX and Linux systems: \$HOME/bp.conf

/usr/opensv/netbackup/logs/bpbackup/log.mmdyy

Windows systems: <install_path>\NetBackup\logs\bpbackup*.log

SEE ALSO

See [bp](#) on page 50.

See [bparchive](#) on page 53.

See [bplist](#) on page 200.

See [bprestore](#) on page 319.

bpbackupdb

`bpbackupdb` – initiate a hot catalog backup

SYNOPSIS

bpbackupdb -p *policy_name* -s *sched_label*

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bpbackupdb` initiates a hot catalog backup using the specified policy and schedule.

The *NetBackup Administrator's Guide* provides additional information on how to back up NetBackup catalogs. The NetBackup utility `bprecover` recovers the catalogs that `bpbackupdb` has backed up.

The *NetBackup Troubleshooting Guide* provides information on how to restore the NetBackup catalogs if a disaster recovery is required.

OPTIONS

-p *policy_name* -s *sched_label*

The `-p` and `-s` options launch a policy-based, hot catalog backup.

bpcatarc

bpcatarc – back up the NetBackup catalog

SYNOPSIS

bpcatarc [-version] [-remove_dotf]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

bpcatarc processes the output of `bpcatlist` to back up the selected catalog image `.f` files and update their image file's `catarc` field with this backup job ID.

OPTIONS

-version

Displays the `bpcatarc` version and exit.

-remove_dotf

Removes the `.f` files for an archived image immediately so that you do not need to run `bpcatrm`.

SEE ALSO

See [bpcatlist](#) on page 68.

See [bpcatres](#) on page 71.

See [bpcatrm](#) on page 72.

bpcatlist

bpcatlist - list selected parts of NetBackup catalog

SYNOPSIS

```
bpcatlist [-server server_name] [-client client_name] [-since [ctime | [-since-days nnn | -since-weeks nnn | -since-months nnn | -before-days nnn | -before-weeks nnn | -before-months nnn]] [-before [ctime | [-since-days nnn | -since-weeks nnn | -since-months nnn | -before-days nnn | -before-weeks nnn | -before-months nnn]] [-date ctime] [-policy policy_name] [-sched sched_name] [-id backup_id] [-catarc catarc_id] [-version] [-online | -offline]
```

On UNIX and Linux systems, the directory path to this command is `/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is `<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

bpcatlist is the starting point for all catalog archiving operations. Use bpcatlist to select the specific parts of the NetBackup catalog with which you want to work. All files-file (image .f files), the largest files in a NetBackup catalog, that are selected for bpcatarc, bpcatres, or bpcatrm, are first selected with bpcatlist. The output of bpcatlist is piped to the action you want to perform.

OPTIONS

`-server server_name`

Indicates the name of the NetBackup server. Default: *server_name* is the first server name listed in the `bp.conf` file.

`-client client_name`

Creates a list of backup images for *client_name*. Default: *client_name* is CLIENT_NAME in `bp.conf` or the current host name.

To select all clients, use `-client all`.

`-since [ctime | [-since-days nnn | -since-weeks nnn | -since-months nnn | -before-days nnn | -before-weeks nnn | -before-months nnn]]`

Lists backup images since the specified time that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2009`).

If no year is specified, `bpcatlist` uses the current year by default.

The following command lists all images after December 31, 2009:

```
bpcatlist -since 2009
```

Additional examples are found in the Examples section.

```
-before [ctime | [-since-days nnn | -since-weeks nnn | -since-months  
nnn | -before-days nnn | -before-weeks nnn | -before-months nnn]]
```

Lists backup images before the specified time that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2009`). If no year is specified, `bpcatlist` uses the current year by default.

```
-date ctime
```

Lists of backup images for the specified date that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2009`). If no date is specified, `bpcatlist` uses the current date by default.

Additional examples are found in the Examples section.

```
-catarc catarc_id
```

Lists the files-file that were archived with the specified *catarc_id*. For example:

```
-catarc 1022754972
```

```
-policy policy_name
```

Lists the backups that the indicated *policy_name* for the specified client creates.

```
-sched sched_name
```

Lists the backups that are created following *schedule_name* for the specified client.

```
-id backup_id
```

Creates a list for the specified *backup_id*.

```
-online
```

Lists only files-file that are online.

```
-offline
```

Lists only files-file that are offline.

```
-version
```

Displays the `bpcatlist` version and exit.

EXAMPLES

Displayed dates must be specified in ctime (for example, `Fri Sep 13 00:00:00 2007`) date format. Displayed dates may be cut and specified without modification.

To list a backup for a specific date and time, specify:

```
# bpcatlist -date Mon Sep 17 14:16:28 2010
```

(When no year is specified, the current year is used by default.)

To list all backups between two dates of the current year, specify the following:

```
# bpcatlist -before Mon Sep 10 00:00:00 2010 -since Fri Oct  
4 00:00:00 2010
```

To list the backups that are two to three months old, specify the following:

```
# bpcatlist -before-months 2 -since-months 3
```

`-since` and `-before` use the following equivalent values:

```
-since-days nnn  
-since-weeks nnn  
-since-months nnn  
-before-days nnn  
-before-weeks nnn  
-before-months nnn
```

For example, the setting `-since-days 14` is equivalent to `-since-weeks 2`.

SEE ALSO

See [bpcatarc](#) on page 67.

See [bpcatres](#) on page 71.

See [bpcatrm](#) on page 72.

bpcatres

`bpcatres - restore NetBackup catalog`

SYNOPSIS

bpcatres [-version]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bpcatres` processes the output of `bpcatlist` to restore the selected catalog image `.f` files.

OPTIONS

`-version`

Displays the `bpcatres` version and exits.

SEE ALSO

See [bpcatarc](#) on page 67.

See [bpcatlist](#) on page 68.

See [bpcatrm](#) on page 72.

bpcatrm

`bpcatrm` - delete NetBackup catalog

SYNOPSIS

bpcatrm [-version]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bpcatrm` processes the output of `bpcatlist` or `bpcatarc` to delete the selected catalog image .f files that have a valid `catarc` ID in their image file.

OPTIONS

`-version`

Displays the `bpcatrm` version and exits.

SEE ALSO

See [bpcatarc](#) on page 67.

See [bpcatlist](#) on page 68.

See [bpcatres](#) on page 71.

bpcd

bpcd – NetBackup client daemon. Enables the NetBackup clients and servers to accept requests from NetBackup servers.

SYNOPSIS

```
<nbu_dir_path>bpcd [-standalone] [-debug] [-portnum number] [-keyfile]
[-restrict_if host_or_ip]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\
```

DESCRIPTION

On Windows systems, **bpcd** is a communications daemon that the NetBackup Client Service **bpinetd** activates. Typically, on UNIX systems **inetd** activates **bpcd**.

The **bpcd** daemon accepts requests from NetBackup servers. Requests include the following:

- Initiate backup and restore jobs
- Get NetBackup configuration parameters
- Set NetBackup configuration parameters

When you install NetBackup on a client, the installation process typically adds entries for **bpcd** to the following:

- UNIX or Linux client: `/etc/services` and `/etc/inetd.conf`
- Windows client: `%SystemRoot%\system32\drivers\etc\services`

The `services` entry looks like the following:

```
bpcd 13782/tcp bpcd
```

The `inetd.conf` entry on UNIX and Linux systems looks like the following:

```
bpcd stream tcp nowait root /usr/opensv/netbackup/bin/bpcd bpcd
```

OPTIONS

The following options are available only on UNIX and Linux clients and imply that the `-standalone` option is active.

`-standalone`

Instructs `bpcd` to run continuously rather than `inetd` start it.

`-debug`

Prevents `bpcd` from forking and does not disconnect it from standard input, output, and error.

`-portnum number`

Specifies the port number where `bpcd` listens for requests. The default is the `bpcd` entry in: `/etc/services`.

`-restrict_if host_or_ip`

Specifies the local network interface that `bpcd` accepts connections from. Default is to accept connections from all local network interfaces. You can specify either a host name or an IP address.

`-keyfile`

When `-keyfile` is specified, you are prompted for the NetBackup pass phrase that lets `bpcd` access the NetBackup encryption key file.

See the section "Additional key file security (UNIX clients only)" in the *NetBackup Security and Encryption Administrator's Guide* for more information.

SEE ALSO

See [bpclient](#) on page 79.

See [bpkeyfile](#) on page 193.

bpchangeprimary

`bpchangeprimary` – promote a copy of a backup to be the primary copy

SYNOPSIS

```
bpchangeprimary -copy number | -pool volume_pool | -group volume_group  
[-id backup_id] [-M master_server]
```

```
bpchangeprimary -copy number | -pool volume_pool | -group volume_group  
[-sl schedule_name] [-pn policy_name] [-st schedule_type] [-pt  
policy_type] [-cl client_name] [-kw keyword] [-sd date time] [-ed  
date time] [-M master_server]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/openv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpchangeprimary` command lets you change which copy is the primary copy for a set of backup images. You can choose the copy to be promoted to primary by specifying a copy number, volume pool, or volume group. You can apply several optional criteria to identify the backup images to be affected.

The primary copy of a backup is the copy used by a restore process. Ensure that the primary copy is accessible for restore. For instance, if one copy of a backup was sent off site, change the primary copy to be the copy that remains on site.

The `bpchangeprimary` command finds all backups that match the specified criteria and updates their copy number to primary.

If you use the `-copy` option, the specified copy number becomes the primary copy. If you use the `-group` or `-pool` option, the process identifies all media IDs that belong to the specified volume group or volume pool. It then changes all copies that reside on those media to primary.

OPTIONS

One and only one of the following three options is required:

`-copy number`

Specifies that the number of the backup copy you want to promote to primary.

`-pool volume_pool`

Specifies that the copy on the media that belongs to *volume_pool* is to be promoted to primary.

`-group volume_group`

Specifies that the copy on the media that belongs to *volume_group* is to be promoted to primary.

You can apply combinations of one or more of the following optional criteria to specify which copies are made primary.

`-cl client_name`

Specifies that backups of *client_name* are affected. This name must be as it appears in the NetBackup catalog. For those backup images, this option promotes the copy that corresponds to the specified `-pool`, `-group`, or `-copy` option to primary. The default is all clients.

`-sd date time, -ed date time`

Specifies the start date (`-sd`) or end date (`-ed`) of the backup images for which the primary copy is changed.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain data such as the date-time formats for each supported locale. The files contain instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The default start date is January 1, 1970, which effectively causes a search for all images. If you run `bpchangeprimary` without using the `-sd` option, the following occurs: You are prompted for a confirmation that you want to change the primary copy for the backups that were created after January 1, 1970. The default end date is the current date. The valid range of dates is from 01/01/1970 to 01/19/2038.

`-id backup_id`

Specifies the backup ID of the backup image for which the primary copy is changed. For that backup image, `-id backup_id` changes the copy that corresponds to the specified `-pool`, `-group`, or `-copy` option.

If you specify this option, you can specify an alternate master server (by using the `-M` option). You must specify one of `-pool`, `-group`, or `-copy`. No other options are used with `-id`.

`-kw keyword`

Specifies a keyword phrase for NetBackup to use when you identify backup images for which the primary copy is changed.

`-M master_server`

Specifies that the backups that belong to *master_server* are affected. For those backup images, `-M master_server` promotes the copy that corresponds to the specified `-pool`, `-group`, or `-copy` option to primary.

If you use this option, any other options you specify determine which backup images on the specified master server are affected. The server must allow access by the system that issues the `bpchangeprimary` command. The default is the master server for the system that runs the `bpchangeprimary` command.

`-pn policy_name`

Specifies the name of the backup policy of the backups for which the primary copy is changed. The default is all policies.

`-pt policy_type`

Specifies the type of the backup policies of the backups for which the primary copy is changed. The default is all policy types.

The *policy_type* is one of the following character strings:

Informix-On-BAR

MS-Exchange-Server

MS-SQL-Server

MS-Windows

NetWare

Oracle

OS/2

Standard

Sybase

NDMP

The following policy types apply only to NetBackup Enterprise Server:

AFS

Auspex-FastBackup

DataTools-SQL-BackTrack

DB2

Enterprise-Vault

FlashBackup

SAP

Split-Mirror

`-sl schedule_name`

Specifies the *schedule name* (label) for the selection of the backup images for which the primary copy is changed. By default, the `bpchangeprimary` command uses all schedules.

`-st schedule_type`

Specifies the schedule type for the selection of the backup images for which the primary copy is changed. By default, `bpchangeprimary` uses any schedule type. Valid values are as follows:

FULL (full backup)

INCR (differential-incremental backup)

CINC (cumulative-incremental backup)

UBAK (user backup)

UARC (user archive)

NOT_ARCHIVE (all backups except user archive)

EXAMPLES

Example 1 - The following command promotes all copies on the media that belongs to the volume pool `SUN` created after `08/01/2009` to be the primary copy.

```
bpchangeprimary -pool SUN -sd 08/01/2009
```

Example 2 - The following command promotes copy 2 of all backups of client, `oak`, created after `01/01/2010` to be the primary copy:

```
bpchangeprimary -copy 2 -cl oak -sd 01/01/2010
```

Example 3 - The following command promotes copy 4 of all backups that the backup policy `Offsite` created after `08/01/2009` to be the primary copy:

```
bpchangeprimary -copy 4 -pn Offsite -sd 08/01/2009
```

bpclient

bpclient - manage client entries on a master server

SYNOPSIS

```

bpclient -All [-M master_server] [-l | -L | -H]
bpclient -client client_name [-M master_server] [-l | -L | -H]
bpclient -client client_name [-M master_server] -add | -update
[-dynamic_address 0|1] [-free_browse 0|1|2] [-list_restore 0|1|2|3]
[-max_jobs [1-99] [-current_host host_name] [[-online] | [-offline
[[-ut] -onlineat time]]] [-WOFB_enabled 0|1] [-WOFB_FIM 0|1]
[-WOFB_usage 0|1] [-WOFB_error 0|1] [-connect_options 0|1|2 0|1|2
0|1|2|3] [-granular_proxy granular_proxy_host] [-client_direct 0|1|2]
bpclient -client client_name [-M master_server] -delete

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The `bpclient` command describes how a NetBackup server connects to NetBackup clients.

OPTIONS

-add

Adds a new client entry.

-All

Lists all client entries. Only the client entries appear that are added explicitly by using the `bpclient` command.

-client *client_name*

Specifies the name of the client to list or update.

-client_direct 0|1|2

Client Direct improves backup and restore performance by using the OpenStorage storage server instead of the media server to transfer data to the client. The `-client_direct` option setting determines if and when the client uses this feature. The following settings are possible:

0 = Never use Client Direct. Never use Client Direct as the data transfer method on the specified host. Always use the normal data transfer method. This setting is the default condition.

1 = Prefer to use Client Direct. Probes for the Client Direct capabilities on the storage server that is identified during the backup. If the probe passes, NetBackup uses the Client Direct data transfer method on the specified client. If the probe fails, it uses the normal data transfer method.

2 = Always use Client Direct. Tries to use only the Client Direct method with the specified client. If this method fails for any reason, the job fails. No other transfer method is tried.

`-connect_options 0|1|2 0|1|2 0|1|2|3`

First set of arguments, Ports, represents the following:

0 = Reserved Port: Use a reserved port number.

1 = Non-reserved Port: Connect to the client's `bpcd` by using a non-reserved port number. If you select this option, enable Allow Nonreserved Ports for the selected client.

2 = Use Default: Use Default is the default. Use the value that the `DEFAULT_CONNECT_OPTIONS` configuration entry on the server defines.

The second set of arguments, BPCD Connect Back, represents the following:

0 = Random Port: NetBackup randomly chooses a free port in the allowed range to perform the traditional connect-back method.

1 = VNETD port: This method requires no connect-back. The Veritas Network Daemon (`vnetd`) was designed to enhance firewall efficiency with NetBackup during server-to-server and server-to-client communications.

2 = Use Default: The default option. Use the value that the `DEFAULT_CONNECT_OPTIONS` configuration entry on the server defines.

The third set of arguments (Daemon Connection Port) represents the following:

0 = Automatic: This option means that VNETD is used if possible; otherwise Legacy is used.

1 = Use the VNETD port.

2 = Use the Legacy port number.

3 = Use Default: The default option. Use the value that the `DEFAULT_CONNECT_OPTIONS` configuration entry on the server defines.

Note: If the `vnetd` Daemon Connection Port is used, the BPCD Connect Back setting is not applicable. If the `vnetd` Daemon Connection Port is used, non-reserved ports are always used regardless of the value of the Ports setting.

`-current_hostname host_name`

The current host name of the client. This option is meaningful only when the option `-dynamic_address 1` is used. Usually, you do not have to enter a `-current_hostname` value. The client normally contacts the master server to set the host name and the IP address.

`-delete`

Deletes an existing client entry.

`-dynamic_address 0|1`

0 = The client name is assumed to be a valid host name for the client (default).

1 = The client is assumed to have a dynamic host name (such as DHCP).

`-free_browse 0|1|2`

A method that allows users to get around the checking that the server does when it browses images (owner or group). By default, normal users are not allowed to browse into scheduled backups on Windows.

0 = Allow

1 = Deny

2 = Use

By default, both the client and the server should be set up to 0 (allow). To browse freely, either the client or the server must be set up to 2 (use). Neither can be set up for 1 (deny).

`-H`

Lists host-specific client information.

`[-online] | [-offline [[-ut] -onlineat time]]`

Sets the client state to online or offline.

■ `-ut` specifies the time in UNIX time.

■ `-onlineat` sets the client state to online at the time specified.

`-l`

Lists the limited client information.

`-L`

Lists all client information in a VERBOSE format.

`-M master_server`

Name of the master server that contains the client entries. The first server name in the local configuration is the default master server.

`-list_restore 0|1|2|3`

Sets up on the server to disallow list and restore requests from a particular client. The value in the client database overrides the `bp.conf` file setting.

0 = Not specified (default)

1 = Allow both list and restore requests

2 = Allow list requests only

3 = Deny both list and restore requests

`-max_jobs [1-99]`

The maximum number of jobs up to 99 that are allowed to run concurrently on this client. You can configure this item in the NetBackup Administration Console. It is labeled "Maximum data streams." To perform this function by using this GUI, select the following: **Host Properties > Master Servers > (double-click the master server name) > Client Attributes.**

`-update`

Updates an existing client entry.

`-WOFB_enabled 0|1`

0 = disables Windows Open File Backup for the client that is specified in *client_name*.

1 = enables Windows Open File Backup for the client that is specified in *client_name*.

`-WOFB_FIM 0|1`

0 = Use Volume Snapshot Provider (VSP) as the snapshot provider for the Windows Open File Backups. VSP is supported only on the clients that use NetBackup Release 6.x. Clients that use NetBackup Release 7.x only use VSS. If you run a Release 7.x client and select VSP with this option, NetBackup automatically runs VSS instead.

1 = Use Microsoft's Volume Shadow Service (VSS) as the snapshot provider for Windows Open File Backups.

`-WOFB_usage 0|1`

0 = Individual Drive Snapshot. Specifies that the snapshot be of an individual drive. When this property is enabled, snapshot creation and file backup are done sequentially on a per volume basis.

1 = Global Drive Snapshot. Specifies that the snapshot is of a global drive. The snapshots are taken at one time for all the volumes that require snapshots for the backup job (or stream group for multistreamed backups).

`-WOFB_error 0|1`

0 = Abort Backup on Error. Specifies that a backup aborts if it fails for a snapshot-related issue in the following situation: After the snapshot is created and while the backup uses the snapshot to back up open or active files on the file system.

1 = Disable Snapshot and Continue. Specifies that if the snapshot becomes invalid during a backup, the volume snapshots for the backup are destroyed. The backup continues with Windows Open File Backups disabled.

EXAMPLES

Example 1 - The following command determines if the client `hagar` is in the client database on the master server:

```
bpclient -client hagar -L
```

Example 2 - The following command adds `casper` to the client database on the master server. It also allows a maximum of five concurrent jobs to be run on `casper`.

```
bpclient -client casper -add -max_jobs 5
```

Example 3 - The following command lists all client information verbosely for client `ollie`.

```
# bpclient -client ollie -L
Client Name: ollie
Current Host:
    Hostname: ollie
    IP Address: 0.0.0.0
Dynamic Address: no
Free Browse: Allow
List Restore: Not Specified
Max Jobs This Client: Not Specified
WOFB Enabled: yes
WOFB FIM: VSP
WOFB Usage: Individual Drive Snapshot
WOFB Error Control: Abort on Error
Client Direct: Prefer to use client-side deduplication or
                Prefer to move data direct to storage
```

```
Client Direct Restore: Move data via media server
OST Proxy:           Off
OST Proxy Server:    Unspecified
Connect options:     2 2 3
```

bpclimagelist

bpclimagelist - produce status report on client NetBackup images or removable media

SYNOPSIS

```
bpclimagelist [-U | -Likelydate] [-Listseconds] [-client client_name]  
[-server server_name] [-BE] [-t FULL | INCR | CINC | UBAK | UARC |  
ANY | NOT_ARCHIVE] [-policy policy_name] [-keyword keyword_phrase]  
[-ct client_type] [-s mm/dd/yyyy HH:MM:SS] [-e mm/dd/yyyy HH:MM:SS]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

The **bpclimagelist** command generates status reports on client NetBackup images or removable media.

OPTIONS

-BE

Displays only the images that were backed up by Backup Exec.

-client *client_name*

Specifies the client on which a status report is to be generated.

-ct *client_type*

Displays only the images that are backed up for a specified client type. The *client_type* is specified as an integer. Valid values are the following:

0 - standard (typical for UNIX file system backups)

4 - Oracle DB

6 - Informix DB

7 - Sybase DB

8 - Sharepoint

10 - Netware

13 - Windows (typical for Windows file system backups)

15 - SQL Server

16 - Exchange

17 - SAP

18 - DB2

19 - NDMP

20 - Flash Backup

21 - Split Mirror

30 - Vault

34 - Disk Staging

35 - NetBackup Catalog

39 - Enterprise Vault

`-e mm/dd/yyyy HH:MM:SS`

Specifies the name of the client to list or update.

`-keyword keyword_phrase`

Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the one that was previously associated with the image.

`-Likelydate`

Searches for a useful timestamp that marks the start of backup images to use for a restore. Usually, this timestamp is the time of the last full backup image. With no other arguments, this option returns the decimal number of seconds since January 1, 1970. You can get more detailed and friendly information by also specifying `-L`.

`-Listseconds`

Specifies that the timestamp is shown in seconds granularity.

`-policy policy_name`

Reports on the backup images that use the specified policy. The default is any policy.

`-s mm/dd/yyyy HH:MM:SS, -e mm/dd/yyyy HH:MM:SS`

Specifies the start date (`-s`) and end date (`-e`) for the listing.

The `-s` option specifies a start date and time for the listing. The resulting list shows only files in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux)

and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the current date minus six months.

The `-e` option specifies an end date and time for the listing. The resulting list shows only files from the backups or the archives that occurred at or before the specified date and time. Use the same format for start date and time. The default is the current date and time.

`-server server_name`

Indicates the name of the NetBackup server. The default value is the first server name listed in the `bp.conf` file.

`-t`

Specifies a schedule type for the image selection. The default is any schedule type. Valid values, in either uppercase or lowercase, are as follows:

- FULL (full backup)
- INCR (differential-incremental backup)
- CINC (cumulative-incremental backup)
- UBAK (user backup)
- UARC (user archive)
- ANY
- NOT_ARCHIVE (all backups except user archive)

`-U`

User display format.

bpcIntcmd

bpcIntcmd – test functionality of a NetBackup system and enable Fibre Transport services on a NetBackup client

SYNOPSIS

```
<nbu_dir_path>bpcIntcmd [-sv] [-pn] [-self] [-hn hostname] [-server  
NBU_master] [-ip ip_address] [-gethostname] [-is_local_host hostname]  
[-is_server hostname] [-is_media_server hostname] [-is_master_server  
hostname] [-is_emm_server hostname] [-get_local_client_patch_version]  
[-get_local_server_patch_version] [-check_vxss] [-check_vxss_with_host  
hostname] [-get_pbx_port hostname] [-get_remote_host_version hostname]  
[-reverse_name_lookup [allowed | restricted | prohibited] [-sanclient  
[0 | 1]]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The **bpcIntcmd** command tests the functionality of a NetBackup system and displays information about it. It also enables and disables the Fibre Transport services on a NetBackup client.

OPTIONS

`-check_vxss`

Checks if NBAC is configured correctly on the local system.

`-check_vxss_with_host hostname`

Checks if NBAC is configured correctly on the local system to connect to the remote host, *hostname*.

`-clear_host_cache`

NetBackup caches host name/IP address mappings to minimize DNS lookups. Each NetBackup process typically has its own in-memory cache and all the processes also share a cache stored on the file system. This option removes all the entries in the shared cache on the file system.

If host names/IP addresses have recently been updated on DNS or other host lookup services, the NetBackup caches may be out of sync for up to an hour.

To ensure that NetBackup is in sync with host name changes, you can do the following: Stop NetBackup, run `bpcIntcmd -clear_host_cache`, then restart NetBackup.

- `-gethostname`
Returns the host name that NetBackup uses on the local system.
- `-get_local_client_patch_version`
Returns the version of the local client patch software.
- `-get_local_server_patch_version`
Returns the version of the local server patch software.
- `-get_pbx_port hostname`
Displays the number that *hostname* considers the PBX port number. If *hostname* is not specified, the option displays the number that the local host considers the PBX port number.
- `-get_remote_host_version hostname`
Returns the version of NetBackup that is running on the system that is identified in the *hostname* variable.
- `-hn hostname`
Returns the host name, alias, and IP address information about the host name that is identified in the *hostname* variable.
- `-ip ip_address`
Returns the host name, alias, and IP address information about IP address, *ip_address*.
- `-is_emm_server hostname`
Checks if *hostname* is operating as the EMM server on the local system.
- `-is_local_host hostname`
Checks if *hostname* is a network interface on the local system.
- `-is_master_server hostname`
Checks if *hostname* is the master server on the local system.
- `-is_media_server hostname`
Checks if *hostname* is a media server on the local system.
- `-is_server hostname`
Checks if *hostname* is a master server or a media server on the local system.
- `-pn`
Returns what the master server considers your host name (or peer name) to be.

`-sanclient [0 | 1]`

0 - Disables the client Fibre Transport (FT) service. The command returns a NetBackup SAN client to normal client functionality.

1 - Enables the client FT service, which effectively makes a regular NetBackup client a SAN client.

`-reverse_name_lookup [allowed | restricted | prohibited]`

Determines if NetBackup can use the reverse name lookup of the host name-IP. Use of this function can be allowed, prohibited, or restricted.

`-self`

Returns the information about the local system.

`-server NBU_master`

Returns the host name information of the NetBackup master server.

`-sv`

Returns the NetBackup version of the master server.

SEE ALSO

See [bpnbat](#) on page 227.

bpclusterutil

bpclusterutil - Modify and configure NetBackup in a cluster.

SYNOPSIS

```

<nbu_dir_path>bpclusterutil [-addnode NodeName] [-addSvc ServiceName]
[-c] [-ci] [-delete] [-deleteSvc ServiceName] [-depend ServiceName
DependServiceName] [-disableSvc ServiceName] [-display] [-enableSvc
ServiceName] [-freeze] [-isactive] [-iscluster] [-offline] [-online]
[-np] [-s [NBU | OC]] [-startagent] [-stopagent] [-unfreeze] [-vname]
<nbu_dir_path>bpclusterutil -r CLUSTEREDSERVICES servicename |
CLUSTERGROUPNAME | CLUSTERNAME clustername | CLUSTERTYPE [MSCS|VCS]
| GLOBDBHOST nodename | MONITOREDSEVICES servicename |
NETBACKUPINSTALLPATH path | NETBACKUPSHAREDDRIVE drive: |
NETBACKUPTYPE [MASTER|MEDIA] | NETWORKSELECTION network name |
NODENAMES nodename | VIRTUALIPADDRESS ip address | VIRTUALSERVERNAME
virtual name | VIRTUALSUBNETMASK subnet mask
<nbu_dir_path>bpclusterutil -rm CLUSTEREDSERVICES servicename |
MONITOREDSEVICES servicename

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

This command modifies and configures NetBackup in a cluster. It is available on NetBackup master and media servers.

On Windows, this command sets up the registry entries that are used for cluster configuration and then to configure the cluster. This command only modifies registry entries on the local node.

OPTIONS

-addnode *NodeName*

Adds a node name to the possible owners list of all the resources in the NetBackup group. This option is available on Windows systems only.

-addSvc "*Service Name*"

Adds a NetBackup service to the NetBackup cluster group.

- `-c`
Configures NetBackup in a cluster as based on the values that you specified in the registry and brings the NetBackup group online.
- `-ci`
Configures NetBackup in a cluster as based on the values that you specified in the registry and does not bring the NetBackup group online.
- `-delete`
Deletes the registry entries that are used to configure NetBackup in a cluster.
- `-depend "ServiceName" DependServiceName`
Sets the cluster resource for *Service Name* to have a dependency on *DependServiceName*. This option is available on Windows systems only.
- `-deleteSvc "ServiceName"`
Deletes an existing NetBackup service from the NetBackup cluster group. Ensure that *ServiceName* is provided within double quotes. For example, "NetBackup Key Management Service" for the key management service.
- `-disableSvc "ServiceName"`
Disables monitoring of a NetBackup service by the cluster.
- `-display`
Displays the registry entries that are used for cluster configuration. This option is available on Windows systems only.
- `-enableSvc "ServiceName"`
Enables the cluster to monitor a NetBackup service you added to the NetBackup cluster group.
- `-freeze`
Freezes the NetBackup cluster group. This option is available on UNIX and Linux systems only.
- `-isactive`
Displays the state of the NetBackup cluster group on the node. A return code of 1 indicates that the node is the active node. A return code of 0 indicates that the node is an inactive node.
- `-iscluster`
Displays the cluster status of NetBackup.
- `-np`
Places the operation in silent mode (no print).
- `-offline`
Issues the offline command to the NetBackup group in the cluster.

-online

Issues the online command to the NetBackup group in the cluster.

-r

Sets the corresponding NetBackup cluster configuration registry entry to the specified value. This option is available on Windows systems only.

CLUSTEREDSERVICES *servicename*

Adds *servicename* to the CLUSTEREDSERVICES registry entry. Only one service name can be entered at a time; run the command multiple times to add service names. The service name should match the service name property of the service.

CLUSTERGROUPNAME, CLUSTERNAME *clustername*, CLUSTERTYPE MSCS|VCS,
GLOBDBHOST *nodename*, MONITORED SERVICES *servicename*

Adds *servicename* to the MONITORED SERVICES registry entry. Only one service name can be entered at a time; run the command multiple times to add service names. The service name should match the service name property of the service.

NETBACKUPINSTALLPATH *path*, NETBACKUPSHAREDDRIVE *drive:*, NETBACKUPTYPE
MASTER|MEDIA, NETWORKSELECTION *network name*, NODENAMES *nodename*

If NODENAMES is specified, only one node name can be entered. Run the command multiple times to add node names.

VIRTUALIPADDRESS *ip address*, VIRTUALSERVERNAME *virtual name*,
VIRTUALSUBNETMASK *subnet mask*, -rm

Removes a value from the corresponding NetBackup cluster configuration registry entry.

CLUSTEREDSERVICES *servicename*

Removes *servicename* from the CLUSTEREDSERVICES registry entry. Only one service name can be entered at a time; run the command multiple times to remove service names. The service name should match the service name property of the service.

MONITORED SERVICES *servicename*

Removes *servicename* from the MONITORED SERVICES registry entry. Only one service name can be entered at a time; run the command multiple times to remove service names. The service name should match the service name property of the service.

-s [NBU | OC]

Selects the clustered server type. The possible values are NBU (NetBackup) and OC (OpsCenter).

`-sharedpath`

Displays the shared path of the clustered server.

`-startagent`

Starts the NetBackup VCS agent.

`-stopagent`

Stops the NetBackup VCS agent.

`-unfreeze`

Unfreezes the NetBackup cluster group. This option is available on UNIX and Linux systems only.

`-vname`

Displays the virtual name of the NetBackup cluster group. This option is available on UNIX and Linux systems only.

bpcompatd

bpcompatd - run NetBackup compatibility service

SYNOPSIS

```
<nbu_dir_path>bpcompatd [-max_time seconds] [-console] [-debug]
<nbu_dir_path>bpcompatd -alive [-debug]
<nbu_dir_path>bpcompatd -terminate [-debug]
<nbu_dir_path>bpcompatd -bpcd_connect clientname [-debug]
<nbu_dir_path>bpcompatd -bpdbm_connect hostname [-debug]
<nbu_dir_path>bpcompatd -bpjobd_connect hostname [-debug]
<nbu_dir_path>bpcompatd -bprd_connect hostname [-debug]
<nbu_dir_path>bpcompatd -robot_connect hostname robot_type [-debug]
<nbu_dir_path>bpcompatd -vmd_connect hostname [-debug]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\
```

DESCRIPTION

This command is used internally by new NetBackup services to communicate with legacy NetBackup services.

OPTIONS

-alive
Tests the local bpcompatd daemon or service to see if it is running.

-terminate
Terminates the local bpcompatd daemon or service if it is running.

-bpcd_connect clientname
Tests a bpcd connection to *clientname* by using the bpcompatd command.

-bpdbm_connect hostname
Tests a bpdbm connection to *hostname* by using the bpcompatd command.

-bpjobd_connect hostname
Tests a bpjobd connection to *hostname* by using the bpcompatd command.

`-bprd_connect hostname`

Tests a `bprd` connection to *hostname* by using the `bpcompatd` command.

If you specify `-debug`, the information that is normally logged in the debug log file of `bpcompatd` is written to standard error.

If you do not specify one of these options, `bpcompatd` runs as a daemon (for UNIX/Linux) or a service (for Windows). The following options are available when you run `bpcompatd` as a daemon or service:

`-robot_connect hostname`

Tests a robot daemon connection to *hostname* for robot type `<robot_type>` using the `bpcompatd`.

`-vmd_connect hostname`

Tests a `vmd` connection to *hostname* by using the `bpcompatd` command.

`-max_time seconds`

The maximum time `bpcompatd` waits for a new connection before it performs routine tasks. The default is 60 seconds on UNIX and Linux systems. The default is one second on Windows systems.

`-console`

This option is applicable to Windows only. Normally, `bpcompatd` is run through the Service Manager. You can use the `-console` option to run the `bpcompatd` service from the command line.

`-debug`

If you specify `-debug`, the information that normally is logged on the debug log file of `bpcompatd` is written to standard error. For Windows, this option implies the `-console` option. On UNIX and Linux systems, this option prevents the `bpcompatd` service from running in the background.

bpconfig

bpconfig – modify or display global configuration attributes for NetBackup

SYNOPSIS

```
bpconfig [-cd seconds] [-ha hours] [-kl days] [-kt days] [-ma  
[address]] [-sto seconds] [-mj number] [-period hours] [-prep hours]  
[-to seconds] [-max_copies number] [cleanup_int hours] [cleanup_wait  
minutes] [-tries times] [-wi minutes] [-pui minutes] [-v] [-M  
master_server,...]
```

```
bpconfig [-L | -l | -U [-v] [-M master_server,...]]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpconfig` command modifies or displays the NetBackup global configuration attributes. These attributes affect operations for all policies and clients. With the exception of the NetBackup administrator's email address, the default values for these attributes are adequate for most installations.

See the NetBackup Global Attributes section in the *NetBackup Administrator's Guide*, which describes the implications of setting the attribute values.

The following describes the two forms of `bpconfig`:

- The first form of `bpconfig` modifies one or more of the NetBackup global configuration attributes. At least one option that changes a NetBackup global configuration attribute must be on the command line.
- The second form of `bpconfig` displays the current settings of the NetBackup global configuration attributes. See DISPLAY FORMATS for more detail.

Errors are sent to `stderr`. A log of the command's activity is sent to the NetBackup admin log file for the current day.

OPTIONS

`-cd seconds`

Specifies the number of seconds that is the Compress-image-Database time interval. When *seconds* is an integer, an image compresses after this number

of seconds has elapsed since the creation of the image. The range of values is 86400 to 2147472000. On Windows, NetBackup uses NTFS file compression only if the database is in an NTFS partition. Otherwise, it is not compressed. The default is zero (0), which means no compression is done.

The effect of compression is that the image database needs less disk space. However, you need to decompress the images before you browse the image database for restoring. If you browse first, the compressed images are not found. To decompress the images, you must use the `bpimage` command.

`-cleanup_int hours`

Specifies the minimum period of time (in hours) that can elapse without a catalog cleanup. The default value is 12 (hours). Since cleanup cannot run during a catalog backup, large 24x7 environments that run long catalog backups may need a shorter cleanup interval (e.g., three hours). Regardless of the value of this option, the image database is automatically cleaned up at the end of a session of scheduled backups.

This option appears in the output display as Image DB Cleanup Interval (see examples).

`-cleanup_wait minutes`

Specifies the interval (in minutes) between image database catalog cleanup operations. The default value is 60 (minutes). If multiple backups occur during this cleanup wait interval, NetBackup only initiates one cleanup operation in this time period. The range of values is zero (0) to 720.

`-ha hours`

Specifies the number of *hours* ago that is the beginning of the time range for selecting NetBackup report entries. The end of the time range is the current time. For example, if *hours* ago is 24 and if you request a Backup Status report at 10:00 a.m., the report includes the following: All backups that ran from 10:00 a.m. yesterday until 10:00 a.m. today.

This value is used to calculate the time range for general reports and media reports. General reports include Backup Status, Client Backups, Problems, and All Log Entries. Media reports include Media List, Media Summary, Media Contents, Images on Media, and Media Log Entries.

Hours Ago is a positive integer in the range of 1 to 32767. The default value is 24 (hours).

`-kl days`

The number of days to keep logs. This number determines how long the NetBackup master server keeps its Error database and debug logs.

NetBackup derives its Backup Status, Problems, All Log Entries, and Media Log Entries reports from the Error database.

This value limits the period that these reports can cover. The range of values is 1 to 32767. The default is 28 days. A value of zero (0) turns logs off.

Note: This attribute has no effect on remote media servers or clients (remote media servers apply only to NetBackup Enterprise Server).

-kt *days*

The number of days to Keep True-image-recovery (TIR) data. This value determines how long to keep TIR information for those policies that specify the collection of TIR information. The default is one (1) day. A value of zero (0) turns off the TIR information.

-L

The list type is long. See the section DISPLAY FORMATS for more detail.

-l

The list type is short. This option is the default if the command line has no list-type option (for instance, if you enter `bpconfig` and a carriage return). See the section DISPLAY FORMATS for more detail.

-M *master_server,...*

The master server where the global configuration attributes reside.

-ma [*address*]

The mail address for the NetBackup administrator. NetBackup sends notification of failed automatic backups, the manual backup operations that the administrator directs, and automatic database backups to this email address. The default is NULL (no email address).

If no address is provided, the current setting of the Admin Mail Address is cleared. Notification is no longer sent by email to the NetBackup administrator.

-max_copies *number*

The maximum number of copies per backup. The range of values is 2 to 10. The default value is 2.

-sto *seconds*

The multihosted-media-mount timeout. This timeout is the time in seconds that NetBackup waits for a shared medium to be mounted, positioned, and ready on backups and restores. Use this timeout to eliminate excessive waits if another server uses a shared medium. The default is 0, which means no timeout (unlimited wait time).

See the *NetBackup Administrator's Guide* for details on multihosted drives.

`-mj` *number*

Specifies the maximum jobs per client. This number is the maximum number of jobs that a client can perform concurrently. It must be a positive integer. The range values are 1 to 32767. The default value is 1.

`-period` *hours*

The time interval that is associated with the configured number of tries for a backup (see *-tries*). This interval is the period in hours during which NetBackup tries a backup job for a client/policy/schedule combination for as many tries as configured. The hours must be a positive integer. The range values are 1 to 24. The default value is 12 hours.

Note: This attribute does not apply to user-directed backups and archives.

`-prep` *hours*

Specifies the preprocessing interval. This interval is the minimum time in hours between client queries to discover new paths when NetBackup uses auto-discover-streaming mode.

The default Preprocess Interval value is four (4) hours. If the preprocessing interval changes, change it back to the default by specifying `-prep -1`. The preprocessing interval can be set to preprocess immediately by specifying 0 as the preprocess interval for auto discovery on the `bpconfig` command line. The maximum Preprocessing Interval is 48 hours.

For additional information, see the Policies chapter of the *NetBackup Administrator's Guide*.

`-pui` *minutes*

Specifies the policy update interval, which is how often NetBackup policy updates are processed. The default value is 10 minutes. The range of values is 1 to 1440 (minutes).

`-to` *seconds*

Specifies the media-mount timeout. This timeout is the time in seconds that NetBackup waits for the requested media to be mounted, positioned, and ready on backups and restores. Use `-to` to eliminate excessive waits when you need to mount media manually (for example, when robotic media is out of the robot or off site).

The default is 0, which means no timeout (unlimited wait time). If *seconds* is not 0, its value range is 1 to 32,767 seconds.

`-tries times`

The number of retries for a backup during the configured time period (see `-period`). For a given combination of client, policy, and schedule, NetBackup tries to run a backup job the specified number of times. This option limits the number of backup tries if repeated failures occur.

Note: This attribute does not apply to user-directed backups and archives.

Values for `-tries` range from 1 to 32767. The default is two tries. If defaults are used for both `-tries` and `-period`, NetBackup tries the backup two times in 12 hours.

`-U`

The list type is user. See DISPLAY FORMATS for more detail.

`-v`

Selects verbose mode for logging. This option is meaningful only if it runs with the debug log function on. Therefore, the following directory must be defined:

On UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

On Windows systems: `install_path\NetBackup\logs\admin`

`-wi minutes`

Job Retry Delay. Specifies how often NetBackup retries a job. The default value is 10 minutes. The range of values is 1 to 1440 (minutes).

DISPLAY FORMATS

`bpconfig` uses the following three different formats to display the current values of the NetBackup global configuration attributes:

■ User Display Format (`-U`)

If the command line contains `-U`, the display format is user. The user display format is the format used by `bpadm` and the NetBackup graphical-user interfaces. This option produces a list with one global attribute per line. Each line has the form *global attribute descriptor: value*. This list is similar to the `-L` format, except that the global attribute descriptors are more explicit. The fields are as follows:

Admin Mail Address

Job Retry Delay

Max Simultaneous Jobs/Client

Backup Tries (x tries in y hours)

Keep Error/Debug Logs.
Max drives this master
Keep TrueImageRecovery Info.
Compress Image DB Files.
Media Mount Timeout
Display Reports
Preprocess Interval
Maximum backup copies
Image DB Cleanup Interval
Image DB Cleanup Wait Time
Policy update Interval

■ Long Format (-L)

If the command line contains -L, the display format is long. This option produces a list with one global attribute per line, in the format *global attribute descriptor: value*. The fields are as follows:

Mail Admin
Job Retry Delay
Max Jobs/Client
Backup Tries
Keep Logs.
Max drives per master
Compress DB Files.
Media Mnt Timeout
Display Reports
Keep TIR Info.
Prep Interval
Max backup copies
DB Clean Interval
Policy update interval

■ Short Format (-l)

If the `bpconfig` command line contains -l or contains no list-format option, the display format is short, which produces a terse listing. This option is useful for the scripts or the programs that rework the list into a customized report format. The list layout is a single line that contains the values for all global attributes. The time units follow the attributes in parentheses for the attributes that are expressed in units of time. The attributes appear in the following order with blanks between them:

NetBackup administrator email address.
Job Retry Delay (minutes).

Time period (hours).

Maximum simultaneous jobs per client.

Tries per period.

Keep logs (days).

Maximum drives this master.

Compress the image database interval (seconds; 0 denotes no compression).

Media mount timeout (seconds; 0 denotes unlimited).

Multihosted-media-mount timeout (seconds; 0 denotes unlimited).

Postprocess images flag (0 denotes deferred, otherwise immediately).

Display reports from <x> hours ago (hours).

Keep TIR information (days).

Preprocessing interval (hours).

Example of how the display formats differ:

bpconfig runs with each of the three display formats on a NetBackup installation. The NetBackup global attributes are the same for the three displays.

The first display format, -U, looks like the following:

```
bpconfig -U
Admin Mail Address:
Job Retry Delay:          1 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:             2 time(s) in 12 hour(s)
Keep Error/Debug Logs:   28 days
Max drives this master:  0
Keep TrueImageRecovery Info: 1 days
Compress Image DB Files: (not enabled)
Media Mount Timeout:     0 minutes (unlimited)
Display Reports:         24 hours ago
Preprocess Interval:     0 hours
Maximum Backup Copies:   10
Image DB Cleanup Interval: 12 hours
Image DB Cleanup Wait Time: 60 minutes
Policy Update Interval:  10 minutes
```

The second display format, -L, looks like the following:

```
bpconfig -L
Mail Admin:              *NULL*
Job Retry Delay:         1 minutes
Max Jobs/Client:         1
Backup Tries:            2 in 12 hours
Keep Logs:               28 days
```

```
Max drives/master:      0
Compress DB Files:     (not enabled)
Media Int Timeout:     0 minutes (unlimited)
Display Reports:       24 hours ago
Keep TIR Info:         1 days
Prep Interval:         0 hours
Max Backup Copies:     10
DB Clean Interval:     12 hours
DB Clean Wait Time:    60 minutes
Policy Update Interval:10 minutes
```

The third display format, -1, looks like the following:

```
bpconfig -1
*NULL* 1 12 1 2 28 0 0 0 0 1 24 1 0 2 10 60
```

The display fields for the -1 display are interpreted as follows:

NetBackup administrator email address has not been set.

Job Retry Delay is 1 minute.

Time period is 12 hours.

Maximum simultaneous jobs per client is 1.

Tries per period is 2.

Keep logs for 28 days.

Maximum drives this master is 0.

Compress image database interval is 0 seconds; 0 denotes no compression.

Media mount timeout is 0seconds; 0 denotes unlimited.

Multihosted-media-mount timeout is 0 seconds; 0 denotes unlimited.

Postprocess images flag is 1 (immediate).

Display reports from 24 hours ago.

Keep TIR information for one (1) day.

Preprocessing interval is zero (0) hours.

Catalog database cleanup interval is two (2) hours.

Catalog database cleanup wait time is 10 minutes.

Policy update interval is 60 minutes.

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

Windows: `install_path\NetBackup\logs\admin`

UNIX and Linux: `/usr/opensv/netbackup/logs/admin`

It has the following form:

```
bpconfig: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

EXAMPLES

Example 1 - While the master server `kiwi` runs, display the global attribute settings on the master server `plim`:

```
bpconfig -U -M plim
```

```
Admin Mail Address:          ichabod@null.null.com
Job Retry Delay:             10 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:                1 time(s) in 8 hour(s)
Keep Error/Debug Logs:      6 days
Max drives this master:      0
Keep TrueImageRecovery Info: 1 days
Compress Image DB Files:     (not enabled)
Media Mount Timeout:         30 minutes
Display Reports:             24 hours ago
Preprocess Interval:         0 hours
Maximum Backup Copies:       10
Image DB Cleanup Interval:   12 hours
Image DB Cleanup Wait Time:  60 minutes
Policy Update Interval:      10 minutes
```

Example 2 - Set the Compress-image-database interval to 604800 seconds, so that NetBackup compresses images more than seven days old:

```
bpconfig -cd 604800
bpconfig -U
```

```
Admin Mail Address:          *NULL*
Job Retry Delay:             10 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:                2 time(s) in 12 hour(s)
Keep Error/Debug Logs:      28 days
Max drives this master:      0
```

```
Keep TrueImageRecovery Info: 2 days
Compress Image DB Files:      older than 7 day(s)
Media Mount Timeout:         0 minutes (unlimited)
Display Reports:             24 hours ago
Preprocess Interval:         0 hours
Maximum Backup Copies:      10
Image DB Cleanup Interval:   12 hours
Image DB Cleanup Wait Time:  60 minutes
Policy Update Interval:      10 minutes
```

Example 3 - Set the Media Mount Timeout to 1800 seconds.

```
bpconfig -to 1800
bpconfig -U
```

```
Admin Mail Address:          sasquatch@wapati.edu
Job Retry Delay:             10 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:                1 time(s) in 12 hour(s)
Keep Error/Debug Logs:      3 days
Max drives this master:     0
Keep TrueImageRecovery Info: 24 days
Compress Image DB Files:     (not enabled)
Media Mount Timeout:        30 minutes
Display Reports:            24 hours ago
Preprocess Interval:        0 hours
Maximum Backup Copies:      10
Image DB Cleanup Interval:   12 hours
Policy Update Interval:      10 minutes
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*
/usr/opensv/netbackup/db/config/behavior
```

Windows systems:

```
install_path\NetBackup\db\config\behavior
install_path\NetBackup\logs\admin\*
```

SEE ALSO

See [bpimage](#) on page 156.

See the *NetBackup Administrator's Guide* for details on Multihosted Drives.

bpdjobs

bpdjobs – interact with NetBackup jobs database

SYNOPSIS

```
bpdjobs [-report] [-M master_servers] [-ignore_parent_jobs] [ -vault  
| -lvault | -all_columns | -most_columns | -gdm ] [-file pathname]  
[-append] [-noheader] [-mastertime] [-jobid job1,job2,...jobn]  
[verbose]
```

```
bpdjobs -summary [-M master_servers] [-ignore_parent_jobs] [ -U |  
-L | -all_columns ] [-file pathname] [-append] [verbose]
```

```
bpdjobs -resume | -suspend | -delete | -cancel | -restart  
job1,job2,...jobn | type=jobtype | type=all [-M master_servers]  
[-quiet] [-reason "string"]
```

```
bpdjobs -cancel_all [-M master_servers] [-reason "string"]
```

```
bpdjobs -clean [-M master_servers] [ -keep_hours hours | -keep_days  
days ] [ -keep_successful_hours hours | -keep_successful_days days  
] [verbose]
```

```
bpdjobs -version
```

```
bpdjobs -change_priority_by [-M master_servers] -priority number  
-jobid job1,job2,...jobn
```

```
bpdjobs -set_priority [-M master_servers] -priority number -jobid  
job1,job2,...jobn
```

```
bpdjobs -fast
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

bpdjobs interacts with the jobs database and is useful in scripts or as a command-line administration tool. It prints the entire jobs database, prints a summary of the database, deletes done jobs, cancels incompleting jobs, and cleans old jobs.

To customize the output of bpdjobs, add column definition entries (BPDBJOBS_COLDEFS) in the bp.conf file.

Refer to the *NetBackup Administrator's Guide for UNIX and Linux, Volume II* for more information about the following: the `bp.conf` file, a complete list of the definitions, and the `BPDBJOBS_COLDEFS` entries.

The `-cancel`, `-delete`, `-jobid`, `-resume`, and `-suspend` options all use the *jobtype* as a suboption. Enter one of the following as *jobtype*. (Letters following the capitalized letters are ignored.)

```
ALL | *
REStore
BACKup
ARChive
VERify
DUPLicate
IMPort
LABel
ERAsE
VAULT
TPReq
CLEan
FORmat
INVenTory
QUAlification
DBbackup | CATalogbackup
```

OPTIONS

`-all_columns`

Displays all columns of a report or summary. Some of the more useful fields of this command are:

`field2 = jobtype`

0=backup, 1=archive, 2=restore, 3=verify, 4=duplicate, 5=import, 6=catalog backup, 7=vault, 8=label, 9=erase, 10=tape request, 11=tape clean, 12=format tape, 13=physical inventory, 14=qualification, 15=database recovery, 16=media contents, 17=image delete, 18=LiveUpdate

`field3 = state`

0=queued, 1=active, 2=wait for retry, 3=done, 4=suspended, 5=incomplete

`field5 = policy`

The policy that this job is associated with.

`field6 = schedule`

The schedule that this job is associated with.

field14 = operation

0=mount

1=position

2=connect

3=write

4=vault initialize

5=vault duplication

6=vault duplication complete

7=vault catalog backup

8=vault eject and report

9=vault complete

10=report

11=duplicate

12=import

13=verify

14=restore

15=catalog-backup

16=vault

17=label

18=erase

field21 = subtype

0=immediate, 1=scheduled, 2=user-initiated, 3=quick erase, 4=long erase,
5=database backup staging, 6=database backup cold

field23 = schedule_type

0=full, 1=incr, 2=user backup, 3=user archive, 4=cumulative-incr

field24 = priority

Priority that is assigned to this job as configured in the policy attributes.

The output of this command consists of a single line per backup job. Each line of the output is a comma-delimited list in the following format:

```

jobid, jobtype, state, status, policy, schedule, client, server
, started, elapsed, ended, stunit, try, operation, kbytes, files
, pathlastwritten, percent, jobpid, owner, subtype, classtype,
schedule_type, priority, group, masterserver, retentionunits
, retentionperiod, compression, kbyteslastwritten, fileslast
written, filelistcount, [files], trycount, [trypid, trystunit,
tryserver, trystarted, tryelapsed, tryended, trystatus, trys
tatusdescription, trystatuscount, [trystatuslines], trybyte
swritten, tryfileswritten], parentjob, kbpersec, copy, robot,
vault, profile, session, ejecttapes, srcsunit, srcserver, src
media, dstmedia, stream, suspendable, resumable, restartable,
datamovement, snapshot, backupid, killable, controllinghost

```

The following is an example:

```

* 415,Backup,Done,96,jvlcc,vlccdiff,mule,buffalo,0885942000,0000000014,
0885942014,8mm,3,,,,,11602,root,1,0,1,10,,buffalo,2,1,0,0,0,3,/home/vlc/
jadm_JAVA/usr/opencv/java,/home/vlc/directory with spaces,/home/vlc/test,
3, 11544,8mm,buffalo,885941970,13,885941983,96,unable to allocate new
media for backup\, storage unit has none available,2,01/27/98 16:59:30
- connecting, 01/27/98 16:59:30 - connected;connect time: 000:00:00,0,0,
11573,8mm,buffalo,885941986,11,885941997,96,unable to allocate new media
for backup\, storage unit has none available,2,01/27/98 16:59:40 -
connecting,01/27/98 16:59:40 - connected; connect time: 000:00:00,0,0,
11602,8mm,buffalo,885942000,14, 885942014,96,unable to allocate new media
for backup\, storage unit has none available,2,01/27/98 17:00:00 -
connecting,01/27/98 17:00:00 - connected; connect time: 000:00:00,0,0

```

Refer to Example 1 for an example on how to interpret the `-all_columns` output.

`-append`

Appends the output to the file that the `-file` option specifies. If no `-file` option is provided, the output goes to `stdout`.

`-cancel job1,job2,...jobn |type=jobtype|type=all`

Causes `bpdjobs` to cancel active jobs cleanly that appear with a Status 150 in the Activity Monitor. For example:

```

bpdjobs -cancel 11328
bpdjobs -cancel 11328,11329,11330

```

Possible `jobtype` values are listed in the Description section.

`-cancel_all`

Causes `bpdjobs` to cleanly cancel all incomplete jobs that appear with a Status 150 in the Activity Monitor. For example:

```
bpdjobs -cancel_all
```

```
-change_priority_by [-M master_servers] -priority number -jobid
job1,job2,...jobn
```

Changes the priority of the specified job or jobs.

```
-clean
```

Causes `bpdjobs` to delete the completed jobs that are older than a specified time period. Use with the `-keep_hours` or `-keep_days`, or `-keep_successful_hours` or `-keep_successful_days` parameters to specify a retention period. For example:

```
bpdjobs -clean -keep_hours 30
```

```
-delete job1,job2,...jobn |type=jobtype|type=all
```

Deletes the completed jobs that appear in the Activity Monitor. Multiple job IDs can be deleted in one command. For example:

```
bpdjobs -delete 11328,11329,11330
```

This option deletes one of the following:

- The jobs that *job1,job2,...jobn* specify
- All the eligible jobs that *jobtype* indicates
- All eligible jobs if `type=all` is specified

Possible *jobtype* values are listed in the Description section.

```
-fast
```

Retrieves the job metadata from `bpjobd`, but the `try` file and `files` file is read directly from the file system. This option is ignored if `bpdjobs` is started from a remote host (a host that is not the master).

```
-file pathname
```

Names a file to which the output of `bpdjobs` is written. If no `-file` option is provided, the output goes to `stdout`.

```
-gdm
```

Displays less of the information in a report than `-most_columns`.

```
-ignore_parent_jobs
```

Ignores the parent jobs for the `-report` and `-summary` options.

```
-jobid job1,job2,...jobn |type=jobtype|type=all
```

Reports on multiple job IDs.

Possible *jobtype* values are listed in the Description section.

`-keep_days days`

Used with the `-clean` option to specify how many days `bpdjobs` keeps completed jobs. Default is three (3) days.

`-keep_hours hours`

Used with the `-clean` option to specify how many hours `bpdjobs` keeps completed jobs. Default is 72 hours.

`-keep_successful_days days`

Used with the `-clean` option to specify how many days `bpdjobs` keeps successful completed jobs. Default is three (3) days.

This value must be less than the `-keep_days` value.

`-keep_successful_hours hours`

Used with the `-clean` option to specify how many hours `bpdjobs` keeps successful completed jobs. Default is 72 hours.

This value must be less than the `-keep_hours` value.

`-L`

Reports in long format.

`-lvault`

Displays the additional columns specific to Vault jobs.

`-M master_servers`

Applies to an environment with multiple master servers. Use the `-M` option to summarize jobs, delete jobid(s), cancel jobid(s), and cancel all active job IDs for a specific master server:

`-mastertime`

By default, `bpdjobs` translates the start or the end times to be relative to the local clock. A job that starts 10 minutes ago looks like it starts 10 minutes ago regardless of time zone and clock differences with the master server.

This option, however, circumvents that translation so that time values are consistent between admin clients.

`-most_columns`

Behaves similarly to `-all_columns` but does not print the file list or any information on previous attempts. The `-most_columns` option is significantly faster than `-all_columns`.

`-noheader`

Prevents the header from being printed in the report.

-quiet

Cancels the reporting of the number of jobs resumed/suspended/deleted/canceled.

-reason *"string"*

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("*...*") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

-report

Provides a report of data that is stored in the Activity Monitor. If no option is specified with bpdjobs, -report is the default option.

-restart *job1,job2,...jobn* |type=*jobtype*|type=all

Cleanly restarts a job that *jobtype* indicates. This option supports backups and enables you to restart a job by typing the word BACKup in the Activity Monitor.

-resume *job1,job2,...jobn* |type=*jobtype*|type=all

Resumes the jobs that *job1,job2,...jobn* specify, all eligible checkpoint backups or restore the jobs that *jobtype* indicates, or all eligible jobs if type=all is specified.

Possible *jobtype* values are listed in the Description section.

-set_priority [-M *master_servers*] -priority *number* -jobid
job1,job2,...jobn

Sets the priority of the specified job or jobs to the specified priority number.

-summary [-U | -L | -all_columns]

Prints a summary line to stdout for all the jobs that are stored in NBU/jobs. Parameters -U and -L format the output of the command. Use the -file option to write the output to a given directory or file name. For example:

```
bpdjobs -summary -U -file /tmp/summary.out
```

-suspend *job1,job2,...jobn* |type=*jobtype*|type=all

Suspends the jobs that *job1,job2,...jobn* specifies or all eligible checkpoint backups or restore the jobs that *jobtype* indicates, or all eligible jobs if type=all is specified.

Possible *jobtype* values are listed in the Description section.

-U

Reports in user format. NetBackup report-generating tools such as the NetBackup-Java Reports application uses this report format.

-vault

Displays the additional columns specific to Vault jobs.

-verbose

Causes `bpdjobs` to log additional information in the debug log in the following directory, if the directory exists:

On UNIX and Linux systems:

`/usr/opensv/netbackup/logs/bpdjobs/*`

On Windows systems: `install_path\NetBackup\logs\bpdjobs*`

-version

Prints the version string, then halts. Any other switches are ignored.

EXAMPLES

This example shows the following: sample logic to decode `-all_columns` output to produce the backup initiation time of a job that succeeded, but not on the first try.

Field 9 = start time (The time the job was first queued.)

This time is of little value unless you want to know when the job was queued.

Up to Field 32, all fields are fixed. Then Field 32 tells you how many entries are in the `filelist` fields.

Field 32 = `filelistcount` (The number of files that are listed in the `filelist`.)

Add that value to 33 to determine the field that shows the number of tries:

Field 33 + `filelistcount` = `trycount` (The number of tries that occurred.)

If there is only one try, calculate the following to determine its start time:

Field 33 + `filelistcount` + 4 = `[first]trystarted` (The start time of the first try.)

If there are two tries, go past the status entries. First, calculate the number of entries in the status field:

Field 33 + `filelistcount` + 9 = `trystatuscount` (The number of status entries in the first try.)

Then, to get the start time of the second try, calculate the following:

Field 33 + `filelistcount` + 9 + `trystatuscount` + 6 = `[second]trystarted`

bpdbm

bpdbm – run NetBackup database manager daemon

SYNOPSIS

```
<nbu_dir_path>bpdbm [consistency [-move]] [converti2] [ctime  
timestamp] [-terminate] [-alive] [-verbose -logqueries -wakeup  
minutes]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

bpdbm responds to the queries that are related to the NetBackup internal databases (catalogs). bpdbm must be running for NetBackup commands and utilities to work properly. This daemon runs only on the master server and can be started only by the administrator. The NetBackup request daemon (bprd) or the following script starts bpdbm:

On UNIX and Linux: /usr/opensv/netbackup/bin/initbpdbm

On Windows: install_path\NetBackup\bin\initbpdbm

When bpdbm starts, the following sequence occurs in the order listed:

- It logs a message that indicates that it has started and verifies that no other instances are running. If another process is found, the program terminates.
- bpdbm finds its port number by checking the services file for an entry with a service name of bpdbm and a protocol name of tcp. For example:

```
bpdbm 13721/tcp
```

- bpdbm starts to respond to queries from bprd and the NetBackup administrative utilities. A child process is created to respond to each query.

OPTIONS

-alive

Sends a query to bpdbm to determine if the bpdbm service is up.

`-consistency [0-2]`

Runs the consistency checks on the catalog. The following are the three consistency levels:

0 - A quick check of the NetBackup image database (the default).

1 - Performs more checks than the default check.

2 - The most in-depth consistency check. In addition to the level 0 and 1 checks, this level checks that the media that is mentioned in the image exists. (That is, it cross-references the media servers databases.) On a large NetBackup installation, the process takes much longer to complete than the other checks.

`-converti2`

Converts the old catalogs that were created by using the old directory name scheme without the time-stamp subdirectories for each client to the new scheme. Use caution on this operation and make sure that a valid catalog backup is in hand and ready to use to recover the catalog.

`-ctime timestamp`

Converts a UNIX timestamp to human-readable form.

`-logqueries`

Causes `bpbm` to log each `bpbm` query to the file `BPDBMqueries` of the `tmp` directory. Each query has an entry at the start of the log of the form:

```
date_stamp process_id query type
```

And one at the end of the query of the form:

```
date_stamp process_id query type status status
```

Where *date_stamp* is a 10-digit integer, *process_id* is the identifier for the process that runs the query, *type* is an integer that identifies the type of query, and *status* is the status returned by the query.

`-terminate`

Terminates `bpbm`. Any currently running child process continues to run until its task is complete.

`-verbose -logqueries`

Causes `bpbm` to operate at verbose level 1 if it is configured to run in `bp.conf` at verbose level 0 and creates the `bpbm log` directory and file.

-wakeup minutes

Overrides the default timeout interval (in minutes) that `bpdbm` uses when it establishes the initial connection on the port. Used on UNIX and Linux systems only.

FILES

On UNIX or Linux systems:

```
/usr/opensv/netbackup/db/*  
/usr/opensv/netbackup/bp.conf  
/usr/opensv/netbackup/logs/bpdbm/*  
/usr/opensv/netbackup/bin/initbpdbm
```

On Windows systems:

```
install_path\NetBackup\db\  
install_path\NetBackup\logs\bpdbm\  
*
```

SEE ALSO

See [bpadm](#) on page 52.

See [bprd](#) on page 314.

bpdgclone

bpdgclone - create or remove clones of Volume Manager (VxVM) volumes

SYNOPSIS

```
/usr/opensv/netbackup/bin/bpdgclone [-h] [-v] [-c] -g disk_group -n  
volume [-d  
primary_disk,secondary_disk:primary_disk_2,secondary_disk_2:  
primary_disk_n,secondary_disk_n] [-f output_location]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

bpdgclone creates temporary disk groups or clones of disk(s) that contain the mirror image of the volume for the backups that use array-specific snapshot methods. In array-specific snapshot methods (EMC TimeFinder, Hitachi ShadowImage, HP BusinessCopy) client data is configured over a Volume Manager volume. To avoid a name conflict in the Volume Manager, bpdgclone names the temporary disk group as follows: client_name_diskgroup_name_clone. When the backup completes, NetBackup removes the disk group clone.

During normal operation, NetBackup calls the bpdgclone command as needed: no administrator use of this command is required. But if a system failure prevents NetBackup from removing the clone, you must use the bpdgclone command with the -c option to remove the clone. Then you must synchronize the mirror disk again with the primary disk.

Note: If the backup completes, but the clone is not removed, subsequent backups of the client's data fail. To remove a clone, see the examples.

OPTIONS

- g Specifies the name of the target disk group.
- n Specifies the name of the target volume.
- d Lists the primary disks and the secondary disks. The list consists of disk pairs (primary,secondary), where the primary is separated from the secondary by a comma. If there is more than one primary disk in the target volume, colons (:) separate the additional device pairs.

- c Deletes the cloned disk group and volume. Note that the primary disks and the secondary disks must be resynchronized after the clone is deleted.
- h Prints the command usage.
- v Sets the verbose mode.
- f Specifies an output file. This file contains a list of pathnames of the primary disks over which the target volume is configured. Use this option to discover the primary disks that make up the target volume.

NOTES

The following are considerations to note when you use the `bpdgclone` command:

- Do not remove a clone while the snapshot backup that uses that clone is still in progress. With no system failures, NetBackup removes the clone when the backup completes.
- If you use the `bpdgclone` command to remove a left over disk clone, you must synchronize the mirror disk again with the primary disk.
- Before NetBackup executes `bpdgclone` to create the clone, NetBackup splits the secondary disk from the primary disk.

EXAMPLES

The following example removes a clone.

```
/usr/opensv/netbackup/bin/bpdgclone -g wil_test -n vol01 -c
```

where `wil_test` is the name of the disk group after which the clone was named (in this example, the actual clone would be named `clone_wil_test_clone`).

For detailed assistance, refer to "Removing a VxVM Volume Clone" in the Troubleshooting chapter of the *NetBackup Snapshot Client Administrator's Guide*.

bpdwn

`bpdwn` – shut down NetBackup services on Windows systems

SYNOPSIS

```
<install_path>\NetBackup\bin\bpdwn [-S|v] [-f] [-c] [-d] [-m]
[-n] [-s] [-r]
```

DESCRIPTION

This command operates only on Windows systems.

`bpdwn` shuts down the NetBackup services including many components of the product, such as the NetBackup databases, Media Manager, clients, and some robotic control daemons. This option does not shut down the processes.

The `bpup` command starts the NetBackup services.

OPTIONS

- s Silent mode. No listing is generated and no confirmation is requested.
- v The selected verbose mode generates a detailed listing.
- f Forces a shutdown of the NetBackup services without prompting the user for a confirmation.
- c Shuts down the client.
- d Shuts down the NetBackup database.
- m Shuts down Media Manager.
- n Shuts down the NetBackup server and not the client.
- s Shuts down the server (NetBackup and Media Manager).
- r Shuts down the robotic control daemons.

bpduplicate

bpduplicate - create a copy of backups that NetBackup has created

SYNOPSIS

```
bpduplicate -npc new_primary_copy -backupid backup_id [-local]
[-client name]
bpduplicate [-number_copies number] [-dstunit
destination_storage_unit_label [, copy2, ...] [-dp
destination_volume_pool_name [, copy2, ...] [-p | -pb | -PD | -PM]
[-Bidfile file_name] [-v] [-local] [-client name] [-st sched_type]
[-sl sched_label] [-L output_file [-en]] [-shost source_host] [-policy
name] [-s date] [-e date] [-pt policy_type] [-hoursago hours] [[-cn
copy_number] | [-primary]] [-M master_server] [-altreadhost hostname]
[-backupid backup_id] [-id media_id] [-rl
retention_level [, rl-copy2, ...] [-fail_on_error 0|1 [, ..., 0|1]] [-mpx]
[-priority number] [-set_primary copy_index] [-bc_only]
[-granular_proxy hostname] [-owner
media_share_group [, share_group_copy2, ...]]
```

On UNIX and Linux systems, the directory path to this command is
 /usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
 <*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The **bpduplicate** command allows a copy of a backup to be created. The **bpduplicate** command can also change the primary copy to enable restoring from a duplicated backup. The primary copy is used to satisfy restore requests and is initially the original copy.

Multiplexed duplications can be created by using the **-mpx** option. Refer to the discussion of the **-mpx** option for more information.

The duplicated backup has a separate expiration date from the original. Initially, the expiration date of the copy is set to the expiration date of the original. You can change the expiration date of the copy or the original by using the **bpexpdate** command.

Use **bpduplicate** to create up to 10 copies of unexpired backups.

OPTIONS

`-altreadhost hostname`

Specify an alternate host from which to read the media. The default condition is that `bpduplicate` reads the source media from the host that performed the backup.

`-backupid backup_id`

Specifies the backup ID of a single backup to duplicate or for which to change the primary copy.

`-bc_only`

Catalogs the granular information (that is, it builds the catalog only). Running this option precludes the need to make another copy of the image, which can improve performance of future browse or restore operations.

`-Bidfile file_name`

file_name specifies a file that contains a list of backup IDs to be duplicated. List one backup ID per line in the file. If this parameter is specified, other selection criteria are ignored.

Also, *file_name* is removed during the execution of that command line interface (CLI) because the NetBackup GUIs commonly use this parameter. They expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option; however, it removes the file.

`-client name`

Specifies the name of the client that produced the originals and is used as search criteria for backups to duplicate. The default is all clients.

When you specify `-client` with the `-npc` option to change the primary copy, NetBackup first searches for the backup ID that belongs to the client. This search is useful if the client name has changed.

`-cn copy_number|-primary`

Determines the copy number to duplicate. Valid values are 1 through 10. The default is 1.

`-primary` means to search or duplicate the primary copy.

`-dp destination_volume_pool_name [,copy2,...]`

Specifies the volume pool for the duplicates. NetBackup does not verify that the media ID that is selected for the duplicate copy is not the same media ID where the original resides. Therefore, to avoid the possibility of a deadlock, specify a different volume pool than where the original media ID resides. The default pool name is `NB_duplicates`.

Specify a pool for each copy that you specify.

`-dstunit destination_storage_unit_label [,copy2,...]`

Specifies the destination storage unit. This parameter is required to duplicate backups. Do not specify this option to preview backups to be duplicated (`-p`, `-pb`, `-PM`, or `-PD` options) or to change the primary copy (`-npc` option). This option does not have a default.

Specify a storage unit for each copy that you specify.

`-e date, -s date`

Specifies the end (`-e`) or start (`-s`) of the range of dates and times that include all backups to duplicate. The default end date is the current date and time. The default start time is 24 hours before the current date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail the other duplications if the copy fails, where:

0 - Do not fail the other copies

1 - Fail the other copies

Specify one for each copy that you specify.

`-granular_proxy`

Overrides the defined Exchange granular restore proxy host for a duplication operation. This host catalogs the granular information if duplicated to tape. By default, the defined Exchange granular restore proxy host is the original Exchange client for the backup.

`-hoursago hours`

Specifies the number of hours before the current time to search for backups. Do not use with the `-s` option. The default is the previous midnight.

`-id media_id`

Search the image catalog for backups to duplicate that are on this media ID. If the original is fragmented between different media IDs, NetBackup

duplicates only the backups that exist on the specified media ID. Backups that span media are duplicated, but not any other backups on the spanned media ID.

`-L output_file [-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file.

Include the `-en` option to generate a log in English. The name of the log contains the string `_en`. This option is useful to support the personnel that assist in a distributed environment where different locales may create logs of various languages.

`-local`

When `bpduplicate` runs from a host other than the master server and `-local` is not used (default), the following occurs: It starts a remote copy of the command on the master server. The remote copy allows the command to be terminated from the Activity Monitor.

Use this option to prevent the creation of a remote copy on the master server. You can also run `bpduplicate` only from the host where it was initiated.

If the `-local` option is used, `bpduplicate` cannot be canceled from the Activity Monitor.

`-M master_server`

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:

The NetBackup server supports only one server (the master) with no remote media servers. Therefore, the default in this case is always the NetBackup server master where you run the command.

On the NetBackup Enterprise Server, if the command is run on a master server, then that server is the default. If the command is run on a media server that is not the master, then the master for that media server is the default.

`-mpx`

Specifies that when you duplicate multiplexed backups, NetBackup creates multiplexed backups on the destination media, which reduces the time to duplicate multiplexed backups.

Multiplexed duplication is not supported for the following operations:

- Non-multiplexed backups
- Backups from disk type storage units
- Backups to disk type storage units

■ FlashBackup or NDMP backups

If backups in the previous categories are encountered during duplication, NetBackup duplicates them first and uses non-multiplexed duplication. It then duplicates the multiplexed backups by using multiplexed duplication.

If all the backups in a multiplexed group are not duplicated, the duplicated multiplexed group has a different fragment layout. (A multiplexed group is a set of backups that are multiplexed together during a single multiplexing session.)

If this option is not specified, all backups are duplicated by using non-multiplexed duplication.

For more information on multiplex operations, see the *NetBackup Administrator's Guide*.

`-npc new_primary_copy`

Allows the primary copy to be changed. The value can be 1 through 10. The `-backupid` option must be specified with this option.

`-number_copies number`

Specifies the number of copies to be created. Without the Inline Tape Copy option or NetBackup Vault extension that is installed, the value can be set to 1 only. The default is 1.

Use with `-dstunit`, `-dp`, `-fail_on_error`, and `-r1`:

```
-number_copies 2 -dstunit stunit-copy1,stunit-copy2
```

```
-number_copies 2 -dp pool1, pool2
```

`-owner media_share_group [,share_group_copy2,...]`

Specifies the share group for the duplicate. Specify a share group for each copy that you specify.

`-p`

Previews backups to be duplicated according the option settings, but does not perform the duplication. Displays the media IDs, server name, backups that are not candidates for duplication (and why), and information about the backups to be duplicated.

`-pb`

Previews the duplication but does not perform the duplication. Similar to the `-p` option, but does not display information about the backups.

`-PD`

Same as the `-PM` option, except that it sorts and displays the backups by date and time (newest to oldest).

-PM

Displays the information on the backups to be duplicated according to the option settings, but does not perform the duplication. This format first displays the backup IDs that cannot be duplicated and the reason why (for example, the backup already has two copies). It displays the following information about the backup: Date and time of the backup, policy, schedule, backup ID, host, media ID or path, copy number, and whether the copy is the primary copy:

1 = Primary copy

0 = Not primary copy

-policy *name*

Searches for backups to duplicate in the specified policy. The default is all policies.

-priority *number*

Sets a backup policy to run at a lesser or a higher priority than disk staging duplication.

-pt *policy_type*

Search for the backups that the specified policy type created. The default is any policy type.

Valid values are:

Informix-On-BAR Oracle
Macintosh
MS-Exchange-Server
MS-Windows
MS-SharePoint
MS-SQL-Server
NDMP
Netware
OS/2
Standard
Sybase

Note: The following policy types apply only to NetBackup Enterprise Server.

AFS
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup

SAP
Split-Mirror

`-rl retention_level[,rl-copy2,...]`

Provides a retention level for each copy that you specify.

If no retention levels are specified, the expiration date of the original copy is used for each copy. If a retention period is indicated, the expiration date for the copy is the backup date plus the retention period.

For example, if a backup was created on May 14, 2007, and its retention period is one week, the new copy's expiration date is May 21, 2007.

A value of `-1` indicates that the original expiration date is used for the copy.

`-set_primary copy_index`

Specify a new copy to become the primary copy.

copy_index is one of the following:

0 = Do not change the primary copy (default)

1 = First new copy is the primary copy

2 = Second new copy is the primary copy

3 = Third new copy is the primary copy, and so on.

copy_index cannot be greater than the `-number_copies` value.

If the copy specified to be the primary copy fails, but other copies are successful, the primary copy does not change from its current value.

`-shost source_host`

Specifies that only the backups that are created on the specified backup server are considered for duplication. The default is to consider all backups regardless of the backup server.

`-sl sched_label`

Search for backups to duplicate that the specified schedule created. The default is all schedules.

`-st sched_type`

Search for backups to duplicate that the specified schedule type created. The default is any schedule type.

Valid values are:

FULL (full backup)

INCR (differential-incremental backup)

CINC (cumulative-incremental backup)

UBAK (user backup)

UARC (user archive)

NOT_ARCHIVE (all backups except user archive)

-v

Selects the verbose mode. When you specify the debug logs or progress logs, it includes more information.

EXAMPLES

Example 1 - The following command lists backups with a copy number of 1. They were backed up by the policy that is named `stdpol`, and created between July 1, 2009, and August 1, 2009.

```
# bpduplicate -PM -cn 1 -policy stdpol -s 07/01/09 -e 08/01/09
```

Example 2 - The following command creates a duplicate copy of the backup IDs in file name `plum`. It duplicates copy 1 to copy 5 on storage unit `Tape_stu` of pool `NBU`.

```
# bpduplicate -Bidfile plum dstunit Tape_stu -dp NBU -cn 1 -dcn 5
```

Example 3 - The following command can be all on one line, or you can use a backslash continuation character. The command duplicates copy 1 of the backups that are listed in file `bidfile` in the `tmp` directory. The destination storage unit is `unit1` and the destination pool is `dup_pool`. Progress information is written to `bpdup.ls`.

```
On UNIX and Linux systems: # bpduplicate -dstunit unit1 -Bidfile /tmp/bidfile -L /tmp/bpdup.ls -dp dup_pool -cn 1
```

```
On Windows systems: # bpduplicate -dstunit unit1 -Bidfile C:\tmp\bidfile -L C:\tmp\bpdup.ls -dp dup_pool -cn 1
```

Example 4 - The following command can be all on one line, or you can use a backslash continuation character. It is the same as the previous example, except multiplexed backups are duplicated when you select multiplexed duplication.

```
On UNIX and Linux systems: # bpduplicate -dstunit unit1 -Bidfile /tmp/bidfile -mpx -L /tmp/bpdup.ls -dp dup_pool -cn 1
```

```
On Windows systems: # bpduplicate -dstunit unit1 -Bidfile C:\tmp\bidfile -mpx -L C:\tmp\bpdup.ls -dp dup_pool -cn 1
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*
```

```
/usr/opensv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\*
```

```
install_path\NetBackup\logs\admin\*
```

bpcerror

bpcerror – display NetBackup status and troubleshooting information or entries from NetBackup error catalog

SYNOPSIS

```

bpcerror {-S | -statuscode status_code} [-r | -recommendation] [[-p
Unx | NTx] | [-platform Unx | NTx]] [-v]
bpcerror [-all | -problems | -media | tape] {-backstat [-by_statcode]}
[-L | -l | -U] [-columns ncols] [-d date | -hoursago hours] [-e date]
[-client client_name] [-server server_name] [-jobid job_id] [-M
master_server,...] [-v]
bpcerror [-s {severity[+]}|severity ...] [-t type ...] [-dt disk_type]
[-L | -l | -U] [-columns ncols] [-d date | -hoursago hours] [-e date]
[-client client_name] [-server server_name] [-jobid job_id] [-M
master_server,...] [-v]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

bpcerror displays information from either the same source as the online troubleshooter (in the Activity Monitor or Reports applications) or from the NetBackup error catalog. **bpcerror** provides the following types of displays:

- A display of the message that corresponds to a status code and, optionally, a recommendation on how to troubleshoot the problem. In this case, the display results come from the same source as the online troubleshooter for the local system.
- A display of the error catalog entries that satisfy the command-line options. For instance, **bpcerror** can display all the problem entries for the previous day.
- A display of the error catalog entries that correspond to a particular message severity and message type.

For information on details of the displays, see DISPLAY FORMATS later in this command description.

bpcerror writes its debug log information to the following directory:

On Windows systems: *install_path*\NetBackup\logs\admin

On UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

You can use the information in this directory for troubleshooting.

The output of `bperror` goes to standard output.

OPTIONS

`-all, -backstat [-by_statcode], -media, -problems`

These options specify the type and severity of log messages to display. The default type is ALL. The default severity is ALL.

`-all`: The type is ALL, and severity is ALL. Run `bperror` with this option and with `-U` to produce an All Log Entries report.

`-backstat`: The type is BACKSTAT, and severity is ALL. If `-by_statcode` is present, the display contains one entry for each unique status code. Line 1 of the entry contains the status code and the corresponding message text. Line 2 of the entry contains the list of clients for which this status code occurred. `-by_statcode` is only valid when the command line contains both `-backstat` and `-U`. Run `bperror` with this option and with `-U` to produce a Backup Status report.

`-media`: The type is MEDIADEV, and severity is ALL. Run `bperror` with this option and with `-U` produces a Media Logs report.

`-problems`: The type is ALL, and severity is the union of WARNING, ERROR, and CRITICAL. Run `bperror` with this option and with `-U` to produce a Problems report.

`-client client_name`

Specifies the name of a NetBackup client. This name must be as it appears in the NetBackup catalog. By default, `bperror` searches for all clients.

`-columns ncols`

For the `-L` and `-U` reports, `-columns` provides an approximate upper bound on the maximum line length. `bperror` does not try to produce lines exactly `ncols` characters in length.

`-columns` does not apply to the `-l` report.

`ncols` must be at least 40. The default is 80.

`-d date, -e date`

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time (optional) for the listing. The resulting list shows only images in the backups or archives that occurred at or after the

specified date-time. The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is 24 hours before the current date and time.

`-e` specifies an end date and time (optional) for the listing. The resulting list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format for the start date. The default is the current date and time. The end date must be greater than or equal to the start date.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The following is a typical format for the `-d` and `-e` options:

```
[-d mm/dd/yyyy hh:mm:ss | -hoursago hours]
[-e mm/dd/yyyy hh:mm:ss]
```

`-dt disk_type`

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

- 0 - All
- 1 - BasicDisk
- 2 - NearStore
- 3 - SnapVault
- 6 - DiskPool

`-hoursago hours`

Specifies a start time of many hours ago, which is equivalent to specifying a start time (`-d`) of the current time minus hours. Hours is an integer. The default is 24, which is a start time of 24 hours before the current time.

`-jobid job_id`

Specifies a NetBackup job ID. By default, `bperrot` searches for all job IDs.

-l

Reports in long format.

-l

Reports in short format. This report produces a terse listing. This option is useful for scripts or the programs that rework the listing contents into a customized report format. This option is the default list type.

-M *master_server,...*

Specifies a comma-separated list of one or more hostnames. The command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

-p Unx | NTx, -platform Unx | NTx

Displays the message that applies to the platform (UNIX or Windows) for the specified status code. The default is to display the message for the platform on which **bpperror** is running. The **-S** or **-statuscode** option must be specified when you use this option.

-r | -recommendation

Displays the recommended action for the specified status code from the troubleshooting guide. The default is not to display the recommendation. The **-S** or **-statuscode** option must be specified when you use this option.

-S *status_code, -statuscode status_code*

Displays the message that corresponds to the status code. This option has no default condition.

-s *severity, -s severity+*

Specifies the severity of log messages to display. The defined values are ALL, DEBUG, INFO, WARNING, ERROR, and CRITICAL.

You can specify severity in two ways. The first way is a list of one or more severity values. For instance, "**-s INFO ERROR**" displays the messages with either severity **INFO** or severity **ERROR**. The delimiter must be a blank (" ") between the elements in the list. The second way is a single severity value with "+" appended, which is this severity or greater. For instance "**-s WARNING+**" displays the messages with severity values **WARNING**, **ERROR**, and **CRITICAL**.

The default is **ALL**. The severity value can be in uppercase or lowercase.

`-server server_name`

Specifies the name of a NetBackup server. This name must be as it appears in the NetBackup catalog. The display is limited to the messages that are logged for this server, which also satisfies the criteria for any other `bperor` options. For example, if `-server plim` and `-hoursago 2` are `bperor` options, the display contains the messages that were logged for `plim` in the past two hours.

The server name must match the server name that was recorded in the log messages. For example, if the logs record the server name as `plim.null.com`, `-server plim` does not display the logs, but `-server plim.null.com` does.

The query goes to the error catalog which resides on either the local master server or the master server that `-M` specifies. The master server must allow access by the system that runs `bperor`.

The default is to display log messages for all media servers that are known to the master server(s).

`-t type`

Specifies the type of log messages to display. The defined values are `ALL`, `BACKSTAT`, `MEDIADEV`, `GENERAL`, `BACKUP`, `ARCHIVE`, `RETRIEVE`, and `SECURITY`. The default is `ALL`. The type value can be upper or lower case. It is entered as a list of one or more values. For instance, `-t BACKSTAT MEDIADEV` displays the messages with either type `BACKSTAT` or type `MEDIADEV`. The delimiter between the list elements must be a blank (" ").

`-U`

Reports in user format. NetBackup report-generating tools such as the NetBackup-Java Reports application uses this report.

`-v`

Verbose mode. This option causes `bperor` to log additional information for the debugging purposes that go into the NetBackup-administration daily debug log. `-v` is meaningful only when NetBackup has debug logs enabled (`install_path\NetBackup\logs\admin\usr\openv/netbackup/logs/admin` directory defined). The default is to not be verbose.

DISPLAY FORMATS

The following are display formats of the `bperor` command:

- Status code display (for example, `bperor -S status_code`):

`bpperror` queries the NetBackup online troubleshooter on the local system for the message that corresponds to the status code. `bpperror` displays the message text on one line and an explanation on a second line.

If `-r` is an option, `bpperror` also queries for the troubleshooting recommendation that corresponds to the status code. `bpperror` displays the recommendation following the status message, on one or more lines.

- **Error catalog display (for example, `bpperror -all`; `bpperror -s severity`):**
`bpperror` queries the NetBackup error catalog on either the local master server or the master servers in the `-M` option list. The display consists of the results that are returned from querying the error catalog on the master server(s). The results are limited to catalog the entries that satisfy all the `bpperror` options. For example, the `bpperror` command line may contain options for client, start time, and end time. If so, then `bpperror` reports only the jobs that are run for that client between the start time and end time.
The display variant that shows individual message entries from the error catalog can appear in long (`-L`), user (`-U`), or short (`-l`) format. The display variant that categorizes by status code can appear in user (`-U`) format only. The following is the display content for each of these formats:
- **Error catalog display, individual message entries, long format (for example, `bpperror -media -L`):** This report produces several lines per log entry, with the following contents:
 - Line 1: Date and time
 - V:NetBackup version
 - S:Server
 - C:Client
 - J:Job ID
 - (U:Job group ID and an unused field.) If a policy is multistream enabled, the job group ID is the job ID of the first job that spawned a collection of multistreaming backups. If multistreaming is disabled for the policy, the job group ID is always zero.
 - Line 2: Severity (severity name and severity code in hexadecimal)
 - Type (type name and type code in hexadecimal)
 - Who (name of the entity that added the log entry)
 - Line 3: Text (at the start of the log message text, continued on subsequent lines if necessary)
- **Error catalog display, individual message entries, user format (for example, `bpperror -media -U`):** The user format produces a header line that shows column names, and one or more lines per log entry with these contents:
 - Line 1: Date and time
 - Server

Client

Text (at the start of the log message, continued on subsequent lines if needed)

- Error catalog display, individual message entries, short format (for example, `bpererror -media -l`). The short format produces a single line per log entry, with the following contents:

Line 1: Time (internal system representation)

NetBackup version

Type code (decimal)

Severity code (decimal)

Server

Job ID

Job Group ID

An unused field

Client

Who

Text (the entire log message text, with no truncation of the line length)

- Error catalog display that the status code categorizes. This display reports only each unique status code, instead of listing every log entry for that status code (for example, `bpererror -backstat -by_statcode -U`). This option produces two or more lines per status code, with the following contents:

Line 1: Status code

Text (the beginning of the log message text, continued on subsequent lines if necessary)

Line 2: The list of clients for which this status occurred.

EXAMPLES

Example 1 - Display the error for a job that failed because the NetBackup encryption package was not installed. Status code 9 is the NetBackup status code for this failure. The second run of `bpererror` displays the action that is recommended for NetBackup status code 9.

```
# bpererror -d 12/23/2010 16:00:00 -e 12/23/2010 17:00:00 -t backstat
-U
STATUS CLIENT      POLICY    SCHED    SERVER    TIME COMPLETED
9      plim      dhcrypt  user     plim      12/23/2010 16:38:09
an extension package is needed, but was not installed
# bpererror -S 9 -r
an extension package is needed, but was not installed
A NetBackup extension product is required in order to perform the
```

requested operation.
Install the required extension product.

Example 2 - Report the problems in the User format that have occurred in the previous 24 hours.

```
# bpcerror -U -problems
      TIME                SERVER CLIENT - TEXT
11/23/2007 16:07:39 raisins - no storage units configured
11/23/2007 16:07:39 raisins - scheduler exiting - failed reading
storage unit database information (217)
11/23/2007 16:17:38 raisins - no storage units configured
11/23/2007 16:17:38 raisins - scheduler exiting - failed reading
storage unit database information (217)
11/23/2007 18:11:03 raisins nut bpcd on nut exited with status 59:
access to the client was not allowed
11/23/2007? 18:11:20 raisins - WARNING: NetBackup database backup is
currently disabled
```

Example 3 - The following example displays status for type backstat for the jobs that are run in the previous 24 hours. The option -by_statcode produces a display that is organized by status code.

The display shows that one or more jobs for each of the clients chive, gava, and raisins have completed successfully (the status code is 0). In addition, one or more jobs for client nut have failed because nut did not allow access by the master server or media server. (The status code is 59.)

```
# bpcerror -U -backstat -by_statcode
      0   the requested operation was successfully completed
      chive gava raisins
      59  access to the client was not allowed
      nut
```

Example 4 - Identify and retrieve the results for a particular user job. It first lists the log entries with job IDs other than zero. It then runs a User-format report on the job of interest.

```
# bpcerror -hoursago 2007 -L | grep 'S:' | egrep 'J\:[1-9]'
```

```
12/21/2007 17:24:14 V1 S:plim C:plim J:1 (U:0,0)
12/23/2007 16:31:04 V1 S:plim C:plim J:1 (U:0,0)
12/23/2007 16:38:04 V1 S:plim C:plim J:3 (U:0,0)
# bpcerror -d 1/7/2007 -jobid 34 -U
      TIME                SERVER CLIENT - TEXT
01/07/2007 13:12:31 plim plim started backup job for client plim,
```

```
policy jdncrypt, schedule user on storage unit jdncrypt
01/07/2007 13:12:40 plim plim successfully wrote backup id
plim_0947272350,copy 1, fragment 1, 32 Kbytes at 11.057 Kbytes/sec
01/07/2007 13:12:41 plim plim CLIENT plim POLICY jdncrypt SCHED user
EXIT STATUS 0 (the requested operation was successfully completed)
```

Example 5 - Show media entries in the error catalog for the past 2000 hours.

```
bperror -hoursago 2000 -media -U
      TTIME          SERVER CLIENT - TEXT
12/23/2007 16:31:04 plim plim Media Manager terminated during mount
of media id A00000, possible media mount timeout
12/24/2007 04:31:20 plim - media id A00000 removed from Media
Manager database (manual deassign)
```

Example 6 - Report and add up the total number of bytes backed up in the past 24 hours.

```
bperror -all -hoursago 24 | grep "successfully wrote backup id | awk
'{bytes= bytes + $20} END {print "backed up",bytes," Kbytes of
data"}'
backed up 64 Kbytes of data
up",bytes," Kbytes of data")'
```

bpexpdate

bpexpdate - change expiration date of backups in image catalog and media in media catalog

SYNOPSIS

```

bpexpdate -m media_id -d date | 0 | infinity [-host name] [-force]
[-nodelete] [-notimmediate] [-M master_server,...]
bpexpdate -deassignempty [-m media_id] [-force] [-M master_server,...]
bpexpdate -backupid backup_id -d date | 0 | infinity [-client name]
[-copy number] [-force] [-nodelete] [-notimmediate] [-M
master_server,...]
bpexpdate -recalculate [-backupid backup_id] [-copy number] [-d date
| 0 | infinity] [-client name] [-policy name] [-ret retention_level]
[-sched type] [-M master_server,...]
bpexpdate -stype server_type [-dp disk_pool_name [-dv disk_volume]]
[-nodelete] [-notimmediate] [-M master_server,...]

```

On UNIX and Linux systems, the directory path to this command is
 /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
 <*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

NetBackup maintains catalogs, which are internal databases with backup image and media information. The image record in the image catalog contains an expiration date. The media ID in the media catalog also contains an expiration date. The expiration date is the date and time when NetBackup removes the record for a backup or a media ID from the corresponding catalog.

The **bpexpdate** command allows the expiration date and time of backups to be changed in the NetBackup image catalog. The command is also used to change the expiration of removable media in the NetBackup media catalog. If the date is set to zero, **bpexpdate** immediately expires backups from the image catalog or media from the media catalog. When a media ID is removed from the NetBackup media catalog, it is also removed from the Enterprise Media Manager Database. It is removed regardless of the media's previous state (FROZEN, SUSPENDED, and so on).

You can change the expiration on a media ID basis or on an individual backup ID basis. When you change the expiration date of a media ID, the expiration date of

all backups on the media are also changed. `bpexpdate` also provides the following options:

- Remove media from the media catalog if they no longer contain valid backups.
- Recalculate the expiration date to base it on the configured or a supplied retention level.

Any authorized user can run this command.

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

OPTIONS

The different formats of the command are as follows:

`-backupid`

Changes the expiration of a single backup. If the date is zero, the backup is removed from the image catalog. If the backup is on removable media and the `-d` expiration is greater than the current media ID expiration, the media catalog expiration also changes. The change affects all copies of a backup, unless the `-copy` option is used. The `-copy` option causes only the specified copy to be affected.

`-deassignempty`

Searches the catalog for the removable media that no longer contain valid backups. It removes the media from the media catalog and removes the media IDs in the Media Manager catalog. The media is then available to use again. You can use the NetBackup Images on Media report to determine if the assigned media no longer contain valid backups.

`-m`

Changes the expiration date or removes the media ID from the media catalog and associated backups from the NetBackup catalog. A separate expiration date is maintained in the image catalog for each copy of a backup. When this format is used, only the expiration of the copy on the media is affected. If you remove the media ID from the media catalog by specifying a zero date, you also remove it in the Enterprise Media Manager Database.

`-recalculate`

Allows the expiration date of backups to be changed based on the specified retention level, or you can specify a new expiration date. When the expiration changes according to retention level, the new date is based on the creation date of the backup plus the retention level value. The expiration can be changed for a single backup, or for all backups for a particular client, policy, or schedule type.

If the backup is on removable media, the expiration in the media catalog changes if the command expiration is greater than the current expiration.

`-stype server_type`

A string that identifies the storage server type. Possible values are AdvancedDisk, OpenStorage (*vendorname*), and PureDisk.

OPTIONS

`-client name`

Specifies the client name for the `-backupid` and `-recalculate` operations.

For the `backupid` operation, this option causes NetBackup to first search for the backup ID for the specified client. This option is useful if the client name has changed.

For `recalculate`, this option causes NetBackup to recalculate the expiration date to be based on the retention level for all the specified client backups.

`-copy number`

Expires or changes the expiration date of the specified copy number and is valid only with the `-backupid` and `-recalculate` options. Valid values are 1 through 10.

If the primary copy is expired, the other copy becomes the primary copy. If this option is not specified, the expiration affects both copies of the backup.

`-d date`

Specifies the expiration date and time. *date* can be any one of the following:

- *mm/dd/yy hh:mm:ss*
- 0 - the backup or media expires immediately
- *infinity* - the backup never expires

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

`-deassignempty`

Expires the removable media from the media catalog when that media no longer contain valid backups. It also deassigns the media ID in the Media Manager catalog.

`-dp disk_pool_name -dv disk_volume`

Specifies the disk pool and, optionally, the disk volume for the expiration date operation to be performed.

`-force`

Before you run the specified operation, `bpxpdate` queries before it starts the operation. This option forces the `bpxpdate` command to carry out the operation without querying the user.

`-host name`

Note: For the NetBackup server, this option is not required because only one server (the master) exists. If you do use the option, specify the host name of that server.

Specifies the host name of the server to which the media is assigned. This option should be used only with the `-m media_id` option, and then only if the following is true: The master has remote media servers and the volume was not written on the server where you run `bpxpdate`.

For example, assume that you have a master server named `whale` and a media server named `eel`. You run the following command on `whale` to remove media ID `BU0001` manually from the media catalog and all corresponding backups from the image catalog:

```
bpxpdate -m BU0001 -d 0 -host eel
```

You can use the NetBackup Media List report to determine which server's media catalog has the volume.

`-m media_id`

Specifies the media ID that the expiration date change affects. The expiration dates of the backups on the media ID also change. The `-d` option must be included with this option.

This option can also be used when the `-deassignempty` option is specified to check if valid backups exist on this particular media ID. In this case, do not include the `-d` option.

The media ID must be six or fewer characters and must be in the NetBackup media catalog.

`-M master_server [,...]`

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:
For NetBackup server :

NetBackup server supports only one server (the master) with no remote media servers. Therefore, the default in this case is always the master server where you run the command.

For NetBackup Enterprise Server:

If the command is run on a master server, then that server is the default. If the command is run on a media server that is not the master, then the master for that media server is the default.

`-nodelete`

Deletes the backup from the image catalog but does not delete it from the disk storage. Use this option when you unimport a disk group from one master server and import the disk group to a different master server.

`-notimmediate`

Inhibits the call that `bpexpdate` makes to the `nbdelete` command after it expires an image on disk. If you intend to delete many images at the same time, use `-notimmediate` to avoid the overhead of multiple job creation for `nbdelete` to process. You can then run the `nbdelete` command later.

`-policy name`

Specifies the policy name and is valid with the `-recalculate` option. When the policy name is specified, the expiration is recalculated based on the retention level for all backups that are created in this policy.

`-recalculate`

Recalculates the expiration of backups that are based on the retention level or you can specify a new expiration date. You can include other options to change the expiration for a single backup, or for the following: All backups for a specific client name, policy name, or schedule type. Either the `-d` or `-ret` option must be specified with this option.

`-ret retention_level`

Specifies the retention level to use when you recalculate expiration dates and is valid with the `-recalculate` option. Levels range from 0 to 24. The new expiration date is the backup's creation date plus this retention level. You must specify either `-backupid` or `-policy` with this option.

`-sched type`

Specifies the schedule type and is valid with the `-recalculate` option. When the type is specified, the expiration is recalculated based on the retention

level for all backups that are created with this schedule type. Enter a numeric value for type as follows:

- 0 = Full
- 1 = Differential Incremental
- 2 = User Backup
- 3 = User Archive
- 4 = Cumulative Incremental

The `-policy` option must be specified with `-sched`.

NOTES

Some options in large environments can take a significant amount of time to complete. Changes that cause backups or media to expire are irrevocable. You may be required to import backups or recover previous versions of the catalogs if you make mistakes by using this command.

EXAMPLES

Example 1 - The following command runs on the master server and removes media ID BU0002 from the media catalog. It deassigns the media ID in the media manager catalog. It also expires associated image records in the image catalog.

```
# bpexpdate -m BU0002 -d 0
```

Example 2 - Change the expiration of copy 2 of `backupid eel_0904219764`. It does not affect the expiration of copy 1 of the backup.

```
# bpexpdate -backupid eel_0904219764 -d 12/20/2010 08:00:00 -copy 2
```

Example 3 - Remove the backup from the image catalog. Since the `-copy` option is not specified, all copies are removed.

```
# bpexpdate -backupid eel_0904219764 -d 0
```

Example 4 - Check for media in the media catalog of host `cat` that is still assigned, but no longer contain valid backups. The command removes any such media from the catalog and deassigns them in the media manager catalog.

```
# bpexpdate -deassignempty -host cat
```

Example 5 - Recalculate the expiration date of backup ID 1234 to the date 10/31/2010.

```
# bpexptime -recalculate -backupid 1234 -d 10/31/10
```

Example 6 - Recalculate the expiration date of backup ID 1234 based on a retention level. The new retention level is 4 which is two months (default value). Backup ID 1234 is now scheduled to expire in 2 months.

```
# bpexptime -recalculate -backupid 1234 -ret 4
```

FILES

UNIX and Linux systems:

```
/usr/opens/netbackup/logs/admin/*  
/usr/opens/netbackup/db/media/*  
/usr/opens/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\  
install_path\NetBackup\db\media\  
install_path\NetBackup\db\images\  
install_path\NetBackup\logs\admin\  
install_path\NetBackup\db\media\  
install_path\NetBackup\db\images\
```

bpfis

`bpfis` – create or delete a snapshot, or return information about existing snapshots

SYNOPSIS

```
bpfis create [-rhost host] [-id id] [-v] [-V] [-owner owner] -fim  
fim_name[:option=value,option=value,...] [-pt policy_type] file1  
[file2...]
```

```
bpfis delete [-force] -id id
```

```
bpfis deletedb -id id
```

```
bpfis query [-id id]
```

```
bpfis verify [create_options]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `bpfis` command can create, delete, or query snapshots of a client system (file system or volume).

Note: To store the image on tape or other media requires that you run a separate backup job.

For more detailed examples and procedures for using `bpfis`, refer to the *NetBackup Snapshot Client Administrator's Guide*.

You must have administrator privileges to run this command.

OPTIONS

The `bpfis` command allows the following operations:

`create`

Creates a snapshot with the specified snapshot method.

`delete`

Deletes the snapshot that `-id` identifies.

`deletedb`

Deletes from the snapshot database the snapshot entry that `-id` identifies.

query

Retrieve detailed information on the specified snapshot of a client system.

verify

Verify that the snapshot that *create_options* describes is able to be created.

The following are the other options for the `bpfis` command:

`-rhost`

The remote host or alternate client on which the snapshot is made accessible. The default is the local host.

On UNIX and Linux systems, the `-rhost` option can be used with the FlashSnap, VVR, TimeFinder, BusinessCopy, and ShadowImage methods only.

On Windows systems, the `-rhost` option can be used with the FlashSnap method only.

`-id`

For `bpfis create`, this option is a user-defined snapshot identifier. The default ID is a timestamp that shows when the image was created.

For `bpfis delete`, this option designates the ID of the snapshot to be deleted.

For `bpfis query`, this option designates the ID of the snapshot for which to return information.

`-v -V`

Indicates the verbosity levels in the log files. `-v` is a higher level of verbosity than `-v`. Default is non-verbose.

`-owner owner`

Specifies the owner of this snapshot (default is GENERIC).

`-fim fim_name[:option=value,option=value, ...]`

Specifies the snapshot method to use to create the image. Select the method by using the type of data and hardware that the client uses.

For details on snapshot methods, refer to the *NetBackup Snapshot Client Administrator's Guide*.

The available options depend on the snapshot method. For a list of snapshot methods and their options, refer to the `<opt_params>` area of each snapshot method (FIM) listed in the `vf.m.conf` file.

For example, under the BusinessCopy snapshot method, the first optional parameter is listed as follows:

```
keep_fi=%b[0]#Keep frozen image after backup
```

Where `keep_fi=` is the option, and the value is Boolean (0 for no, 1 for yes).

For an example of the `bpfis` command that uses the *value* option, refer to `bpfis` in the *NetBackup Snapshot Client Administrator's Guide*.

`-pt policy_type`

Specifies the NetBackup policy type that the snapshot method must support.

`file1 file2`

Specifies the path of the file system or volume from which the snapshot is to be made.

`-force`

Specifies the force delete.

EXAMPLES

Example 1 - Create a snapshot of `/mnt/ufscon` on `hostB` by using the FlashSnap method on a UNIX or Linux client.

```
/usr/opensv/netbackup/bin/bpfis create -rhost hostB -fim FlashSnap  
/mnt/ufscon
```

Sample output:

```
INF - BACKUP START 26808  
INF - FIS_ID=1034037338  
INF - REMAP FILE BACKUP /mnt/ufscon USING  
/tmp/_vrts_frzn_img_26808/mnt/ufscon  
OPTIONS:ALT_PATH_PREFIX=/tmp/_vrts_frzn_img_26808,FITYPE  
=MIRROR,MNTPOINT=/mnt/ufscon,FSTYPE=ufs  
=MIRROR,MNTPOINT=E:\,FSTYPE=NTFS  
INF - EXIT STATUS 0: the requested operation was successfully  
completed
```

Example 2 - Create a snapshot of `E:\` on `hostB` by using the FlashSnap method on a Windows client.

```
install path\bin\bpfis create -rhost hostB -fim FlashSnap E:\
```

Sample output:

```
INF - BACKUP START 26808  
INF - FIS_ID=1034037338  
INF - REMAP FILE BACKUP E: USING <GUID>  
OPTIONS:ALT_PATH_PREFIX=/tmp/_vrts_frzn_img_26808,FITYPE
```

```
INF - EXIT STATUS 0: the requested operation was successfully
completed
```

Example 3 - Obtain information about a particular snapshot on the local host:

```
# bpfis query -id 1034037338
```

Sample output:

```
INF - BACKUP START 26838
INF - Frozen image host : ricochet
INF - Frozen image owner: GENERIC
INF - Time created      : Mon Oct  7 19:35:38 2007

INF - REMAP FILE BACKUP /mnt/ufskon USING (UNIX and Linux systems)

INF - REMAP FILE BACKUP E: USING <GUID> (Windows systems)

/tmp/_vrts_frzn_img_26808/mnt/ufskon (UNIX and Linux systems)
OPTIONS:ALT_PATH_PREFIX=/tmp/_vrts_frzn_img_26808,FITYPE=MIRROR,
MNTPOINT=/mnt/ufskon,FSTYPE=ufs (UNIX and Linux systems)
MNTPOINT=E:\,FSTYPE=NTFS (Windows systems)

INF - EXIT STATUS 0: the requested operation was successfully
completed
```

Example 4 - Delete a snapshot on the local host:

```
# bpfis delete -id 1034037338
```

Sample output:

```
INF - BACKUP START 26839
INF - EXIT STATUS 0: the requested operation was successfully
completed
```

bpgetconfig

`bpgetconfig` – helper program to obtain configuration information

SYNOPSIS

bpgetconfig -M *master* [-x | -X] [*config_item* ...]

bpgetconfig [-u | -h] [-x | -X] [*config_item* ...]

bpgetconfig -H *config_item*

bpgetconfig -g *server* [-L | -U | -l] [-c] [-A]

bpgetconfig -s *server* [-L | -U | -l] [-c] [-A]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bpgetconfig` can be used as a stand-alone program or as a helper program for the `backuptrace` and the `restoretrace` commands to obtain configuration information. This command is available for all NetBackup server platforms. It displays the configuration information of a specified server in various formats.

`bpgetconfig` also retrieves general host information from a specified host server by using the `-g` or `-s` option.

You must have administrator privileges to run this command.

OPTIONS

-A

Displays all available system information. The `-A` option can be used only with the `-g` or `-s` option.

-c

Displays the ciphers, one per line, that are appended to the `-g` or `-s` option output. The `-c` option can be used only with the `-g` or `-s` option.

-e

Writes the `exclude_list` from *server* to *filename*.

`-g server`

Selects the host server (*server*) for which the following general Backup Exec and NetBackup information appears:

- Master or Client
- NetBackup Client Platform
- NetBackup Client Protocol Level
- Product Type (for Backup Exec if installed, else NetBackup)
- Version Name (for Backup Exec if installed, else NetBackup)
- Version number (for Backup Exec if installed, else NetBackup)
- Installed Path for NetBackup Bin (null if Backup Exec is installed)
- Installed OS for host server

`-H config_item`

Displays the valid configuration items.

`-h`

Displays the default local host configuration.

`-i`

Writes the `include_list` from *server* to *filename*.

`-L`

Displays a long, user-readable list. The `-L` option can be used only with the `-g` or `-s` option.

`-l`

Displays a compact, machine-readable list. The `-l` option can be used only with the `-g` or `-s` option.

`-M master`

Specifies the master server (*master*) whose host configuration appears.

`-s server`

Selects the host server (*server*) for which the following general system information that is NetBackup specific appears:

- Master or Client
- NetBackup Client Platform
- NetBackup Client Protocol Level
- Product Type (NetBackup)

- Version Name
- Version number
- Installed Path for NetBackup Bin
- Installed OS for host server

-t

Displays the tier information, one item per line, that is appended to the -s option output. The -t option can be used only with the -g or -s option.

-U

Displays a brief, user-readable list (default). The -U option can be used only with the -g or -s option.

-u

Displays the current user configuration.

-X

Lists all configuration items by default. The -x and -X options may be combined with the -M, -h, and -u options. The -x and -X options have no effect if one or more configuration items are specified on the command line. If *config_item* is specified, it appears on the specified configuration items.

-x

Excludes the items not explicitly listed in the configuration.

EXAMPLES

Example 1 - Retrieve the VERSIONINFO option setting from the bp.conf file.

```
# bpgetconfig VERSIONINFO
VERSIONINFO = "SunOS" "5.9" "Unknown" "NetBackup" "7.0" 700000
```

Example 2 - Retrieve all available system information and display a long, user-readable list.

```
# bpgetconfig -s hagar -A -L
Client/Master = Master
NetBackup Client Platform = Solaris, Solaris9
NetBackup Client Protocol Level = 7.0
Product = NetBackup
Version Name = 7.0
Version Number = 700000
NetBackup Installation Path = /usr/opensv/netbackup/bin
Client OS/Release = SunOS 5.9
```

```
Cipher =  
Patch Level = 7.0
```

bpgetdebuglog

bpgetdebuglog – Run helper program for **backuptrace** and **restoretrace**. Prints out debug log file. Useful as a stand-alone program.

SYNOPSIS

```
bpgetdebuglog remote_machine [remote_program mmddy]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

If all three arguments are specified, **bpgetdebuglog** prints the contents of the specified debug log file to standard output. If only *remote_machine* is specified, **bpgetdebuglog** prints to standard output the number of seconds of clock drift between the local computer and the remote machine. A positive number means that the local computer is ahead of the remote machine. A negative number means that the remote machine is ahead of the local computer.

The **bpgetdebuglog** command must be in the specified directory (see SYNOPSIS) for **backuptrace** and **restoretrace** to use it.

You must have administrator privileges to run this command.

OPTIONS

remote_machine

Name of the remote server.

remote_program

Name of the debug log directory on the remote server.

mmddy

The day stamp that is used to identify the log file (log.mmddy for UNIX and Linux, mmddy.log for Windows) to be read.

EXAMPLE

```
# bpgetdebuglog peony bpcd 071207  
# bpgetdebuglog peony
```

bpimage

bpimage – perform functions on stored images in a database

SYNOPSIS

```
bpimage [-de]compress [-allclients | -client name]  
bpimage [-M master_server,...,master_server]  
bpimage -npc copy # -backupid backupid [-client name]  
bpimage -newserver newserver_name [-oldserver oldserver_name] [-id  
id]  
bpimage -deletecopy # -backupid backupid  
bpimage -testlock # -backupid backupid  
bpimage -prunetir [-allclients | -client name] -cleanup  
bpimage -create_image_list -client name  
bpimage -index index_number -client name  
bpimage -wff path_bytes -backupid backupid [-client name]  
bpimage -update [-secinfo 0|1 | -rfile 0|1 | -filesyonly 0|1 |  
-numfiles number | -keyword keyword_phrase | -objdesc string] [-client  
name -policy name -t type -d mm/dd/yyyy HH:MM:SS] [-id id]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\
```

DESCRIPTION

This command can be used to perform many different functions to images that are stored in a database. Some of the functions are as follows:

- Compress and decompress the stored images.
- Remove existing images from the database.
- Test the locking capability on an image.
- Create an image list file that can be used to qualify an image.
- Index a client.

OPTIONS

The following options represent the criteria that determine which images or media are selected for the report. Where images are discussed in these options, media can be substituted if the context refers to a media report.

`-allclients`

Selects all NetBackup clients that are already backed up on the system.

`-backupid backup_id`

Specifies a backup ID to use for finding applicable images.

`-client name`

Specifies a client name to use for finding backups or archives to list. This name must be as it appears in the NetBackup catalog.

`-cleanup`

Deletes expired images, compresses the images that are scheduled to be compressed, and prunes the TIR information from the specified images.

Note: This option enables a user to accomplish the same tasks manually that the scheduler performs on a regular basis. It can be used when the user does not have enough time to wait for the scheduler to perform these tasks.

`-create_image_list`

Creates an `image_list` file and an `image_info` file that can be used quickly to qualify an image.

`-d date`

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time for the listing. The list shows only images in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

- [de]compress
Initiates compression or decompression of a specified client or all clients.
- deletecopy #
Removes the images that the copy number (#) and the *backup_id* specify.
- filesysonly 0|1
Limits *bpimage* to query only the local file system if set to 1.
- id *id*
Specifies the media ID when used with the *-newserver* command or specifies the backup ID when used with the *-update* command.
- index *n*
Indexes the database. The *n* variable is the index level and has a range from 1 to 9. A value of 9 provides the most optimum index. This option applies only to ASCII.
- keyword "*keyword_phrase*"
Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the phrase that was previously associated with the image.
- objdesc *string*
Specifies the object description string of the Informix client type when used with the *-update* command.
- newserver *name* | -oldserver *name*
Specifies the new name or the old name of a NetBackup server.
- npc *copy #*
Sets the specified image as the primary image, which is based on the copy number of the image.
- numfiles *number*
Specifies the number of files when used with the *-update* command.
- M *master_server,...*
Specifies a list of alternative master servers. This list is a comma-delimited list of hostnames. Each master server in the list runs the *bpimage* command. If an error occurs for any master server, the process stops at that point.

The report is the composite of the information that all the master servers in this list returned. *bpimage* queries each of these master servers. The master server returns image or media information from the image catalogs. Each master server must allow access by the system that issues the *bpimage* command.

The default is the master server for the system running *bpimage*.

`-policy name`

Searches for backups to import in the specified policy. The default is all policies.

`-prunetir`

Prunes the true image restore (TIR) information from the specified clients. The default is all clients.

`-rfile 0|1`

Use the Restore file when used with the `-update` command.

`-secinfo 0|1`

Use the Extended Security information on the NetWare client type.

`-t type`

Specifies a policy type. By default, `bpimage` searches for all policy types. *type* is one of the following character strings:

Informix-On-BAR
MS-Exchange-Server
MS-SQL-Server
MS-Windows
NetWare
Oracle
OS/2
Standard
Sybase
NDMP

The following policy types apply only to NetBackup Enterprise Server:

AFS
DataTools-SQL-BackTrack
DB2
FlashBackup
SAP
Split-Mirror

`-update`

Updates an image that is based on the chosen parameter.

`-wff path bytes`

Writes the files *file* (image .*f* file) for the backup that is specified with `-backupID`.

bpimagelist

`bpimagelist` - produce status report on NetBackup images or removable media

SYNOPSIS

```
bpimagelist [-media] [-l | -L | -U | -idonly] [-tape] [-d date] [-e  
date] [-hoursago hours] [-keyword "keyword phrase"] [-client  
client_name] [-server server_name] [-backupid backup_id] [-option  
INCLUDE_PRE_IMPORT | INCLUDE_TIR | LIST_COMPLETE_COPIES |  
LIST_OLD_TO_NEW | ONLY_PRE_IMPORT | ONLY_TIR] [-policy policy_name]  
[-pt policy_type] [-rl retention_level] [-sl sched_label] [-st  
sched_type] [-class_id class_guid] [-stl_complete] [-stl_incomplete]  
[-stl_name storage_service_name] [-M master_server,...] [-v]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd
```

DESCRIPTION

`bpimagelist` uses a specified format to report on catalog images or the removable media that matches the attributes that are sent from the command options. `bpimagelist` reports on the removable media if the `-media` option is on the command line. If not, it reports on the catalog images.

It writes its debug log information to the following directory:

On UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

On Windows systems: `install_path\NetBackup\logs\admin`

You can use the information in this directory for troubleshooting.

The output of `bpimagelist` goes to standard output.

Authorized users can run this command.

For more information about NetBackup authorization, refer to the *NetBackup Administrator's Guide*.

OPTIONS

The following is the `bpimagelist` report-type option:

`-media`

Specifies that the listing reports on the removable media that are based on a set of criteria. If `-media` is not in the command line, the report is on images, not media.

The following are the `bpimagelist` report-format options:

`-U`

Generates the report in User mode. The report is formatted. It includes a banner that lists the column titles. The status is a descriptive term instead of a number.

`-L`

Generates the report in Long mode. For instance, for the Media List report, the report lists the information for each media ID as a series of *attribute = value* pairs. The density value is provided as both a descriptive term and a number.

`-l`

Reports in Short mode, which produces a terse listing. This option is useful for the scripts or programs that rework the listing contents into a customized report format.

`-idonly`

Produces an abbreviated list. For an image list, the list contains the creation time, backup ID, and schedule type of each image. For instance, if the list criterion is a window of time, the image list contains the following: For each image that is created in this window, only the creation time, backup ID, and schedule type of the image.

For a media list, the list contains only the applicable media IDs. For instance, if the list criterion is a window of time, the list contains only the media IDs that are written in this window.

The following options represent the criteria that determine which images or media are selected for the report. Where images are discussed in these options, media can be substituted if the report is a media report.

`-hoursago hours`

Includes the images that were written up to this many hours ago. This option is equivalent to a specification of a start time (`-d`) of the current time minus *hours*. *hours* must be 1 or greater.

`-option option_name,...`

Specifies one or more criteria for finding images to list. `option_name` is one of the following character strings, in uppercase or lowercase:

- INCLUDE_PRE_IMPORT - Report the images that completed phase 1 of an import.
Refer to the `bpimport` command description or the *NetBackup Administrator's Guide* for more information.
- INCLUDE_TIR - Report the images that true-image-recovery backups created.
Refer to the `bpcpinfo` command description or the *NetBackup Administrator's Guide* for more information on this topic.
- LIST_COMPLETE_COPIES - Do not report fragments of a duplicate copy that is still in process.
- LIST_OLD_TO_NEW - Report images by oldest to newest date.
- ONLY_PRE_IMPORT - Report only the images that completed phase 1 of an import.
- ONLY_TIR - Report only the images that true-image-recovery backups created.

The default is no restrictions on the selected images.

`-backupid backup_id`

Specifies a backup ID to use for finding applicable images (applies only to the image list).

`-class_id class_guid`

Specifies a class identifier to use to select images. The identifier represents a GUID (globally unique identifier). The `bpimagelist` command reports only those images with the specified class identifier.

`-client client_name`

Specifies a client name to use for finding backups or archives to list. This name must be as it appears in the NetBackup catalog. By default, `bpimagelist` searches for all clients.

`-server server_name`

Specifies the name of a NetBackup server or ALL. If `-server` specifies a server name, then the images or media in the report are only those that reside on that server. The images also satisfy the other criteria that `bpimagelist` specifies. For instance, if `-hoursago 2` is specified, the media must contain an image that was created in the past two hours.

The query goes to the image catalog that resides on the local master server. The master server must allow access by the system running `bpimagelist`.

The default is to report all media in the image catalog on the local master server, which is equivalent to the specification of `-server ALL`.

`-stl_complete`

Reports only the images that the storage lifecycle completely processed. This option cannot be used with the `stl_incomplete` option.

`-stl_incomplete`

Reports only the images that the storage lifecycle has not completely processed. This option cannot be used with the `stl_complete` option.

`-stl_name storage_lifecycle_name`

Specifies a storage lifecycle name to be used when you select images. Only images with the specified storage lifecycle name are selected.

`-M master_server,...`

Specifies a list of one or more alternative master servers. This list is a comma-delimited list of hostnames. If this option is present, each master server in the list runs the `bpimagelist` command. If an error occurs for any master server, the process stops at that point.

The report is the composite of the information that all the master servers in this list return. `bpimagelist` queries each of these master servers. The master server returns image or media information from the image catalogs. Each master server must allow access by the system that issues the `bpimagelist` command.

The default is the master server for the system running `bpimagelist`.

`-pt policy_type`

Specifies a policy type. By default, `bpimagelist` searches for all *policy types*. `policy_type` is one of the following character strings:

```
Informix-On-BAR
MS-Exchange-Server
MS-SQL-Server
MS-SharePoint
MS-Windows-NT
NetWare
Oracle
OS/2
Standard
Sybase
NDMP
```

Note that the following policy types apply only to the NetBackup Enterprise Server:

```
AFS
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
SAP
Split-Mirror
```

`-rl retention_level`

Specifies the *retention_level*. The *retention_level* is an integer between 0 and 24. By default, `bpimagelist` searches for all retention levels.

`-d date, -e date`

Specifies the start date and end date range for the listing. The default values for these options are as follows:

- The `-d` default is the previous midnight.
- The `-e` default is the current date and time.

`-d` specifies a start date and time for the listing. The output list shows only images in backups or the archives that occurred at or after the specified date and time.

`-e` specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The following is part of the `-help` USAGE statement for `-bpimagelist` that shows the `-d` and `-e` options:

```
[-d mm/dd/yy hh:mm:ss] [-e mm/dd/yy hh:mm:ss]
```

`-keyword "keyword_phrase"`

Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the one that was previously associated with the image. For instance, the `-k` option of the `bpbackup` or the `bparchive` command associates a keyword with the image when the image is created.

`-sl sched_label`

Specifies a schedule label for the image selection. The default is all schedules.

`-st sched_type`

Specifies a schedule type for the image selection. The default is any schedule type. Valid values are as follows:

- FULL (full backup)
- INCR (differential-incremental backup)
- CINC (cumulative-incremental backup)
- UBAK (user backup)
- UARC (user archive)
- NOT_ARCHIVE (all backups except user archive)

`-policy name`

Searches for backups to import in the specified policy. The default is all policies.

The following are other `bpimagelist` options:

`-tape`

Displays in the list only the images that have at least one fragment that resides on removable or tape-based media. Any disk-based fragments in these images are ignored. If an image has fragments on both tape and disk, this option displays only the tape-based fragments.

`-v` Selects the verbose mode. This option causes `bpimagelist` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when the debug log function is enabled; that is, when the following directory is defined:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - Show the last time each media ID available to a server had a backup image that was written today:

```
# bpimagelist -media -U
Media ID      Last Written      Server
-----
IBM000       01/06/2010 01:06   hatt
AEK800       01/06/2010 03:01   hatt
C0015        01/06/2010 02:01   hatt
```

EXAMPLE 2

Example 2 - Show the last time the media IDs available to the server had a backup image that was written during the specified time:

```
# bpimagelist -media -d 01/05/2010 18:00:46 -e 01/06/2010 23:59:59
-U
Media ID      Last Written      Server
-----
IBM000       01/06/2010 01:06   hatt
AEK800       01/06/2010 03:01   hatt
C0015        01/06/2010 02:01   hatt
143191       01/05/2010 23:00   hatt
```

Example 3 - List all images that were written today:

```
# bpimagelist -U
Backed Up      Expires      Files      KB C Sched Type      Policy
-----
01/27/2010 01:08 02/03/2010 1122 202624 N Full Backup 3590Grau
01/27/2010 01:01 02/03/2010 1122 202624 N Full Backup IBM35pol
01/27/2010 03:01 02/03/2010 531 1055104 N Full Backup DELLPol
01/27/2010 02:01 02/03/2010 961 31776 N Full Backup QUALPol
01/27/2010 01:08 02/03/2010 2063 603328 N Full Backup IBM35pol
01/27/2010 01:01 02/03/2010 2063 603328 N Full Backup 3590Grau
```

Example 4 - List media written information for 01/05/2006:

```
# bpimagelist -media -d 01/05/2006 -e 01/05/2006 -U
Media ID      Last Written      Server
-----
IBM000       01/05/2010 01:13   hatt
143191       01/05/2010 23:00   hatt
AEK800       01/05/2010 03:07   hatt
C0015        01/05/2010 02:06   hatt
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/log.mmddy  
/usr/opensv/netbackup/db/images
```

Windows systems:

```
install_path\NetBackup\logs\admin\log.mmddy  
install_path\NetBackup\db\images
```

SEE ALSO

See [bp](#) on page 50.

See [bparchive](#) on page 53.

See [bpbackup](#) on page 58.

See [bprestore](#) on page 319.

bpimmedia

bpimmedia – display information about NetBackup images on media

SYNOPSIS

```

bpimmedia [-disk_stu storage_unit_label | [-dt disk_type | -stype
server_type [-dp disk_pool_name [-dv disk_volume]] [-legacy]]] [-l
| -L] [-disk | -tape] [-policy policy_name] [-client client_name]
[-d date time] [-e date time] [-mediaid media_id | path_name] [-mtype
image_type] [-option option_name] [-rl retlevel] [-sl sched_label]
[-t sched_type] [-M master_server...] [-verbose]
bpimmedia -spanpools [-cn copy_number] [-mediaid media_id] [-U]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

```

DESCRIPTION

bpimmedia queries the NetBackup image catalog and produces the following two types of reports on the images:

- An Images-on-Media report
- A Spanpools report

The first form of bpimmedia in the SYNOPSIS displays a set of NetBackup images in the Images-on-Media report. This report lists the contents of media as recorded in the NetBackup image catalog.

You can generate this report for any medium including disk. Filter the report contents according to client, media ID, path, and so on.

Refer to the section on NetBackup Reports in the *NetBackup Administrator's Guide* for more information, including details about the fields in the Images-on-Media report.

The report does not show information for the media that is used in backups of the NetBackup catalogs.

Several options (-dt, -dp, -dv, -stype) report images present on SAN disk storage only, not on any other disk-resident images. Other options and output format continue to function as before.

The second SYNOPSIS form of `bpimmedia` uses `-spanpools` to list the disk ID pools that are related because images span from one volume to another. The output lists, for each media server in the cluster, the media IDs that have spanned images. The `-spanpools` form of `bpimmedia` must be run on the NetBackup master server that administers the volumes.

For more information on spanned images, see the Spanning Media topic in the *NetBackup Administrator's Guide*.

Only removable media types are processed.

`bpimmedia` sends its error messages to `stderr`. `bpimmedia` sends a log of its activity to the NetBackup admin log file for the current day.

Authorized users can run this command.

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

OPTIONS

`client client_name`

Client name. This name must be as it appears in the NetBackup catalog. By default, `bpimmedia` searches for all clients.

`-cn copy_number`

Copy number (1 or 2) of a backup ID. The default is copy 1. This option is used only in combination with `-spanpools`.

`-d date time, -e date time`

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time for the listing. The output list shows only images in backups or the archives that occurred at or after the specified date and time.

`-e` specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date. The default is the current date and time.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The

files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The following is part of the `-help` USAGE statement for `-bpimagelist` that shows the `-d` and `-e` options:

```
[ -d mm/dd/yy hh:mm:ss ] [ -e mm/dd/yy hh:mm:ss ]
```

```
-dp disk_pool_name
```

Displays the images on the specified disk pool only.

```
-dt disk_type
```

Specifies the type of disk storage. The following are valid options:

1 - BasicDisk

2 - NearStore

3 - SnapVault

This option does not apply to the OpenStorage disk type.

```
-dv disk_volume
```

Displays the images that reside on the specified disk volume only. The input value is the volume path for NearStore, the path for BasicDisk, and the volume name for SharedDisk (NetBackup 6.5 media servers only).

```
-L
```

The list type is long.

See the DISPLAY FORMATS section that follows.

```
-l
```

The list type is short. This setting is the default if the command line has no list-type option (for example, if you enter `bpimmedia` and a carriage return).

See the DISPLAY FORMATS section that follows.

```
-legacy
```

Formats the new data in legacy format.

```
-M master_server,...
```

A list of alternative master servers. This list is a comma-separated list of hostnames. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process

stops at that point in the list. The default is the master server for the system where the command is entered.

`-mediaid media_id | pathname`

This ID is either a VSN or an absolute pathname. If the media ID is a VSN, it is a one- to six-character string. If the media ID is a pathname, it is the absolute pathname of the file system for a disk storage unit.

When `-mediaid` is specified, the Images-on-Media report displays only the images that are stored on this VSN or pathname. By default, the report displays the images that are stored on all media IDs and pathnames.

For the Spanpools report (`-spanpools`), only a VSN can follow `-mediaid`. If `-mediaid` is omitted when `-spanpools` is present, `bpimmedia` displays all media in all spanning pools.

`-mtype image_type`

Image type. The defined values and their interpretations are as follows:

- 0 = Regular backup (scheduled or user-directed backup)
- 1 = Pre-imported backup (phase 1 completed)
- 2 = Imported backup

`-option option_name`

Specifies a criterion for finding images to list. `option_name` is one of the following character strings, in either uppercase or lowercase:

- `INCLUDE_PRE_IMPORT` - Include images that completed phase 1 of an import. Refer to the `bpimport` command description or the *NetBackup Administrator's Guide* for more information.
- `ONLY_PRE_IMPORT` - Include only the images that completed phase 1 of an import.

The default is `INCLUDE_PRE_IMPORT`.

`-policy policy_name`

Searches for images with the specified policy name. By default, `bpimmedia` searches for images for all policies.

`-rl retlevel`

Specifies the retention_level. The retention_level is an integer between 0 and 24. By default, `bpimmedia` searches for all retention levels.

`-sl sched_label`

Searches for images with the specified schedule label. By default, `bpimmedia` searches for images for all schedule labels.

`-spanpools`

Specifies that `bpimmedia` should create a Spanpools report. The default (`-spanpools` not present on the command line) is to create an Images-on-Media report.

`-stype server_type`

Specifies a string that identifies the storage server type. Possible values are AdvancedDisk, OpenStorage (*vendorname*), PureDisk, and SharedDisk (NetBackup 6.5 media servers only).

`-t sched_type`

Specifies a schedule type for the image selection. The default is any schedule type. Valid values, in either uppercase or lowercase, are as follows:

- FULL (full backup)
- INCR (differential-incremental backup)
- CINC (cumulative-incremental backup)
- UBAK (user backup)
- UARC (user archive)

`-tape`

Displays in the Images-on-Media report only the images that have at least one fragment that resides on removable or tape-based media. Disk-based fragments in these images are ignored. If an image has fragments on both tape and disk, this option displays only the tape-based fragments.

`-U`

The list type is user. This option is used only in combination with `-spanpools`. See the DISPLAY FORMATS section that follows.

`-verbose`

Select verbose mode for logging. This option is only meaningful when it runs with debug logging on; that is, when the following directory is defined:

UNIX and Linux systems: `/usr/openv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

DISPLAY FORMATS

IMAGES-ON-MEDIA REPORT

The Images-on-Media report consists of two formats, short (`-l` or default) and long (`-L`).

To process and use the output of `bpimmedia`, use the `-l` option. The output of `bpimmedia` that uses the `-L` or `-U` options may be truncated for the Backup-ID, Policy, and Host columns. The `-L` or `-U` options are useful when you want to obtain a quick, more readable view of the NetBackup images on media.

The following shows the long display format (`-L`) and the short display format (`-l`) of the Images-on-Media report:

■ Long Display Format (`-L`)

If the command line contains `-L`, the display format is long. It contains a multi-line entry for each backup image. The number of lines for an entry is $n+1$, where n is the number of fragments for the image. The fields for an entry are listed later. The first line of the entry contains the fields Backup_ID...Expires. Each fragment in the image has a line that contains the fields Copy_Media ID. The report has a two-line header. The first header line lists the field names for line 1 of each entry. The second header line lists the field names for the lines that contain fragment information.

See the `bpduplicate` command page for more information on the copy number and primary copy.

Fields and meanings for the `-L` format are as follows:

Line 1

Backup-ID - Unique identifier for the backup that produced this image

Policy - Policy name (may be truncated if long)

Type - Schedule type (FULL, etc.)

RL - Retention level (0..24)

Files - Number of files in the backup

C - Compression (Y or N)

E - Encryption (Y or N)

T - Image type

R - Regular (scheduled or user-directed backup)

P - Pre-imported backup (phase 1 completed)

I - Imported backup

PC - Primary copy, 1 or 2. Designates which copy of the backup NetBackup chooses when it restores.

Expires - The expiration date of the first copy to expire, which appears in the Expires field of the fragment, which is described later.

Line 2_... $n+1$

Copy - Copy number of this fragment

Frag - Fragment number or IDX for a true-image-restore (TIR) fragment

KB - Size of the fragment, in kilobytes. This value does not include the size of tape headers between backups. A fragment size of 0 is possible for a multiplexed backup.

Type - Media type (Rmed - removable media; Disk otherwise)
 Density - Density of the removable media that produced the backup
 FNum - File number; the n-th backup on this removable media
 Host - Server whose catalog contains this image
 DWO - Device Written On; device where the backup was written. The DWO matches the drive index as configured in Media Manager (applies only to removable media).

MPX - Flag that indicates whether this copy is multiplexed: Y or N (applies only when fragment number is 1)

Expires - The expiration date of this copy (applies only when fragment number is 1)

MediaID - Media ID or absolute path where the image is stored

Example of Long display format:

```
bpimmedia -L -policy regr1_gava -t FULL
Backup-ID      Policy      Type  RL  Files  C  E  T  PC  Expires
Copy Frag  KB Type Density FNum      Host DWO MPX Expires MediaID
-----
gava_0949949902 r1_guav FULL  3   25  N  N  R  1  12:58 03/09/2007
  1   1   256 RMed dlt  13   0   plim 0   Y  12:58 03/09/2007 A00002
```

■ Short Display Format (-l)

If the `bpconfig` command line contains `-l` or contains no list-format option, the display format is short, which produces a terse listing. This option can be useful for scripts or the programs that rework the listing into a customized report format. The `-l` display format contains a multi-line entry for each backup image. The number of lines per entry is $n+1$, where n is the number of fragments for the image. The layout of an entry is a first line that contains information about the image. A second line follows that contains information about each fragment of the image. The attributes appear in the following order (separated by blanks).

Fields for the `-l` format are as follows:

Line 1

IMAGE - Identifies the start of an image entry

Client - Client for the backup that produced this image

Version - Image-version level

Backup-ID - Unique identifier for the backup that produced this image

Policy - Policy name

Policy type - 0 denotes Standard, etc. Run `bpimmedia -L` or refer to `bpbackup` to interpret the policy-type value as a policy-type name.

Schedule - Schedule name

Type - Schedule type (full, etc.)

RL - Retention level (0-24)

Files - Number of files

Expiration date or time - The expiration date of the first copy to expire. It appears in the Expires field of the fragment, which is described later (system time). A value of zero (0) denotes an image in progress or failed.

C - Compression; 1 (yes) or 0 (no)

E - Encryption; 1 (yes) or 0 (no)

Line 2_n+1

FRAG - Identifies a fragment line in an image entry

Copy - Copy number of this fragment

Frag - Fragment number, or -1 for a TIR fragment

KB - Size of the fragment in kilobytes

MPX - Flag that indicates whether this copy is multiplexed, 1(yes) or 0(no) (applies only when fragment number is 1)

Expires - The expiration date of this copy in system time (applies only when fragment number is 1)

Disk type - BasicDisk (1), NearStore (2), SAN Disk (4)

Disk pool name - Only applies to SAN Disk. All other disk types show *NULL*.

Media ID - volume path if NearStore, path if BasicDisk, or volume name if SAN Disk

Density - Density value (applies only to removable media). Run `bpimmedia -L` or `bpmedialist -m list -L -m mediaid` to interpret the density value as a density label

Fnum - File number; the n-th backup on this removable media

MediaID - Media ID or absolute path where the image is stored

Host - Server whose catalog contains this image

Block size - Number of kilobytes per block for this medium

Off - Offset

Media date - Time this medium was allocated (system time)

DWO - Device Written On (applies only to removable media)

Example of the short display format:

```
# bpimmedia -l -policy regr1_gava -t FULL
IMAGE gava 3 gava_0949949902 regr1_gava 0 full 0 3 25 952628302 0 0
FRAG 1 1 10256 512 2 13 13 A00002 plim 65536 0 949616279 0 0 *NULL* 952628302 1
```

SPANPOOLS REPORT

The Spanpools report has two formats: user (`-U` option) and short (the default). Both formats list the server name and the pool data for each server. It lists the media IDs for each pool of media that share spanned backup images. When

`-mediaid` appears on the command line, only the server pool and the disk pool that are related to that media ID appear.

If you want to process and use the output of `bpimmedia`, we recommend that you use the `-l` option. The output of `bpimmedia` that uses the `-U` or `-L` options may be truncated for the Backup-ID, Policy, and Host columns. The `-U` or `-L` options are useful when you want to obtain a quick, more readable view of the NetBackup images on media.

The user (`-v`) display format looks like the following:

```
# bpimmedia -spanpools -U
Related media pools containing spanned backup images, server plim:
Pool:
  A00002  A00003
Pool:
  400032
```

The short display format looks like the following

```
bpimmedia -spanpools
SERVER plim
POOL A00002 A00003
POOL 400032
```

EXAMPLES

Example 1 - List the images for policy `c_NDMP`. This request runs on a NetBackup media server. The report is based on the image catalog on the media server's master server, `almond`.

```
# bpimmedia -L -policy c_NDMP
```

Backup-ID	Policy	Type	RL	Files	C	E	T	PC	Expires	Host	DWO	MPX	Expires	MediaID
Copy Frag	KB	Type	Density	FNum	Off									

t_0929653085	c_NDMP	FULL	3	5909	N	N	R	1	15:58	07/18/2007				
1	IDX	844	RMed	dlt	2	0			almond	3				CB7514
1	1	9136	RMed	dlt	1	0			almond	3	N	15:58	07/18/2007	
CB7514														

Example 2 - Display the tapes that are required to restore a particular file. If the `bpimmedia` command line provides the criteria to identify an individual backup, the output shows the media that was used for the backup.

In this case, the command line provides the client, the date of the backup and the schedule type. The output shows that tape A00002 on the server `plim` contains the backup.

```
# bpimmedia -L -client gava -d 2/7/2007 -t UBAK
```

Backup-ID	Policy	Type	RL	Files	C	E	T	PC	Expires	
Copy Frag	KB	Type	Density	FNum	Off	Host	DWO	MPX	Expires	MediaID

gava_0949949686	regr1_guav	UBAK	3	25	N	N	R	1	12:54 03/09/2007	
1 1	10256	RMed	dlt	11	0	plim	0	Y	12:54 03/09/2007	A00002

Example 3 - List in long format all the backups in the image catalog on master server `gava`.

```
# bpimmedia -L -M gava
```

Backup-ID	Policy	Type	RL	Files	C	E	T	PC	Expires	
Copy Frag	KB	Type	Density	FNum	Off	Host	DWO	MPX	Expires	MediaID

gava_0949599942	test-policy	FULL	1	15	N	N	R	1	11:45 02/17/2007	
1 1	224	Disk	-	-	-	gava	-	N	11:45 02/17/20	/var/qatest/storage_unit//gava_0949599942_C1_F1

Example 4 - List in long format the backups on media ID `CB7514`.

```
# bpimmedia -L -mediaid CB7514
```

Backup-ID	Policy	Type	RL	Files	C	E	T	PC	Expires	
Copy Frag	KB	Type	Density	FNum	Off	Host	DWO	MPX	Expires	MediaID

toaster1_0929679294	tort_policy	FULL	3	5898	N	N	R	1	23:14 07/18/2007	
1 IDX	839	RMed	dlt	4	0	almond	6			CB7514
1 1	27154	RMed	dlt	3	0	almond	6	N	23:14 07/18/2007	CB7514

toaster1_0929653085	NDMP_policy	FULL	3	5909	N	N	R	1	15:58 07/18/2007	
1 IDX	844	RMed	dlt	2	0	almond	3			CB7514
1 1	9136	RMed	dlt	1	0	almond	3	N	15:58 07/18/2007	CB7514

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

It has the following form:

`bpimmedia: EXIT status = exit status`

If an error occurred, a diagnostic precedes this message.

FILES

UNIX and Linux systems:

`/usr/opensv/netbackup/logs/admin/*`

`/usr/opensv/netbackup/db/images`

Windows systems:

`install_path\NetBackup\logs\admin*`

`install_path\NetBackup\db\images`

SEE ALSO

See [bpbackupdb](#) on page 66.

See [bpduplicate](#) on page 122.

See [bpimport](#) on page 179.

bimport

bimport – import NetBackup and Backup Exec backups that are expired or are from another NetBackup or Backup Exec Server

SYNOPSIS

```

bimport -create_db_info -id media_id or path | -stype server_type
[-dp disk_pool_name [-dv disk_volume]] [-server name] [-L output_file
[-en]] [-passwd] [-local] [-nh ndmp_host [-mst media_subtype]]
bimport -drfile -id media_id or path | -stype server_type [-dp
disk_pool_name [-dv disk_volume]] -drfile_dest dir_name_on_master
[-client name] [-server name] [-L output_file [-en]] [-passwd]
[-priority number]
bimport [-l] [-p] [-pb] [-PD] [-PM] [-v] [-local] [-client name]
[-M master_server] [-Bidfile file_name] [-st sched_type] [-sl
sched_label] [-L output_file [-en]] [-policy name] [-s startdate]
[-e enddate] [-pt policy_type] [-hoursago hours] [-cn copy_number]
[-backupid backup_id] [[-id media_id | path] | -stype server_type]
[-dp disk_pool_name [-dv disk_volume]] [-priority number]
[-from_replica]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The **bimport** command allows backups to be imported. This command is useful for importing expired backups or the backups from another NetBackup server.

The import operation consists of the following two phases:

- Phase 1 is performed with the first form of the command that appears in the Synopsis (**-create_db_info** option). This step recreates catalog entries for the backups that are on the specified media.
- Phase 2 is performed with the second form of the command that appears in the Synopsis. This step imports the backups from the media.

The expiration date for imported backups is the current date plus the retention period. For example, if a backup is imported on 14 November 2010 and its retention level is one week, its new expiration date is 21 November 2010.

You can import a backup only if all copies of it are expired.

For more information on how to import backups, see the *NetBackup Administrator's Guide*.

OPTIONS

`-backupid backup_id`

Specifies the backup ID of a single backup to import.

`-Bidfile file_name`

file_name specifies a file that contains a list of backup IDs to import. List one backup ID per line in the file. If this option is included, other selection criteria are ignored.

In addition, NetBackup removes the file that is specified with the `-Bidfile` parameter during the activation of that command line interface (CLI). It is removed because the NetBackup GUIs commonly use this parameter. The GUIs expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option, however it removes the file.

`-client name`

The host name of the client for which the backups were performed. The default is all clients.

`-cn copy_number`

Specifies the source copy number of the backups to import. Valid values are 1 through 10. The default is all copies.

`-create_db_info`

This option recreates catalog entries for the backups that are on the specified media. It skips the backups that are already in the catalog. This option only creates information about the backups that are candidates for import, and does not perform the import operation. The `bpimport` command must be run with this option before you import any backups.

`-dp disk_pool_name [-dv disk_volume]`

Imports images on the specified disk pool only. Optionally, the import can be restricted to the images that reside on the specified disk volume only. The *disk_volume* argument is the volume path for NearStore, the path for BasicDisk, and the volume name for SharedDisk (NetBackup 6.5 media servers only).

Option `-stype` is required with this option.

`-e enddate, -s startdate`

Specifies the start date and end date range for all backups to import.

`-s` specifies a start date and time for the listing. The output list shows only images in backups or the archives that occurred at or after the specified date and time. The default for the start date is 24 hours before the current date and time.

`-e` specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date. The default is the current date and time.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The following is part of the `-help USAGE` statement for `-bpimagelist` that shows the `-s` and `-e` options:

`-s mm/dd/yy [hh[:mm[:ss]]] -e mm/dd/yy [hh[:mm[:ss]]]`

`-from_replica`

Scans for images only that are capable of automatic import and places them in the Storage Lifecycle Policy automatic import worklist. This option is part of Phase 1 of the import.

`-hoursago hours`

Specifies the number of hours to search before the current time for backups. Do not use with the `-s` option. The default is the previous midnight.

`-id media_id | path`

Disk media:

Specifies the *path* to the storage directory that contains the backup to be imported.

Tape media:

For step 1 (`-create_db_info`), this option specifies the media ID that has the backups you plan to import. This option is required with `-create_db_info`.

For step 2, this option designates a specific media ID from which to import backups. The default is all media IDs that were processed in step 1 of the import operation.

A backup ID that begins on a media ID that step 1 does not process, does not import (the backup is incomplete).

`-L output_file [-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file.

Include the `-en` option to generate a log that is in English. The name of the log contains the string `_en`. This option is useful to support the personnel that assist in a distributed environment where different locales may create logs of various languages.

`-l`

Produces the output in the progress log that lists each imported file.

`-local`

When a host other than master server initiates `bpimport` and `-local` is not used (default), the following occurs: `bpimport` starts a remote copy of the command on the master server.

The remote copy allows the command to be terminated from the Activity Monitor.

Use `-local` to prevent the creation of a remote copy on the master server. You also can use it to run the `bpimport` only from the host where it was initiated.

If the `-local` option is used, `bpimport` cannot be canceled from the Activity Monitor.

`-M master_server`

Note: This option is not required for NetBackup server because it has only one server, the master. If you do use this option in this case, specify the NetBackup master where you run the command.

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:

If the command is run on a master server, then that server is the default.

If the command is run on a media server that is not the master, then the master for that media server is the default.

`-p`

Previews backups to import according to the option settings, but does not perform the import. Displays the media IDs, server name, and information about the backups to import.

`-passwd`

Catalogs the password-protected Backup Exec media when used with the Backup Exec tape reader option. `bpimport` prompts the user for the password and compares it with the password on the media. If the passwords match, the job proceeds. If the passwords do not match, the job fails.

Use `-passwd` only when Backup Exec media are imported and password protected. This media can be imported only on a Windows media server.

`-pb`

Previews the backups to import but does not perform the import. Similar to the `-p` option, but does not display the backups.

`-PD`

Same as the `-PM` option, except the backups sort by date and time (newest to oldest).

`-PM`

Displays the information on the backups to be imported according to the option settings, but does not perform the import. It displays the date and time of the backup, and the policy, schedule, backup ID, host, and media ID.

`-policy name`

Searches for backups to import in the specified policy. The default is all policies.

`-priority number`

Specifies a new priority for the import job that overrides the default job priority.

`-pt policy_type`

Searches for the backups that the specified policy type created. The default is any policy type.

Valid values are:

Informix-On-BAR
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server

MS-Windows-NT
NDMP
NetWare
Oracle
OS/2
Standard
Sybase

The following policy types apply only to NetBackup Enterprise Server:

AFS
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
SAP
Split-Mirror

`-server name`

Specifies the name of the media server. The volume database for this server must have a record of the media ID that contains the backups to import. The default is the media server where the command is run.

Note: The NetBackup server has only one server (the master). When you use NetBackup server, specify the name of that server.

`-sl sched_label`

Search for backups to import that the specified schedule created. The default is all schedules.

`-st sched_type`

Search for backups to import that the specified schedule type created. The default is any schedule type.

Valid values are as follows:

FULL (full backup)

INCR (differential-incremental backup)

CINC (cumulative-incremental backup)

UBAK (user backup)

UARC (user archive)

NOT_ARCHIVE (all backups except user archive)

`-stype server_type`

A string that identifies the storage server type. Possible values are AdvancedDisk, OpenStorage (*vendormame*), PureDisk, and SharedDisk (NetBackup 6.5 media servers only).

`-v`

Displays more information in the debug logs and progress logs.

EXAMPLES

Example 1 - Create all on one line catalog information for backups on media ID A0000. The media host hostname is `cat`. The progress file is `bpimport.ls`, which is located in the `tmp` directory.

UNIX and Linux systems: # `bpimport -create_db_info -id A0000 -server cat -L /tmp/bpimport.ls`

Windows systems: # `bpimport -create_db_info -id A0000 -server cat -L \tmp\bpimport.ls`

Example 2 - Display all on one line information about the backups that are candidates for import. The backups that appear were created between 11/01/2010 and 11/10/2010. The `bpimport` command with the `-create_db_info` option must be run before this command.

```
# bpimport -PM -s 11/01/2010 -e 11/10/2010
```

Example 3 - Import the backups that were specified in the `images` file. The progress is entered in the `bpimport.ls` file.

UNIX and Linux systems: # `bpimport -Bidfile /tmp/import/image -L /tmp/bpimport.ls`

Windows systems: # `bpimport -Bidfile \tmp\import\image -L \tmp\bpimport.ls`

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\  
install_path\NetBackup\db\images\  
*
```

bpinst

`bpinst` - configure legacy NetBackup Encryption

SYNOPSIS

```
bpinst -LEGACY_CRYPT [-crypt_option option] [-crypt_strength strength]  
[-passphrase_prompt | -passphrase_stdin] [-verbose] [ [-policy_encrypt  
0 | 1] -policy_names] name1 [name2 ... nameN]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

NetBackup Encryption provides file-level encryption of backups and archives.

`-LEGACY_CRYPT` is the Legacy Encryption method. It provides the user with the encryption strength choices previously available (40-bit DES and 56-bit DES).

The `bpinst` command that is used with the `-LEGACY_CRYPT` option configures the legacy NetBackup Encryption product on the NetBackup clients that can support encryption. You can also configure encryption for a client that is installed on the master server host.

Activate `bpinst -LEGACY_CRYPT` on the master server to configure NetBackup Encryption on the clients. A single activation makes the necessary configuration changes on both the clients and the master server.

Note: Ensure that the `DISALLOW_SERVER_FILE_WRITES` NetBackup configuration option is not set on the client. If this option is set, the server cannot configure the software on the client.

OPTIONS

`-LEGACY_CRYPT`

Required if you use 40-bit DES or 56-bit DES encryption. To configure DES encryption, specify this option first to use the `bpinst` command. The order is important; do not omit this option.

`-crypt_option option`

Configures the `CRYPT_OPTION` configuration entry on the NetBackup clients. If you do not specify `-crypt_option`, the client allows either encrypted or unencrypted backups (see `ALLOWED`).

The possible values for *option* are:

`DENIED | denied | -1`

Specifies that the client does not permit encrypted backups. If the server requests an encrypted backup, it is considered an error. This option is the default for a client that has not been configured for encryption.

`ALLOWED | allowed | 0`

Specifies that the client allows either encrypted or unencrypted backups. `ALLOWED` is the default condition.

`REQUIRED | required | 1`

Specifies that the client requires encrypted backups. If the server requests an unencrypted backup, it is considered an error.

`-crypt_strength strength`

Configures the `CRYPT_STRENGTH` configuration entry on the NetBackup clients. If you do not specify this option, the `CRYPT_STRENGTH` configuration entries on the clients remain unchanged.

The possible values for *strength* are:

`DES_40 | des_40 | 40`

Specifies the 40-bit DES encryption. This value is the default value for a client that has not been configured for encryption.

`DES_56 | des_56 | 56`

Specifies the 56-bit DES encryption.

`-passphrase_prompt | -passphrase_stdin`

Note: Do not forget the pass phrase. If the key file is damaged or lost, you may need the pass phrase to regenerate the key file. Without the proper key file, you cannot restore encrypted backups.

NetBackup uses a pass phrase to create the data that it places in a key file on each client. NetBackup then uses the data in the key file to create the

encryption keys that are required to encrypt and decrypt the backup data. This option applies to the `-LEGACY_CRYPT` option only.

The `-passphrase_prompt` option prompts you to enter a pass phrase. The actual pass phrase is hidden while you type.

The `-passphrase_stdin` option reads the pass phrase through standard input. You must enter the pass phrase twice. This option is less secure than the `-passphrase_prompt` option because the pass phrase is not hidden. However, it may be more convenient if you use `bpinst -LEGACY_CRYPT` in a shell script.

NetBackup uses the pass phrase for all the clients that you specify on the `bpinst -LEGACY_CRYPT` command. If you want separate pass phrases for each client, enter a separate `bpinst -LEGACY_CRYPT` command for each client.

When you specify a pass phrase, `bpinst -LEGACY_CRYPT` creates or updates the key files on the clients. The encryption keys (generated from the pass phrase) are used for subsequent backups. Old encryption keys are retained in the key file to allow restores of previous backups.

If you do not specify either the `-passphrase_prompt` or `-passphrase_stdin` option, the key files on the clients remain unchanged.

`-verbose`

Prints the current encryption configuration of each client and what gets installed and reconfigured on each client.

`-policy_encrypt 0 | 1`

Sets the Encryption policy attribute for the NetBackup policies. You can include `-policy_encrypt` only with the `-policy_names` option. The possible values are:

0 - clears the Encryption attribute (or leaves it clear) so the server does not request encryption for clients in this policy. This setting is the default for the policies that are not configured for encryption.

1 - sets the Encryption attribute so the server requests encryption for clients in this policy.

If you do not specify this option, the Encryption attributes for the policies remain unchanged.

`-policy_names`

Specifies that the names you specify (with the `names` option) are NetBackup policy names.

If you include the `-policy_names` option, `bpinst -LEGACY_CRYPT` configures all the clients in each specified policy. If you omit the `-policy_names` option, the names are assumed to be NetBackup client names.

name1 [*name2* ... *nameN*]

Specifies one or more NetBackup client or policy names, depending on whether you have included the `-policy_names` option. If you omit the `-policy_names` option, the names are assumed to be NetBackup client names.

NOTES

The following notes apply to the `-LEGACY_CRYPT` option:

- If you are running NetBackup in a clustered environment, you can push configuration data to the client only from the active node.
- If you push the configuration to clients that are located in a cluster, do the following: Specify the hostnames of the individual nodes (not virtual names) in the clients list.
- When you finish the restore of encrypted files from a client, rename or delete the key file created. Move or rename your own key file to its original location or name. If you do not re-establish your key file to its original location or name, you may not be able to restore your own encrypted backups.
- Existing 40-bit encryption license keys or 56-bit encryption license keys are valid for upgrades.
- A privately defined NetBackup 40-bit DES key encrypts the pass phrase that `bpinst -LEGACY_CRYPT` sends over the network.
- The key file on each NetBackup client is encrypted with a privately defined NetBackup DES key. The key can be 40 bits or 56 bits depending on how the client is configured. Restrict access to the key file to the administrator of the client computer. On a UNIX client, the owner of the key file should be root and the mode bits should be 600. The key file should not be exportable through NFS.
- The key file must be the same on all nodes in a cluster.
- Remember pass phrases. In a disaster recovery situation, you may have to recreate a key file on a client by using `bpinst -LEGACY_CRYPT`. For example, suppose a NetBackup client that is named `orca` performs encrypted backups and an accident occurs that causes `orca` to lose its files. In this case you must reinstall and configure encryption on the client to restore your backups.

For additional information about NetBackup encryption, refer to the *NetBackup Security and Encryption Guide*.

See the *NetBackup Troubleshooting Guide* for details on how to restore the operating system and NetBackup.

To provide disaster recovery when you use encryption (client named orbit)

- 1 Reinstall the operating system on `orbit`.
- 2 Reinstall and configure the NetBackup client software on `orbit`.
- 3 Reinstall and configure encryption on `orbit` by using the following command:

```
# bpinst -LEGACY_CRYPT -crypt_option allowed
```

- 4 Activate `bpinst -LEGACY_CRYPT` to create a pass phrase by using the following command:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt orbit
Enter new NetBackup pass phrase: *****
Re-enter new NetBackup pass phrase: *****
```

Enter the pass phrase that is used on `orca`.

- 5 Activate `bpinst -LEGACY_CRYPT` for each subsequent pass phrase that is used on `orbit` by entering the following:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt orbit
Enter new NetBackup pass phrase: *****
Re-enter new NetBackup pass phrase: *****
```

- 6 Restore the backed up files to `orbit`.

EXAMPLES

Example 1 - Configure all on one line 40-bit DES encryption on UNIX clients in a policy named `policy40`:

```
# bpinst -LEGACY_CRYPT -crypt_option allowed -crypt_strength des_40
-policy_encrypt 1 -policy_names policy40
```

Use the `-policy_encrypt` option to set the Encryption attribute for the policy. You can also use the NetBackup administrator utility to set the Encryption attribute.

Example 2 - Use the `-passphrase_prompt` option to create a passphrase on all clients in a policy named `policy40`:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt -policy_names policy40
Enter new NetBackup pass phrase: *****
Re-enter new NetBackup pass phrase: *****
```

Example 3 - Specify all on one line the NetBackup client named strong must use 56-bit DES encryption:

```
# bpinst -LEGACY_CRYPT -crypt_option required -crypt_strength des_56  
strong
```

Example 4 - Display a verbose listing of the configuration for the client named strong:

```
# bpinst -LEGACY_CRYPT -verbose strong  
  
BPCD protocol version 7.0.0 on client strong  
40-bit library version is 3.1.0.40 on client strong  
56-bit library version is 3.1.0.56 on client strong  
BPCD platform is redhat for client strong  
Current configuration entries are:  
CRYPT_KEYFILE = /usr/opensv/netbackup/keyfile  
CRYPT_LIBPATH = /usr/opensv/lib  
CRYPT_OPTION = required  
CRYPT_STRENGTH = des-56  
V_PATH_SHARE = /usr/opensv/share  
No update of NetBackup configuration required for client strong  
No update of NetBackup pass phrase required for client strong
```

FILES

The following are the files that are used on UNIX and Linux systems:

- UNIX server command

```
/usr/opensv/netbackup/bin/bpinst
```
- UNIX client encryption libraries for 40-bit DES and 56-bit DES

```
/usr/opensv/lib/libvdes*.*
```
- UNIX client encryption key file for 40-bit DES and 56-bit DES

```
/usr/opensv/netbackup/keyfile
```
- UNIX client encryption key file utility for 40-bit DES and 56-bit DES

```
/usr/opensv/netbackup/bin/bpkeyfile
```
- UNIX client encryption key file utility for 128-bit OpenSSL cipher and 256-bit OpenSSL cipher

```
/usr/opensv/netbackup/bin/bpkeyutil  
/usr/opensv/share/ciphers.txt
```

The following are the files that are used on Windows systems:

■ Windows server command

```
install_path\NetBackup\bin\bpinst.exe
```

■ Windows client encryption key file

```
install_path\NetBackup\var\keyfile.dat
```

■ Windows client encryption libraries

```
install_path\bin\libvdes*.dll
```

■ Windows client encryption key file utility

```
install_path\bin\bpkeyfile.exe  
install_path\share\ciphers.txt
```

bpkeyfile

bpkeyfile - run the legacy key file utility that is used for NetBackup standard encryption

SYNOPSIS

```
bpkeyfile [-stdin] [-change_key_file_pass_phrase]
[-change_netbackup_pass_phrase] [-display] key_file_path
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

bpkeyfile creates or updates a file that contains the information that is used to generate DES encryption keys. The information is generated based on a NetBackup phrase that you supply. You supply a key-file pass phrase to encrypt the key file.

NetBackup client software uses an encryption key that is calculated from the key file information to encrypt files during backups or decrypt files during restores.

If the file exists, you are prompted to enter the current key-file pass phrase.

If you specify `-change_key_file_pass_phrase`, you are prompted for a new key-file pass phrase. If you enter an empty pass phrase, a standard key-file pass phrase is used.

If you use the standard key-file pass phrase, `bpcd` runs automatically. If you use your own key-file pass phrase, start `bpcd` with the `-keyfile` argument.

For more information on how to start `bpcd` with the `-keyfile` argument, refer to the *NetBackup Security and Encryption Guide*.

OPTIONS

`-stdin`

Reads pass phrases from standard input. By default, `bpkeyfile` reads the pass phrases that you are prompted to input from your terminal window.

`-change_key_file_pass_phrase` (or `-ckfpp`)

Changes the pass phrase that is used to encrypt the key file.

`-change_netbackup_pass_phrase` (or `-cnpp`)

Changes the pass phrase that is used to encrypt NetBackup backups and archives on this client.

`-display`

Displays information about the key file.

key_file_path

The path of the key file that `bpkeyfile` creates or updates.

NOTES

The pass phrases that NetBackup uses can be from 0 to 63 characters long. To avoid compatibility problems between systems, restrict the characters in a pass phrase to printable ASCII characters: from the Space character (code 32) to the tilde character (code 126).

The `bpkeyfile` command is used for legacy encryption.

FILES

Client encryption key file:

UNIX and Linux systems: `/usr/opensv/netbackup/keyfile`

Windows systems: `install_path\NetBackup\bin\keyfile.dat`

bpkeyutil

`bpkeyutil` - run the key file utility that is used for NetBackup standard encryption

SYNOPSIS

```
bpkeyutil [-stdin | -insert | -delete] [-display] [-client  
client_name1 [, client_name2, ...]] [-M server]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpkeyutil` command updates a key file that contains the keys that are used for encryption and decryption. The keys are generated based on the private NetBackup pass phrases that you supply. The key file is encrypted by using a key. The NetBackup client software uses an encryption key from the key file to encrypt files during a backup or decrypt files during a restore.

OPTIONS

`-stdin`

Reads pass phrases from standard input. By default, `bpkeyutil` reads the pass phrases that you are prompted to input from your terminal window.

`-insert`

Inserts a new NetBackup pass phrase to the key file to encrypt NetBackup backups and archives on this client.

`-delete`

Deletes an existing pass phrase from the key file.

`-display`

Displays information about the key file.

`-client` *client_name1* [, *client_name2*, ..., *client_namen*]

Name of the client where the key file resides. The default is the local client. You may specify multiple client names that are separated by commas. You can only use this argument if you are a NetBackup administrator.

`-M server`

Name of the master server of the client. The default is the master server defined in the local client's configuration. You can only use this argument if you are a NetBackup administrator on the specified master server.

NOTES

Note the following items when you use the `bpkeyutil` command:

- The `bpkeyutil` command is used for standard encryption.
- The key file must be the same on all nodes in a cluster.

FILES

Client encryption key file:

UNIX and Linux systems: `/usr/opensv/var/keyfile.dat`

Windows systems: `install_path\NetBackup\var\keyfile.dat`

bplabel

bplabel – write NetBackup label on tape media

SYNOPSIS

```
bplabel -m media_id -d density [-o] [-p volume_pool_name] [-n  
drive_name | -u device_number] [-host media_server] [-erase [-l]]  
[-priority number]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bplabel` command writes a NetBackup label on the specified media. Labels are required only for the media that were last used for NetBackup catalog backups or by a non-NetBackup application. You can use this command to erase and label the media that is unassigned in a volume database. In addition, you can use this command to assign specific media IDs. The NetBackup Device Manager daemon or service (`ltid`) must be active for `bplabel` to succeed. You also must manually assign the drive by using the NetBackup Device Monitor unless you include the `-u` option on the `bplabel` command.

Caution: Ensure that the media does not contain required backups. After the media is relabeled, any backups that were on it cannot be restored.

Any authorized user can run this command.

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

The following are some items about how to use this command:

- The `-m` and `-d` options are required.
- The `-p` option is required if the media ID is not in the NetBackup volume pool.
- If the data on the media is in a recognized format and the `-o` option is not specified, `bplabel` prompts you to confirm the overwrite. Data format recognition works only if the first block on a variable length media is less than or equal to 32 kilobytes.
- Use the `bplabel` command only for tapes.

You must have administrator privileges to run this command.

OPTIONS

`-d density`

A required option that specifies the density of the tape drive on which the media is mounted. The tape mount request must be performed on a drive type that satisfies the `-d` option.

Note: Do not use capital letters when you enter the density. Incorrect density syntax causes the command to fail and an "Invalid Density Drive Type" message to appear.

The valid densities are as follows:

`4mm` (4-mm Cartridge)

`8mm` (8-mm Cartridge)

`dlt` (DLT Cartridge)

`hcart` (1/2 Inch Cartridge)

`qscsi` (1/4 Inch Cartridge)

`-erase [-l]`

This option is used to erase the media. Short erase is the default erase. If `-l` option is specified, the media is long erased. A long erase operation can take a long time depending on the type of drive.

`-host media_server`

The *media_server* variable is the host where the drive is attached. This drive is the drive that is used to mount the media. By default, if this option is not used, the command runs on the local system.

`-m media_ID`

A required option that specifies the external media ID that is written to the tape label as a media ID. You can enter the media ID in either uppercase or lowercase. Internally, it always converts to uppercase. The media ID must be six or fewer alphanumeric characters.

`-n drive_name`

Unconditionally assigns the stand-alone drive that *drive_name* specifies. The drive must contain media and be ready. By using this option, manual operator assignment is not required. The name for the drive can be obtained from the Media Manager configuration.

- o
Unconditionally overwrites the selected media ID. If this option is not specified, `bplabel` prompts for permission to overwrite the media that meets any of the following conditions:
 - Contains a NetBackup media header.
 - Is a NetBackup catalog backup media.
 - Is in TAR, CPIO, DBR, AOS/VS, or ANSI format.
- p *volume_pool_name*
This option is required if the media ID is defined in the Enterprise Media Manager Database but is not in the NetBackup volume pool.
volume_pool_name must specify the correct pool.
- priority *number*
Specifies a new priority (*number*) for the label job that overrides the default job priority.
- u *device_number*
Unconditionally assigns the stand-alone drive that *device_number* specifies. The drive must contain media and be ready. By using this option, manual operator assignment is not required. The number for the drive can be obtained from the Media Manager configuration.

NOTES

`tpconfig -d`, `tpconfig -l`, and `vmoprcmd` may truncate long drive names. Use `tpconfig -dl` to obtain the full drive name.

SEE ALSO

See [ltid](#) on page 423.

See [vmadm](#) on page 661.

bplist

bplist - list the backed up and archived files on the NetBackup server

SYNOPSIS

```
bplist [-A | -B] [-C client] [-S master_server] [-k policy] [-t  
policy_type] [-F] [-R [n]] [-b | -c | -u] [-l] [-r] [-flops options]  
[-Listseconds] [-T] [-unix_files] [-nt_files] [-s date] [-e date]  
[-I] [-PI] [-keyword keyword_phrase] [filename] [-Listpolicy]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The **bplist** command shows a list of previously archived or backed up files according to the options that you specify. You can choose the file or directory and the time period that you want the listing to cover. Directories can be recursively displayed to a specified depth. **bplist** shows only the files that you have read access to. It lists the files only if an administrator account performs the user backup.

You also must own or have read access to all directories in the file paths. You can list the files that were backed up or archived by another client only if the NetBackup administrator has validated you to do so.

If you create the following directory with public-write access, **bplist** creates a debug log file in this directory that you can use for troubleshooting:

UNIX and Linux systems: `usr/opensv/netbackup/logs/bplist/`

Windows systems: `install_path\NetBackup\logs\bplist\`

OPTIONS

-A | -B

Specifies whether to produce the listing from archives (**-A**) or backups (**-B**). The default is **-B**.

`-C client`

Specifies a client name to use for finding backups or archives to list. This name must be as it appears in the NetBackup configuration. The default is the current client name.

`-S master_server`

UNIX and Linux systems: `-s` specifies the name of the NetBackup server. The default is the first `SERVER` entry that is found in the `/usr/opensv/netbackup/bp.conf` file.

Windows systems: `-s` specifies the name of the NetBackup server. The default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-t policy_type`

Specifies one of the following numbers that correspond to the policy type. The default is 0 for all clients except Windows, where the default is 13.

0 = Standard

4 = Oracle

6 = Informix-On-BAR

7 = Sybase

8 = MS-SharePoint

10 = NetWare

13 = MS-Windows

14 = OS/2

15 = MS-SQL-Server

16 = MS-Exchange-Server

19 = NDMP

35 = NBU-Catalog

The following policy types apply only to NetBackup Enterprise Server.

11 = DataTools-SQL-BackTrack

17 = SAP

18 = DB2

20 = FlashBackup

21 = Split-Mirror

22 = AFS

25 = Lotus Notes

39 = Enterprise-Vault

-k *policy*

Names the policy to search to produce the list. If not specified, all policies are searched.

-F

Specifies that in the list output, symbolic links (which apply only to UNIX clients) end with a trailing @ and executable files with a trailing *.

-R [*n*]

Recursively lists the subdirectories that are encountered to a depth of *n*. The default for *n* is 999.

-b | -c | -u

Specifies an alternate date-time to be used for printing with the -l option:

-b displays the backup date and time of each file.

-c displays the last inode modification date and time (UNIX and Linux systems) or creation date and time (Windows systems) for each file.

-u displays the last access date and time of each file.

The default is to display the time of the last modification of each file.

-l

On Windows systems, -l shows the file details.

On UNIX and Linux systems, -l lists the following file details in a long format: Mode, owner, group, size in bytes, and time of last modification for each file (see the EXAMPLES section). The list shows the mode of each file as 10 characters that represent the standard UNIX file permissions. The first character is one of the following:

d (specifies a directory)

l (specifies a link)

m (specifies a file that migrated by Veritas Storage Migrator for UNIX or Veritas Data Lifecycle Manager)

- (specifies a file)

The next nine characters show the three sets of permissions. The first set shows the owner's permissions, the next set shows the user-group

permissions, and the last set shows permissions for all other users. Each set of three specifies the read, write, and execute permissions as follows:

r = the file is readable

w = the file is writable

x = the file is executable

- = the indicated permission is not granted

`-Listseconds`

Specifies that seconds granularity be used for the timestamp when the `-l` option is used.

`-r`

On Windows systems, `-r` lists the disk images that were backed up. The default is to list file systems.

On UNIX and Linux systems, `-r` lists the raw partitions that were backed up. The default is to list file systems.

`-flops options`

Lists Backup Exec files or both Backup Exec and NetBackup files. The default (`-flops` not specified) is to list only NetBackup files.

To list only Backup Exec files specify:

`-flops 524288`

To list Backup Exec and NetBackup files specify:

`-flops 1048576`

`-T`

Lists the directories in true-image backups. The default is to list non-true-image backups.

Note: TIR information does not appear for synthetic full backups, even though TIR information is used for synthetic full backups.

`-unix_files`

Lists the files and directories in UNIX format. This option applies only to UNIX and Linux. For example: `/C/users/test`

`-nt_files`

Lists the files and directories in Windows format. This option applies only to Windows. For example: `C:\users\test`

`-s date, -e date`

Specifies the start date (`-s`) and end date (`-e`) for the listing.

`-s` specifies a start date and time for the listing. The resulting list shows only files in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the current date minus six months.

`-e` specifies an end date and time for the listing. The resulting list shows only files from the backups or the archives that occurred at or before the specified date and time. Use the same format for start date and time. The default is the current date and time.

`-I`

Specifies a search that is case insensitive. The capitalization is not considered when it compares names (for example, Cat matches cat).

`-PI`

Specifies a path-independent search, which means that NetBackup searches for a specified file or directory without regard to the path. For example, a file with the name `test` exists in the three following directories. A search for `test` finds all three instances of the file:

UNIX and Linux systems:

```
/tmp/junk/test  
/abc/123/xxx/test  
/abc/123/xxx/yyy/zzz/test
```

Windows systems:

```
\tmp\junk\test  
\abc\123\xxx\test  
\abc\123\xxx\yyy\zzz\test
```

-keyword keyword_phrase

Specifies a keyword phrase for NetBackup to use when it searches for backups or archives from which to restore files. The phrase must match the one that was previously associated with the backup or archive by the *-k* option of *bpbbackup* or *bparcarchive*.

You can use this option in place of or in combination with the other restore options to make it easier to restore backups and archives. Use the following meta-characters to help match keywords or parts of keywords in the phrase:

* matches any string of characters.

? matches any single character.

[] matches one of the sequence of characters that is specified within the brackets.

[-] matches one of the range of characters, that is separated by the "-".

The keyword phrase can be up to 128 characters in length. All printable characters are permitted including space (" ") and period (".").

The phrase must be enclosed in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

Note: The keyword phrase is ignored when you use the following policy types: DB2, Informix-On-BAR, Oracle, SAP, MS-SQL-Server, Sybase.

filename

Names the file or directory to list. Any files or directories that you specify must be listed at the end, following all other options. If you do not specify a path, the default is the current working directory.

For Windows systems, use uppercase for the drive letter. For example:

```
C:\NetBackup\log1
```

For directories, if you do not use the *-R* option, include the trailing path separator as in the following:

```
UNIX and Linux systems: bplist -l "/home/user1/*"
```

```
Windows systems: bplist -l "D:\WS_FTP.LOG\*"
```

If you use the asterisk meta-character (*), use quotation marks around the file name for the command to work properly.

-Listpolicy

Includes the schedule type and policy name in the command output.

EXAMPLES

Example 1 - List recursively in long format, the files that were backed up in /home/usr1 (UNIX and Linux) or D:\WS_RTP.LOG (Windows).

On UNIX and Linux systems:

```
# bplist -l -R /home/usr1
lrwxrwxrwx  usr1;usr@  eng;None  0   Apr 28 12:25 /home/usr1/dirlink
drwxr-xr-x  usr1;usr@  eng;None  0   Apr 04 07:48 /home/usr1/testdir
drwxr-x---  usr1;usr@  eng;None  0   Apr 04 07:49 /home/usr1/dir
-rwxr----- usr1;usr@  eng;None 1002 Apr 02 09:59 /home/usr1/dir/file
lrwxrwxrwx  usr1;usr@  eng;None  0   Apr 04 07:49 /home/usr1/dir/link
```

On Windows systems:

```
# bplist -l -R D:\WS_FTP.LOG
-rwx----- bjm;usr@  bjm;None  64  Oct 10  2009 D:\WS_FTP.LOG
-rwx----- bjm;usr@  bjm;None  64  Oct 10  2009 D:\WS_FTP.LOG
-rwx----- bjm;usr@  bjm;None  64  Oct 10  2009 D:\WS_FTP.LOG
```

Example 2 - List the files that were backed up and associated with all or part of the keyword phrase "MyHomeDirectory".

UNIX and Linux: # bplist -keyword "*MyHomeDirectory*" -l /home/kwc/

Windows: # bplist -keyword "*MyHomeDirectory*" -l C:\home\kwc\

Example 3 - List the files that were archived and associated with all or part of the keyword phrase "MyHomeDirectory"

UNIX and Linux: # bplist -A -keyword "*MyHomeDirectory*" -l /home/kwc/

Windows: # bplist -A -keyword "*MyHomeDirectory*" -l C:\home\kwc\

Example 4 - Lists recursively and with details the output from bplist on a Windows master server from a Windows client. Enter the following command to list the files that were backed up on drive D of Windows client slater and associated with all or part of the keyword phrase "Win NT":

```
# bplist -keyword "*Win NT*" -C slater -R -l C:\client_data_2

drwx----- root;usr@  root;None  0   Aug 28 17 C:\client_data_2\
-rwx----- root;usr@  root;None  40  Aug 05 24 C:\client_data_2\ewr.txt
drwx----- root;usr@  root;None  0   Aug 28 17 C:\client_data_2\
-rwx----- root;usr@  root;None  40  Aug 05 24 C:\client_data_2\ewr.txt
```

The user column (`root;usr@`) for the Windows images displays the user that backed up the file and the `owner@domain` separated by a semicolon. The group column (`root;None`) for the Windows images is the group that backed up the file and the `group@domain` separated by a semicolon.

FILES

UNIX and Linux systems: `/usr/opensv/netbackup/logs/bplist/log.mmdyy`

Windows systems: `install_path\NetBackup\logs\bplist*.log`

SEE ALSO

See [bp](#) on page 50.

See [bparchive](#) on page 53.

See [bpbackup](#) on page 58.

See [bprestore](#) on page 319.

bpmmedia

bpmmedia – freeze, unfreeze, suspend, or unsuspend NetBackup media

SYNOPSIS

```
bpmmedia -freeze | -unfreeze | -suspend | -unsuspend -m media_id [-h  
host] [-v]
```

```
bpmmedia -movedb -m media_id -newserver newservername [-newsrv_group  
groupname] [-oldserver oldservername] [-v]
```

```
bpmmedia -movedb -allvolumes -newserver newservername -oldserver  
oldservername [-v]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpmmedia` command enables you to do the following:

- Freeze, unfreeze, suspend, or unsuspend NetBackup tape media. That is, it allows or disallows future backups or archives to be directed to the media. This command applies only to media that Media Manager manages.
- Move a media catalog entry from one server to another in a master and a media server cluster.
- Move ownership of tape media to a different media server. It changes all media database and image records that reference one server name (`oldservername`) to reference another server name (`newservername`). This function applies to moving to or from the media servers that are version 6.0 or later.

Note: Under certain media or hardware error conditions, NetBackup automatically suspends or freezes media. If this action occurs, the reason is logged in the NetBackup Problems report. If necessary, you can use the `bpmmedia -unfreeze` or `-unsuspend` options to reverse this action.

Any authorized user can run this command. For more information about NetBackup authorization, refer to the *NetBackup Security and Encryption Guide*.

OPTIONS

`-freeze`

Freezes the specified media ID. When an active NetBackup media ID is frozen, NetBackup does not direct backups and archives to the media. All unexpired images on the media continue to be available for restores. NetBackup never deletes a frozen media ID from the NetBackup media catalog, nor is it unassigned in the NetBackup volume pool when it expires.

`-unfreeze`

Unfreezes the specified media ID. This option reverses the action of `freeze` and allows the media to be used for backups or archives again if it has not expired. If a media is expired when it is unfrozen, it is immediately unassigned in the NetBackup volume pool.

`-suspend`

Suspends the specified media ID. The action is the same as `freeze` except when the media ID expires, it is immediately unassigned in the NetBackup volume pool.

`-unsuspend`

Unsuspects the specified media ID. This option reverses the action of `suspend` and allows the media to be used for backups or archives again.

`-movedb -newserver newservername [-newsrv_group groupname] [-oldserver oldservername]`

Note: You cannot use the `-movedb` option with NetBackup server.

Moves a media catalog entry from one server to another in a master and a media server cluster. This command moves the media catalog entry for the specified media ID from *oldservername* to *newservername*. It updates the NetBackup image catalog to reflect that the media ID was moved. You can assume that after the move, *newservername* has access to the media.

`-newserver newservername` specifies the name of the host to which the entry is moved.

`-newsrv_group groupname` specifies the name of the new server group that is to own the media.

`-oldserver oldservername` specifies the name of the host where the catalog entry to be moved currently resides. If you do not specify *oldservername*, the system where the command runs is considered to be the old server.

The `-movedb` option is most meaningful in the following configurations: A master and its media servers share a robotic library and have access to all the media in the robot. At a minimum, all NetBackup servers must use the same Enterprise Media Manager Database. With the same database, the media can move from one robotic library to another without losing their attributes and assignment status.

```
-movedb -allvolumes -newserveroldservername -oldserver newservername]
```

Moves all media that are assigned to one media server (*oldservername*) to another media server (*newservername*). This operation occurs on the EMM database, changing the `lastwritehost` of the media to *newservername*. For NetBackup 6.5 or later, the following is true for the media that belongs to a share group: If the `lastwritehost` was set to the *oldservername*, then the *newservername* must belong to the share group, and `lastwritehost` is changed to *newservername*.

If the first step succeeds, then the option changes the media server name for all fragments in the image database from *oldservername* to *newservername*. This action may take a long time, because the command must traverse the entire image database.

Note: You cannot use the `-movedb` option with the NetBackup server.

```
-m media_id
```

Specifies the media ID that requires action. The media ID must be six or fewer characters and must be in the NetBackup media catalog.

```
-h host
```

Specifies the host name of the server where the media catalog resides. This option is required only if the volume was not written on the server where you run the `bpmmedia` command. In this case, the media ID is in the NetBackup media catalog on the other server. You must specify the name of that server on the `bpmmedia` command.

For example, assume that you have a master server named `whale` and a media server named `eel`. You run the following `bpmmedia` command on `whale` to suspend media ID `BU0001` that is in the media catalog on `eel`:

```
bpmmedia -suspend -m BU0001 -h eel
```

Use the NetBackup Media List report to determine the host that has the volume in its media catalog.

-v

Selects verbose mode. This option is only meaningful when NetBackup runs with debug log function on (that is, when the following directory exists):

UNIX and Linux: `/usr/opensv/netbackup/logs/admin`

Windows: `install_path\NetBackup\logs\admin`

EXAMPLE

Assume that the master server is HOSTM, with HOSTS1 and HOSTS2 being media servers. It moves the media catalog entry for media ID DLT001 from HOSTS1 to HOSTS2 and updates the NetBackup image catalog. The following command is run on master server HOSTM:

```
# bpmmedia -movedb -m DLT001 -newserver HOSTS2 -oldserver HOSTS1
```

FILES

UNIX and Linux systems:

`/usr/opensv/netbackup/logs/admin/*`

`/usr/opensv/netbackup/db/media/*`

Windows systems:

`install_path\NetBackup\logs\admin*.log`

`install_path\NetBackup\db\media*.log`

bpmédialist

bpmédialist - display NetBackup tape media status

SYNOPSIS

```

bpmédialist [-mlist] [-U | -l | -L] [-m media_id] [-rl ret_level]
[-d density] [-p pool_name] [-h host_name | -M master_server,...]
[-owner host_name | group_name] [-v]
bpmédialist -summary [-U | -L] [-brief] [-p pool_name] [-h host_name
| -M master_server,...] [-owner host_name | group_name] [-v]
bpmédialist -mcontents -m media_id [-U | -l | -L] [-d density] [-h
host_name | -M master_server,...] [-owner host_name | group_name]
[-v] [-priority number]
bpmédialist -count -rt robot_type -rn robot_number [-d density] [-U
| -l] [-h host_name | -M master_server] [-v]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

bpmédialist queries one or more NetBackup media catalogs and produces a report on the status of the NetBackup media. Authorized users can run this command.

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

bpmédialist produces one of four reports: Media List Report, Media Summary Report, Media Contents Report, Media Count Report.

Media List Report

Media List (-m`list`) report, provides information on either a single volume or all volumes in the NetBackup media catalog. This report does not apply to disk storage units. The report lists, for each volume in the report, the volume's media ID, media server, and other attributes, which is the default report type.

If the -U option is used, the status field appears as English text. Otherwise, the status appears as a hexadecimal integer. The interpretation of the digits is given here. Any or all of these flags can be set. Settings other than those listed here correspond to unreported states.

- >= 0x2000 Media contains some encrypted images.
- >= 0x1000 Media is used by Backup Exec.
- >= 0x800 This tape is WORM (write once, read many).
- >= 0x400 Used for alternate server restores.
- >= 0x200 Multiplexing is TRUE.
- >= 0x080 Imported is TRUE.
- >= 0x040 Multiple retention levels is TRUE.

To determine the interpretation for the low-order status digit, compare the digit to the following values in order.

- >= 0x008 The status is Full.
- >= 0x004 This is an unreported state.
- >= 0x002 The status is Suspended.
- == 0x001 The status is Frozen.
- == 0x000 The status is Active.

The reported status is the status for the low-order digit that is combined with the status for the upper-order digits. For instance, for a status value of 0x040, the media ID is active, and multiple retention levels are in effect.

The `-l` option produces a report in Short mode. Each media ID occupies one line of the report. The fields on this line are listed later in this description.

Any of the following fields that are not documented in that section are reserved for NetBackup internal use:

- media id
- partner id
- version
- density
- time allocated
- time last written
- time of expiration
- time last read
- Kbytes
- nimages

- `vimages` (unexpired images)
- `retention level`
- `volume pool`
- `number of restores`
- `status` (described previously)
- `hsize`
- `ssize`
- `l_offset`
- `reserved`
- `psize`
- `reserved`
- four reserved fields

Media Summary Report

The Media Summary report lists (by server) summary statistics for active and inactive media, which is grouped according to expiration date. The report shows the expiration date for the media and the number of media at each retention level, and the status of each media ID.

Media Contents Report

The Media Contents report lists the contents of media as read directly from the media. It lists the backup IDs that are on a single media ID. It does not list each individual file. This report does not apply to disk storage units. Note that the storage unit may stay in use for some time after the break if the following occurs: You try to abort the command by entering `ctl-c` and the requested media are not mounted or positioned. Each entry in the report appears as that area of the storage unit is read.

The `-l` format for the Media Contents report produces one line for each backup ID and contains the following fields.

For more detail, see the Media Contents Report section in the *NetBackup Administrator's Guide*.

Any of the following fields that are not documented in that section are reserved for NetBackup internal use.

- `Version` (1 denotes a DB backup image, 2 denotes a regular backup image)

- Backup ID
- Creation time
- Expiration time
- Retention level
- Fragment number
- File number
- Block size (in bytes)
- Status
- media_id
- Size
- Reserved
- data_start
- Reserved
- client_type *
- copy_num *
- sched_type *
- Flags *
- opt_extra
- mpx_headers
- res1
- Policy name *
- Schedule label *

* These fields are significant only if version is 2.

Media Count Report

The Media Count report shows a count of the number of UP devices that match all the criteria that is specified. The robot type and the robot number are mandatory criteria for this report. The `-U` format provides a title, Number of UP devices for `rt(rn) = value`. The `-1` format provides only the value.

OPTIONS

Report-type Options

`bpmédialist` produces one of four types of reports. An option on the command line determines the type of report that is produced. The report-type options are as follows:

`-m list`

Produces a Media List report (the default report type).

`-summary`

Produces a Media Summary report.

`-m contents`

Produces a Media Contents report.

`-count`

Produces a Media Count report. This report also displays the following media attribute: `ALLOW_MULT_RET_PER_MEDIA` and its value, 0 (do not allow) or 1 (allow).

The `bpmédialist` report can appear in one of several formats. The report-format options are as follows:

`-brief`

Produces a brief report. This option is available for the Media Summary report only. The default is a full report, which includes a breakdown of active and non-active media that report on each media ID status within these categories.

`-U`

Reports in user mode (the default report mode). The report includes a banner that lists the column titles. The report style is descriptive, rather than terse.

`-L`

Reports in long mode. This format produces the report with the most complete information. For instance, for the Media List report, the report lists each media ID attribute as a series of `keyword = value` pairs, one attribute per line. A value can be expressed as both a numeric value and a descriptive value.

`-l`

Reports in short mode. This format produces a terse report. This option is useful for scripts or the programs that rework the listing contents into a customized report format.

The following are the remaining options used by `bpmédialist`:

`-d density`

Reports on media of this density type. If the robot type is specified on the command line, the value for density should be consistent with the robot type. Available density types are:

`4mm` - 4mm Cartridge

`8mm` - 8mm Cartridge

`dlt` - DLT Cartridge

`qscsi` - 1/4 Inch Cartridge

Note: The following densities are supported only on NetBackup Enterprise Servers.

`dlt2` - DLT Cartridge 2

`dlt3` - DLT Cartridge 3

`dtf` - DTF Cartridge

`hcart` - 1/2 Inch Cartridge

`hcart2` - 1/2 Inch Cartridge 2

`hcart3` - 1/2 Inch Cartridge 3

`-h host_name`

The name of a host that contains the media to be reported. Use `-h` instead of `-M` to collect the contents list of expired media.

To extract records for media from NDMP hosts, use the NDMP hostname, not the NetBackup for NDMP server hostname. The NCMP hostname is defined in the NDMP storage unit or EMM as an NDMP server type (or an associated EMM alias name) that is associated with that master server domain.

`-m media_id`

Reports on this media ID only. This option is required for the Media Contents report.

For the Media List report, this option is optional. The default condition is that all media IDs are included in that report. The media ID can be provided in either uppercase or lowercase. The media ID must be six or fewer characters and must be in the NetBackup media catalog (that is, assigned from the NetBackup volume pool).

`-owner host_name | group_name`

Specifies the owner of the media list. The owner can be a host or a server group.

Note: NetBackup server has only one server (the master), so use the name of that server for *host_name*.

host_name is either the name of a host, or the character string ALL. If *host_name* is the name of a host, the query goes to the media catalog that resides on the system *host_name*. For the `-mcontents` and `-count` options, this option can appear once. For the `-mlist` and `-summary` options, this option can appear more than once. The default is all servers in the set of storage units for removable media.

The system *host_name* must allow access by the system running `bpmédialist`. *host_name* can be a media server for a master server other than the local master server. The default is the master server of the local cluster.

For a media server for a master server other than the local master, if a `bpmédialist` query is made by using `-h the_media_server`. An equivalent `bpmédialist` query uses `-M the_media_servers_master`, the `bpmédialist` using `-h` may complete faster. This difference in response time can be significant in the following situation: The master server that `-M` addresses is located remotely and the media server that `-h` addresses is local.

If *host_name* is ALL, the query goes to the local master server and its media servers.

group_name specifies the name of a server group or the character string ALL. If *group_name* is the name of a server group, the query returns the media that the server group owns. If *group_name* is ALL, the query returns the media that all the server groups own.

`-M master_server, ...`

A list of alternative master servers. This list is a comma-delimited list of host names. If this option is present, each master server in the list runs the `bpmédialist` command. If an error occurs for any master server, the report process stops at that point.

The report is the composite of the information that all the master servers in this list return. `bpmédialist` queries each of these master servers. Each master server in the list must allow access by the system that issues the `bpmédialist` command.

For `-mcontents` (Media Contents report) only, the master server returns media information from the media catalogs. This media information is for both the master and its media servers (except for NetBackup server, which does not support remote media servers). For example, if a media ID exists on a media server of one of the master servers in the `-M` list, the following occurs: The master retrieves the media information from the media server and returns it to the system running `bpmédialist`. In this case, both the master server and the media server must allow access by the system that issues the `bpmédialist` command.

The default is the master server for the server running `bpmédialist`.

Note: NetBackup server supports only one server, the master; the default in this case is always the NetBackup server master where you run `bpmédialist`.

`-p pool_name`

Reports on the media IDs that belong to this volume pool. The default is all pools.

`-priority number`

Specifies a new priority (*number*) for the media contents job (for a Media Contents report) that overrides the default job priority.

`-rl retention_level`

Reports on the media that use this retention level. The retention level determines how long to retain backups and archives. The *retention_level* is an integer between 0 and 24 (default level is 1).

Following are the retention levels with the installation values for the corresponding retention periods. Your site may have reconfigured the retention periods that correspond to the retention levels.

0	one week
1	2 weeks
2	3 weeks
3	1 month
4	2 months
5	3 months
6	6 months

7	9 months
8	1 year
9 - 24	infinite

`-rn robot_number`

Reports on the robot by using this robot number. This option is required when the `-count` option is used. The robot number can be obtained from the Media and Device Management.

For rules about the use of this number, see the *NetBackup Administrator's Guide*.

`-rt robot_type`

Reports on a robot of this type. This option is required when the `-count` option is used. For non-robotic (stand-alone) devices select NONE. Valid robot types include the following

TL4 - Tape Library 4MM

TL8 - Tape Library 8MM

TLD - Tape Library DLT

NONE - Not robotic

Note that the following robot types apply only to NetBackup Enterprise Server:

ACS - Automated Cartridge System

TLH - Tape Library Half-Inch

TLM - Tape Library Multimedia

`-v` Selects verbose mode. This option causes `bpmédialist` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup has the debug logging enabled; that is, when the following directory is defined:

For UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

For Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - Produce a media report for all media IDs that are defined for the master server and media servers of the local system.

Note: For NetBackup server , the report includes only media IDs for the master server because remote media servers are not supported.

```
# bpmedialist
```

```
Server Host = hatt
```

id	rl	images vimages	allocated expiration	last updated last read	density	kbytes	restores	STATUS
143191	0	28 7	12/03/2010 23:02 12/29/2010 23:00	12/22/2010 23:00 12/09/2010 10:59	dlt	736288	1	
144280	0	9 0	11/25/2010 11:06 12/08/2007 23:03	12/01/2010 23:03 N/A	dlt	290304	0	EXPIRED FROZEN
AEK800	0	22 7	12/06/2010 03:05 12/30/2010 03:01	12/23/2010 03:01 12/09/2010 10:48	dlt	23213184	0	
C0015	0	28 7	11/26/2010 02:09 12/30/2010 02:01	12/23/2010 02:01 N/A	dlt	896448	0	
IBM001	0	16 14	12/16/2010 01:01 12/30/2010 01:07	12/23/2010 01:07 N/A	dlt	6447360	0	
L00103	0	20 9	12/07/2010 08:33 12/30/2010 01:07	12/23/2010 01:07 N/A	dlt	7657728	0	
L00104	0	9 5	12/11/2010 01:09 12/28/2010 01:04	12/21/2010 01:04 N/A	dlt	5429504	0	

Example 2 - Produce a media count report for robot type TLD and robot number 0:

```
# bpmedialist -count -rt TLD -rn 0
      ALLOW_MULT_RET_PER_MEDIA 0
      Number of UP devices for TLD(0) = 2
```

Example 3 - Produce a media contents report for media ID AEK802. The report is partially listed as follows.

```
# bpmedialist -mcontents -m AEK802
media id = AEK802, allocated 01/08/2007 03:10, retention level = 0
```

```
File number 1
Backup id = hat_0915786605
Creation date = 01/08/2007 03:10
Expiration date = 01/15/2007 03:10

Retention level = 0
Copy number = 1
Fragment number = 2
Block size (in bytes) = 65536
```

```
File number 2
Backup id = hat_0915809009
Creation date = 01/08/2007 09:23
Expiration date = 01/15/2007 09:23
Retention level = 0
Copy number = 1
Fragment number = 1
Block size (in bytes) = 65536
```

Example 4 - Produce a Media List report for master servers hatt and duo.bpmedialist runs on the master server buff. bpmedialist

```
# bpmedialist -M hatt,duo
```

```
Server Host = hatt
```

id	rl	images vimages	allocated expiration	last updated last read	density	kbytes	restores	<----- STATUS ----->
143191	0	51 9	12/03/2008 23:02 01/18/2009 23:04	01/11/2009 23:04 01/08/2009 10:26	dlt	1436686	2	
144280	0	9 0	11/25/2008 11:06 12/08/2008 23:03	12/01/2008 23:03 01/12/2009 16:10	dlt	290304	0	EXPIRED FROZEN
AEK800	0	38 3	12/06/2008 03:05 01/15/2009 03:10	01/08/2009 03:10 12/09/2008 10:48	dlt	3922200024	0	FULL
AEK802	0	6 6	01/08/2009 03:10 01/19/2009 03:05	01/12/2009 03:05 01/12/2009 16:12	dlt	6140544	0	
C0015	0	48 7	11/26/2008 02:09 01/19/2009 02:11	01/12/2009 02:11 N/A	dlt	1531968	0	

```
IBM000  0    19  01/01/2009 01:09  01/12/2009 02:05    dlt  8284224    0
        13  01/19/2009 02:05  01/09/2009 05:41
```

Server Host = duo

```

id      rl  images  allocated      last updated      density  kbytes  restores
      vimages  expiration      last read          <----- STATUS ----->
-----
A00004  0    0    11/16/2009 05:31      N/A          4mm      0        0
          0          N/A          N/A          FROZEN

DLT210  1    5    12/09/2008 06:10  01/08/2009 06:04    dlt      2560    0
          2    01/22/2009 06:04      N/A

DLT215  0   124   12/08/2008 14:57  01/12/2009 08:07    dlt   9788072    4
          28   01/19/2009 08:07  12/31/2008 15:42
```

Example 5 - Report on which of two hosts has a given media ID configured. The host hatt does not have A00004 configured in its media catalog. Therefore, it reports that the requested media ID was not found in the NetBackup media catalog or Enterprise Media Manager Database.

The host duo does have A00004 configured, so it produces a Media List report for A00004 (the command is all on one line).

```
# bpmedialist -mlist -h hatt -h duo -m A00004
```

```
requested media id was not found in NB media database and/or MM volume database
```

Server Host = duo

```

id      rl  images  allocated      last updated      density  kbytes  restores
      vimages  expiration      last read          <----- STATUS ----->
-----
A00004  0    0    11/16/2009 05:31      N/A          4mm      0        0
          0          N/A          N/A          FROZEN
```

FILES

UNIX and Linux systems: /usr/opensv/netbackup/logs/admin/*

Windows systems: install_path\NetBackup\logs\admin*

bpminlicense

`bpminlicense` - manage NetBackup license file

SYNOPSIS

```
bpminlicense [-path license_key_file | -M server] [-debug] [-verbose]
[-list_keys] [-nb_features | -sm_features]
```

```
bpminlicense [-path license_key_file | -M server] [-debug] [-verbose]
-find_keys | -delete_keys | -add_keys keystring1 .. keystringn
```

```
bpminlicense -nb_ufile fid [-debug] [-verbose]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpminlicense` utility manages a NetBackup license file. The preferred method to manage NetBackup licenses is to use the Help > License Keys panel in the NetBackup Administration Console. For UNIX servers, you may use the `get_license_key` utility to manage the NetBackup licenses. This action is preferred to this command.

Any authorized user can run this command.

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

OPTIONS

```
-add_keys | -delete_keys | -find_keys keystring1 .. keystringn
```

Respectively, these options find and list, add, or delete one or more specified *keystrings* in the NetBackup license file.

```
-debug
```

Displays detailed information to standard error.

```
-list_keys
```

Lists the keys in the NetBackup license file.

```
-M server
```

Use the standard NetBackup license file from the specified NetBackup *server*.

- `-nb_features`
Lists only active NetBackup feature IDs (and active keys when specified with the `-verbose` option).
- `-nb_ufile fid`
Displays licensing information for a specific feature ID. For capacity-based features, the `VALUE` field is the total licensed capacity of all active license keys for the feature.
- `-sm_features`
Lists only active Storage Migrator feature IDs (and active keys when specified with the `-verbose` option).
- `-path license_key_file`
Uses the specified *license_key_file* on the local system. The default is the standard NetBackup license file.
- `-verbose`
Displays additional information to standard output. This option is ignored when used with the `-nb_ufile` option.

EXAMPLES

EXAMPLE 1

Example 1 - Display license information on feature 78, an OpenStorage Disk Option:

```
# bpmlicense -nb_ufile 78
0x05000000;PRID=6 (NetBackup Enterprise Server);FID=78 (OpenStorage
Disk Option);SERIAL=0;VALUE=10; DEXPIRE=2007/07/31 01:00:00 0 (Not
expired); UXDEXPIRE=1185861600 0 (Not expired);
UKEY=OENP-24NJ-PTJT-PPPP-PC6N-PPPP-PNPP-PPPP-POC6
```

Example 2 - The administrator wants to know if an active PureDisk license is installed:

```
# ./bpmlicense -verbose
OENC-CP9-3ZUP-DO83-6PWB-8K40-SKS7-774C-PPP6
OHNW-PPX2-PCDV-UPGP-PZUZ-NCZP-RXXO-GO49-G777-GOP
file version      = 0x05000000
time added       = 0x46388201 Wed May 02 07:20:17 2007
hostname         = hagar
product ID       = 6 NetBackup Enterprise Server
serial number    = 0
key version      = 0x05000000
```

```
count = 0
server platform = 0 Any platform
client platform = 0 Any platform
server tier = 10 NetBackup Enterprise Server
client tier = 0 No tier
license type = 4 Not for resale
OEM ID = 16 Unknown OEM: 16
Expiration = Not expired Tue Jul 31 01:00:00 2007
Time Left = 84 Days
Firm Expiration = Not expired Tue Jul 31 01:00:00 2007
Feature ID = 87 PureDisk Storage Upgrade +
Feature ID = 86 PureDisk Remote Office +
Feature ID = 85 PureDisk Option +
Feature ID = 84 SAN Client +
Feature ID = 83 PureDisk MS Exchange Agent +
```

bpnbat

bpnbat - perform Authentication tasks from within NetBackup

SYNOPSIS

```
bpnbat [-AddDomain | -RemoveDomain] Private_Domain  
bpnbat [-AddMachine]  
bpnbat [-AddUser | -RemoveUser] Name Private_Domain  
bpnbat -Execute [-cf credential_file] command  
bpnbat -GetBrokerCert Broker_Name Broker_Port  
bpnbat -Login [-Info answer_file] [-cf credential_file]  
bpnbat -LoginMachine  
bpnbat -Logout [-cf credential_file]  
bpnbat -RemoveBrokerCert server.name.com  
bpnbat -ShowBrokerCerts  
bpnbat -ShowMachines  
bpnbat -Version  
bpnbat -WhoAmI [-cf credential_file] [-Verify]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The **bpnbat** command is a tool that enables a user to use the Symantec Product Authentication and Authorization Service.

This service contains the following two distinct parts:

- Authentication - prove who you are
- Authorization - check what you can do

bpnbat enables a user to do authentication tasks from within NetBackup.

If a command needs a password, it doesn't echo the password or asterisks, which someone can use to narrow the password search space significantly.

NetBackup Access Control requires the user's home directories to work correctly.

You must have administrator privileges to run the following command options:

`-AddDomain`, `-RemoveDomain`, `-AddMachine`, `-AddUser`, `-RemoveUser`,
`-LoginMachine`, and `-ShowMachines`.

OPTIONS

`[-AddDomain | -RemoveDomain] Private_Domain`

These options enable an administrator that runs locally on an Authentication server to add or remove domains within the private Veritas Domain Database. These domains are not accessible from within any operating system. They are meaningful only within Symantec Product Authentication and Authorization Service. Use them where a centralized naming authority (such as a PDC/AD or NIS domain) is not available.

`-AddMachine`

Registers a machine in a private Symantec Product Authentication. The identity is placed in the private domain `NBU_Machines@<at.server.name>`. Run this option on your authentication broker (`root +ab`).

`[-AddUser | -RemoveUser] Private_Domain`

Enables an administrator that runs locally on an Authentication server to add or remove users from domains in the private Veritas Domain Database. These accounts are meaningful only within Symantec Product Authentication and Authorization Service. Use them when a centralized naming authority (such as PDC/AD or NIS domain) is not available.

`-Execute [-cf credential_file] command`

Executes the specified command with credential file `-cf` read from disk.

`-GetBrokerCert`

Obtains a broker certificate without authenticating to a broker.

`-Login [-Info answer_file] [-cf credential_file]`

Identifies yourself to the system. When you run this command with no options, you are prompted to enter a name, password, domain, authentication type, and a server to authenticate. The combination of a name, password, domain, and domain type creates a unique identity within an Enterprise-wide network. The first time a broker is contacted, you are asked if you want to trust that broker and authenticate them. You cannot use an untrusted broker.

The `-Info` option lets you take the name, password, and domain information from an `answer_file`, and place the certificate in `credential_file` (if specified) or the default location. You can create an answer text file, so that you don't have to manually type the user name and password for logon.

Warning: Storing the user name and password in a plain text file is a potential security issue. Unauthorized users with read access to the text file can obtain the user name and password for the Symantec Product Authentication and Authorization Service to manually authenticate with the `bnpbat` command. Ensure that no unauthorized users can access the answer text file.

The answer file must contain the following four lines:

```
<domain type>
<domain>
<username>
<password>
```

Where `<domain type>` is one of the following values:

```
NIS
NIS+
NT
vx
unixpwd
```

If you use an answer file, ensure that the appropriate `AUTHENTICATION_DOMAIN` is configured on the server. Refer to the *NetBackup Administrator's Guide* for the installed version of NetBackup.

`-LoginMachine`

Identifies a machine that uses an account within the Veritas Security Subsystem private domain `NBU_Machines@<at.server.name>`. Run this option on your NetBackup Media, Master, and Clients. This option is similar to when you log in as a user to an authentication broker.

`-Logout [-cf credential_file]`

Invalidates the current user credentials that require the user to log on again to continue. Without the `-cf` option, the credential that is stored at the default location is expired. The `-cf` option points to the actual credential file, which allows a user to explicitly specify the credential to be expired.

`-RemoveBrokerCert server.name.com`

Removes a trust of a specified authentication broker for all users except the root user (administrator). You can use this command to remove a broker when you no longer trust it. For example, an authentication broker is moved to a different corporate division.

-ShowBrokerCerts

Lists all of the brokers that the user currently trusts. NetBackup trusts any broker that is listed to handle the authentication requests that are sent to it.

-ShowMachines

Lists all computers that have been added to the computers domain of a private Veritas Security Subsystem database by using the `-AddMachines` option. It also shows if DNS fully resolved the computer name. Run this option on your authentication broker (root +ab).

-Version

Retrieves the version of the executable.

-WhoAmI [-cf *credential_file*] [-Verify]

Specifies the identity you currently use within Symantec Product Authentication and Authorization Service. It lists the following:

- Your name
- Domain
- The authenticating broker who issued the credential
- The time a certificate expires
- The domain type that was used when the credential was created

EXAMPLES

Example 1 - The user uses `-Login` and the default port number to connect to the authentication broker that is called `test.domain.veritas.com`. (It is the server that handles the Authentication process.) An NIS account is used. Therefore, a domain name that is associated with the NIS account is provided in addition to a user and password.

```
# bpbat -Login
Authentication Broker: test.domain.veritas.com
Authentication port[ Enter = default]:
Authentication type (NIS, NISPLUS, WINDOWS, vx, unixpwd): NIS
Domain: domain.veritas.com
Name: username
Password:
You do not currently trust the server: test.domain.veritas.com, do
you wish to trust it? (y/n): y
Operation completed successfully.
```

Example 2 - The `-WhoAmI` option verifies the identity that you currently use within the Symantec Product Authentication and Authorization Service.

```
# bpbat -WhoAmI
Name: user name
Domain: domain.veritas.com
Issued by: /CN=broker/OU=root@eek.min.veritas.com/O=vx
Expiry Date: Oct 27 20:57:43 2009 GMT
Authentication method: NIS
Operation completed successfully.
```

Example 3 - Add a computer to the computer identities list:

```
# bpbat -AddMachine
Machine Name: auto.domain.veritas.com
Password:
Operation completed successfully.
```

Next, it shows the computer identities list:

```
# bpbat -ShowMachines
auto.domain.veritas.com
Operation completed successfully
```

Then it logs on a computer to a specified authentication broker:

```
# bpbat -LoginMachine
Does this machine use Dynamic Host Configuration Protocol (DHCP)?
(y/n) n
Authentication Broker: test.domain.veritas.com
Authentication port[ Enter = default]:
Name: auto.domain.veritas.com
Password:
Operation completed successfully.
```

Finally, you log into a computer to a specified authentication broker and a problem occurs:

If the user has a multi-NIC configuration or types the broker name incorrectly, a second prompt appears. It gives the user a second chance to enter the proper broker name. The following example assumes `sleemanNB` is a private NIC name. The public NIC name that Symantec Product Authentication and Authorization Service uses to build the authentication domain is `sleeman.min.veritas.com`. If a failure occurs using `-loginmachine`, the user has a second chance to enter an explicit primary hostname for the authentication broker. (Failures include a bad

computer name, wrong password, or incorrect broker name.) Refer to the following example:

```
# bpbat -LoginMachine
Does this machine use Dynamic Host Configuration Protocol (DHCP)?
(y/n) n
Authentication Broker: sleemanNB
Authentication port[ Enter = default]:
Machine Name: challenger
Password:
Primary host name of broker: sleeman.min.veritas.com
Operation completed successfully.
```

Example 4 - Obtain a broker certificate without authenticating to a broker. It expects a broker (test.domain.veritas.com) and a port (0 for default)

```
# bpbat -GetBrokerCert test.domain.veritas.com 0
Operation completed successfully.
```

Example 5 - Lists all the brokers that the user currently trusts

```
# bpbat -ShowBrokerCerts
Name: root
Domain: root@test.domain.veritas.com
Issued by: /CN=root/OU=root@test.domain.veritas.com/O=vx
Expiry Date: Jun 12 20:45:19 2006 GMT
Authentication method: Symantec Private Security

Name: root
Domain: root@auto.domain.veritas.com
Issued by: /CN=root/OU=root@auto.domain.veritas.com/O=vx
Expiry Date: Feb 17 19:05:39 2006 GMT
Authentication method: Symantec Private Security
Operation completed successfully.
```

Example 6 - The -RemoveBrokerCert option removes a broker when the user no longer wants to trust it. In the following example, an authentication broker is moved to a different corporate division.

```
# bpbat -RemoveBrokerCert test.domain.veritas.com
Operation completed successfully.
```

The user can now use the -ShowBrokerCerts option to display current certificates. The previously removed certificate is no longer displayed.

Example 7 -Show how to use an answer file to supply logon information for automated commands (cron, etc.).

For UNIX and Linux: The UNIX NIS domain name is `location.example.com`, the user name in this domain is `bgrable`, and the password is `hello456`. The corresponding answer file for `bpnbat -login` must contain the following four lines:

```
NIS
location.example.com
bgrable
hello456
```

If the answer file is located in `/docs` and is called `login.txt`, the `bpnbat` command executes as follows:

```
# bpnbat -login -info /docs/vslogin.txt
```

After the `bpnbat -login` command is run, commands like `bpbbackup` can be run without authentication errors.

For Windows: The windows domain name is `corporate`, the user name in this domain is `jsmith`, and the user password is `hello123`. The corresponding answer file for `bpnbat -login` has to contain the following four lines:

```
NT
corporate
jsmith
hello123
```

If the answer file is located in `/docs` and is called `login.txt`, the `bpnbat` command executes as follows:

```
# bpnbat -login -info c:\docs\vslogin.txt
```

After the `bpnbat -login` command is run, commands like `bpbbackup` can be run without authentication errors.

SEE ALSO

See [bpnbaz](#) on page 234.

bpnbaz

bpnbaz – perform Authorization administration tasks from within NetBackup

SYNOPSIS

```
bpnbaz -[AddGroup | DelGroup] Group_Name [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -[AddPerms | DelPerms] Permission_1 [,Permission_2,...] -Group Group_Name -Object Object [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -[AddPolicy | DelPolicy] Policy_Name [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -[AddUser | DelUser] Group_Name Domain_Type:Domain_Name:User_Name [-OSGroup] [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -[AllowAuthorization | DisallowAuthorization] Machine_Name [-M server] [-Server server1.domain.com]  
bpnbaz -CheckUpgrade [-Server server1.domain.com]  
bpnbaz -GetConfiguredHosts [target.server.com [-out file] | -all [-out file] | [-file progress_file]  
bpnbaz -GetDomainInfosFromAuthBroker [target.server.com [-out file] | [-file progress_file]  
bpnbaz -ListGroupMembers Group_Name [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -[ListPerms | ListMainObjects | ListGroups | ListPolicyObjects | ShowAuthorizers] [-M server] [-Server server1.domain.com] [-CredFile Credential]  
bpnbaz -SetupAuthBroker [target.server.com [-out file] | -file progress_file]  
bpnbaz -SetupClient [client.server.com] [-out file] | -all [-images] [-out file] | [-file progress_file] [-dryrun] [-disable]  
bpnbaz -SetupMaster  
bpnbaz -SetupMedia [media.server.com [-out file] | -all [-out file] | [-file progress_file] [-dryrun] [-disable]  
bpnbaz -SetupSecurity NBU.Master.Server.com [-M server] [-Server server1.domain.com]  
bpnbaz -UnconfigureAuthBroker [target.server.com [-out file] | -file progress_file]
```

```
bpbaz -UnhookSharedSecSvcsWithPBX [target.server.com [-out file] |  
-file progress_file]
```

```
bpbaz -Upgrade [-Silent] [-Server server1.domain.com]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

NetBackup uses the `bpbaz` command to access the authorization portion of NetBackup Product Authentication and Authorization Service. Authorization checks the rights on an object. This command enables you to do the following:

- `-AddGroup` and `-DelGroup` creates and deletes Az groups. The `-DelGroup` operation is not reversible.
`-DelGroup` deletes all the members of the group when you delete an Az group from the authorization engine. This operation is not reversible; if you remove a group, you revoke the rights that are granted to members of the group.

Note: An authorization (Az) group is a collection within the Authorization engine into which OS groups and OS users can be placed. When you add a user to an Az group, you grant them the rights and privileges that are associated with that group.

- `-AddPerms` and `-DelPerms` adds and deletes the specified permissions for the given role on individual policies from the main NetBackup resource objects. More information is available on permissions.
Refer to the *NetBackup Administrator's Guide, Volume I*.
- `-AddPolicy` and `-DelPolicy` adds and deletes policies from the main NetBackup resource objects.
- `-AddUser` and `-DelUser` adds and deletes permissions on individual policies from the main NetBackup resource objects.
- `-AllowAuthorization` and `-DisallowAuthorization` specifies which computers are allowed or not allowed to perform authorization checks. The security administrator must specify which servers (master or media) can examine the Authorization database to perform authorization checks.
- `-CheckUpgrade` determines if an upgrade of existing authorization information is needed for the specified server. If so, this option returns 61. Only NetBackup installers use this option.

- -GetConfiguredHosts
- -GetDomainInfosFromAuthBroker
- -ListGroupMembers lists the group member that is associated with a particular group defined by *Group_Name*.
- -ListGroups lists the defined groups
- -ListMainObjects lists the current permissions for each group on each of the main NetBackup objects. This list is an informative view that you can use to verify changes to permissions on an object. This option shows the permissions each group has within the authorization system.
- -ListPerms lists the current permissions on NetBackup resource and policies .It shows all applicable permissions for a given object or object type within the database. This option helps the user to create meaningful customizations to their authorization.
- -ListPolicyObjects displays all objects or object collections associated with the specified policy.
- -SetupAuthBroker sets up the authentication broker to use NBAC.
- -SetupClient sets up NBAC on the client. Run it after `bpbaz -SetupMaster` has been completed successfully. It can be run from the master server. It expects connectivity between the master server and target client systems. By default, NBAC messages are logged to a file in the local directory that is called `SetupClient.nbac`. An example of the format of this file is as follows:

```
client1.server.com
#client2.server.com #SUCCESS (0) @(07/16/10 12:09:29)
client3.server.com #INTERNAL_ERROR(68) @(07/16/10 12:09:39)
```

- The first line indicates that `client1.server.com` has not yet been contacted at all.
- The second line indicates that `client2.server.com` has been successfully contacted. Each success is commented out (with a leading #) and not contacted multiple times.
- The third line indicates that `client3.server.com` has been contacted but an error has occurred. Errors are printed out on the command line with a recommendation of what to do. The error number that is indicated in the logs may indicate the problem.
- -SetupMaster sets up the master server to use NBAC. The `bpbaz -SetupMaster` command contains no user arguments. You are prompted for the password for your current operating system user identity. The authorization server and authentication broker must be installed and running on the master server.

- **-SetupMedia** sets up the media server to use NBAC. An NetBackup administrator group member can run the `bpbaz -SetupMedia` command after `bpbaz -SetupMaster` has been completed successfully. It can be run from the master server. It expects connectivity between the master server and target media server systems.
By default, NBAC messages are logged to a file in the local directory that is called `SetupClient.nbac`. Refer to the `SetupClient` description of an example of the file format.
- **-SetupSecurity** sets up the initial security information. It must be run as root on the Az server.
- **-ShowAuthorizers** lists the computers that are allowed to perform authorization checks.
- **-UnconfigureAuthBroker**
- **-UnhookSharedSecSvcsWithPBX**
- **-Upgrade** modifies the NetBackup operation schema by adding authorization objects. In addition, this option upgrades default user accounts with default permissions for these new objects.
Use this option to upgrade to NetBackup 7.1, or if the installation fails. You must have `NBU_Security Admin` privileges.

See the *NetBackup Security and Encryption Guide* for more information on NBAC and the use of the `bpbaz` command.

To use this command and its associated options, you must be a member of the NetBackup Security Administrators group (`NBU_Security Administration`). The only exception is with the `SetupSecurity` command.

You must have local administrator privileges on the authorization server to run this command.

When you use `bpbaz`, assume that the master server and the Az server are the same computer.

Note: The use of NetBackup Access Control requires the user's home directories to work correctly.

OPTIONS

`-all`

Scans all the storage units or policies and collects all the associated unique host names. You can scan in a sorted order. The results are written to the progress file.

client.server.com

Specifies the name of a single target host. Use this option to add a single additional host for use with NBAC.

`-CredFile` *Credential*

Specifies a file name (*Credential*) from which to obtain a Symantec Product Authentication and Authorization Service credential, rather than the default location.

`-disable`

disables NBAC (USE_VXSS = PROHIBITED) on targeted hosts.

Group_Name

Identifies the authorization group on which an operation is to be performed. NetBackup does not allow user groups to be nested.

Domain_Type:Domain_Name:User_Name

The *Domain_Type* variable is the domain to which the user or group belongs, and the *User_Name* variable defines the applicable user or group name designating the NetBackup administrator.

`-dryrun`

Generates the list of media server names and writes them to the log. This option can work with *client.server.com* or *media.server.com* but it is intended to be used with the `-all` option.

If you have a large number of clients (greater than 250), do a dry run with the `-SetupClient` operation to see all of the clients that are visible to the master server.

`-file` *progress_file*

Specify a different file name for the progress log. If `-file` is used, the input and output files are the same, which allows multiple rounds to execute without changing the command. Use the progress file iteratively by feeding the file back in multiple times until all clients are available online.

`-fsa`

Provisions a specific OS user as the NetBackup administrator. You are asked for the password for your current OS user identity.

Group_Name

Adds the users by creating a unique enterprise account name, following this format: <Authentication type>:<Domain_Type>:<User_Name>

The supported Authentication types for this variable are the following:

- Nis - Network Information Services

- NISPLUS - Network Information Services Plus
- Unixpwd - UNIX Password file on the Authentication server
- WINDOWS - Primary Domain Controller or Active Directory
- Vx - Veritas Private database.

`-images`

`-images` searches all images for unique host names. Do not use this option with large catalogs unless you include the `-dryrun` option. This option discovers all unique clients that are contained in the image catalog. Older catalogs may contain a large number of decommissioned hosts, renamed hosts, and hosts relocated to new masters. Runtime can increase significantly as this command tries to contact unreachable hosts.

`-M server`

Specifies the name of the master server as defined in the variable `server`. This server name may be different from the local host name.

`Machine_Name`

Specifies the computer to be allowed or disallowed to perform authorization checks. The security administrator must specify which master servers or media servers can examine the Authorization database to perform authorization checks.

`media.server.com`

Specifies the name of a single target host. Use this option to add a single additional host for use with NBAC.

`-Object Object`

Controls the access to specified objects or object collections.

`-OSGroup`

Defines a named collection of authentication principals that are established in a native operating system and treated as a single entity. All members of an authentication group or OS group are from the same authentication domain.

`-out file`

specifies a custom output file name. By default, the output is written to the `SetupClient.nbac` file. Use this option with the `-all` option.

`Permission_1[,Permission_2,...]`

Permissions for the role given to the designated object or policy.

`policy_name`

Specifies the name of the policy from the main NetBackup resource objects.

`-Server server1.domain.com`

This option specifies the Az server being used. Currently we expect the Az server and the NetBackup master server to exist on the same system.

Determines if an upgrade of existing authorization information is needed for the specified server. If so, this option returns "61". Only NetBackup installers use this option.

`-Silent`

Directs the upgrade operation to automatically enhance the permissions of groups to account for new objects in the system. This option occurs only for the default groups, and only if those groups have never been changed.

`target.server.com`

Specifies the name of a single target host. Use this option to find the NBAC status on a single host. It captures the status of the host in the `ConfiguredHosts.nbac` file.

EXAMPLES

Example 1 - Create and list an Az group.

An Az group is a collection within the Authorization engine where other OS groups and OS users are placed. This collection is the building block against which permissions are applied on the objects within the database. If you add a user to an Az group, you grant them all the rights and privileges that are associated with that group. When a user is placed in more than one group, that user's effective permissions are as follows: the logical "or" of the applicable permissions of each group to which the user belongs. The following example demonstrates how to create and list an existing Az group:

```
# bpnbaz -AddGroup "New Group 1" -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroup -server test.domain.veritas.com
Administrators
Operators
Security Administrators
Resource Management Applications
Applications
New Group 1
NBU_Unknown
NBU_User
NBU_Operator
NBU_Media Device Operator
NBU_Admin
```

```
NBU_Executive
NBU_Security Admin
NBU_Database Agent Operator
NBU_Database Agent Administrator
Operation completed successfully.
```

Example 2 - Delete an Az group.

If you delete an Az group from the authorization engine, all the members are removed from the group. This operation is not reversible. When you remove a group, you revoke the rights that are granted to members of the group. Therefore, carefully consider the implications of deleting groups.

```
# bpbaz -DelGroup "New Group 1" -server test.domain.veritas.com
Operation completed successfully.
# bpbaz -ListGroup -server test.domain.veritas.com
Administrators
Operators
Security Administrators
Resource Management Applications
Applications
NBU_Unknown
NBU_User
NBU_Operator
NBU_Media Device Operator
NBU_Admin
NBU_Executive
NBU_Security Admin
NBU_Database Agent Operator
NBU_Database Agent Administrator
Operation completed successfully.
```

Example 3 - Add and remove users from Az groups (and List group members)

Add users by creating a unique enterprise name of the following format:
<Authentication type>:<Domain to which user or group belongs>:<user or group name>

The following are the Supported Authentication types:

- Nis - Network Information Services
- NisPlus - Network Information Services Plus
- Unixpwd - UNIX Password file on the Authentication server
- WINDOWS - Primary Domain Controller or Active Directory
- Vx - Veritas Private database

```
# bpnbaz -AddUser NBU_Operator
nis:domain.veritas.com:ssosa -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroupMembers
NBU_Operator -server test.domain.veritas.com
=====
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: jdimaggio
=====
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: ssosa
Operation completed successfully.
# bpnbaz -DelUser NBU_Operator
nis:domain.veritas.com:ssosa -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroupMembers
NBU_Operator -server test.domain.veritas.com
=====
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: jdimaggio
Operation completed successfully.
```

Example 4 - List applicable permissions

The `-ListPerms` option shows all applicable permissions for a given object or object type within the database. This information helps the user to create meaningful customizations to their authorization.

```
# bpnbaz -ListPerms -server
test.domain.veritas.com
    Object Type: Unknown
Browse
Object Type: Media
    Browse
    Read
    New
    Delete
    Eject
```

```
. . .
Restart
Synchronize
Object Type: PolicyGroup
Browse
Read
New
Delete
Activate
Deactivate
Backup
Operation completed successfully.
```

Example 5 - List main objects

The `-ListMainObjects` option lists the current permissions for each group on each of the main NetBackup objects. This list is an informative view that can be used to verify changes to permissions on an object. It shows what permissions each group has within the authorization system.

```
# bpbaz -ListMainObjects -server
test.domain.veritas.com
. . .
NBU_RES_Policy:
  Role: NBU_User
    Unknown
  Role: NBU_Media Device Operator
    Browse
    Read
  Role: NBU_Executive
    Read
    Browse
  Role: NBU_Database Agent Operator
    Unknown
  Role: NBU_Unknown
    Unknown
  Role: NBU_Operator
    Browse
    Read
  Role: NBU_Admin
    Browse
    New
    Activate
    Backup
```

```
        Read
        Delete
        Deactivate
Role: NBU_Security Admin
        Unknown
Role: NBU_Database Agent Administrator
        Unknown
Role: Administrators
        Unknown
Role: Operators
        Unknown
Role: Applications
        Unknown
Role: NBU_Security Admin
        Unknown
. . .
NBU_RES_Job:
Role: NBU_Media Device Operator
        Browse
        Suspend
        Cancel
        Read
        Resume
        Delete
Role: NBU_Executive
        Browse
        Read
Role: NBU_Database Agent Operator
        Unknown
Role: NBU_User
        Unknown
Role: NBU_Unknown
        Unknown
Role: NBU_Operator
        Browse
        Suspend
        Cancel
        Read
        Resume
        Delete
Role: NBU_Admin
        Browse
        Delete
```

```

        Resume
        Read
        Suspend
        Cancel
Role: NBU_Security Admin
        Unknown
Role: NBU_Database Agent Administrator
        Unknown
Role: Administrators
        Unknown
Role: Operators
        Unknown
Role: Applications
        Unknown
Role: NBU_Security Admin
        Unknown
. . .
Operation completed successfully.

```

Example 6 - Add and delete permissions from an object or policy

Delete all permissions from an object for a given group. Add the permissions that are specified for the given role to the object or policy in question.

```

# bnpbaz -AddPerms Browse,Read,
New,Delete -Group TestGroup1 -Object NBU_RES_Job -server
test.domain.veritas.com
Operation completed successfully.
# bnpbaz -ListMainObjects -server
test.domain.veritas.com
NBU_RES_Unknown:
    Role: NBU_User
. . .
NBU_RES_Job:
    Role: NBU_Media Device Operator
        Browse
        Suspend
        Cancel
        Read
        Resume
        Delete
    Role: NBU_Executive
        Browse
        Read

```

```
Role: NBU_Database Agent Operator
  Unknown
Role: TestGroup1
  Read
  Delete
  New
  Browse
Role: NBU_User
  Unknown
Role: NBU_Unknown
  Unknown
Role: NBU_Operator
  Browse
  Suspend
  Cancel
  Read
  Resume
  Delete
Role: NBU_Admin
  Browse
  Delete
  Resume
  Read
  Suspend
  Cancel
Role: NBU_Security Admin
  Unknown
Role: NBU_Database Agent Administrator
  Unknown
Role: Administrators
  Unknown
Role: Operators
  Unknown
Role: Applications
  Unknown
Role: NBU_Security Admin
  Unknown
NBU_RES_Service:
  Role: NBU_Unknown
. . .
Operation completed successfully.
# bpnbaz -DelPerms -Group
```

```
TestGroup1 -Object NBU_RES_Policy -server test.domain.veritas.com
Operation completed successfully.
```

Example 7 - Specify what servers can perform authorization checks

This example also views what servers can perform authorization checks. In addition, it also disallows a server from performing authorization checks.

The `-AllowAuthorization` option specifies which computers are allowed to perform authorization checks. The security administrator must specify which servers (Master or Media) are permitted to examine the Authorization database to perform authorization checks. The following examples demonstrate how to allow or disallow a computer to perform authorization.

```
# bpnbaz -AllowAuthorization
butterball.domain.veritas.com -server test.domain.veritas.com
Operation completed successfully.
```

```
# bpnbaz -ShowAuthorizers -server
test.domain.veritas.com
=====
Type: User
Domain Type: vx
Domain:NBU_Machines@test.domain.veritas.com
Name: butterball.domain.veritas.com
Operation completed successfully.
# bpnbaz --DisallowAuthorization
butterball.domain.veritas.com -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ShowAuthorizers -server
test.domain.veritas.com
Operation completed successfully.
```

Example 8 - Set up initial security boot strapping

The user must run the `-SetupSecurity` option as root on the Az server. The user must then provide the logon information for the first NetBackup Security administrator.

Note: The root user on the system upon which the Az server is installed is always a security administrator.

```
# bpnbaz -SetupSecurity
test.domain.veritas.com -server test.domain.veritas.com
Authentication Broker: test.domain.veritas.com
```

```
Authentication port[ Enter = default]:  
Domain: domain.veritas.com  
Name: ssosa  
Password: Authentication type (NIS, NISplus, WINDOWS, vx, unixpwd:  
NIS  
Operation completed successfully.
```

SEE ALSO

See [bpnbat](#) on page 227.

bppficorr

`bppficorr` - list the persistent snapshot information in the NetBackup catalog for a specified client and delete catalog entries for the snapshots that no longer exist

SYNOPSIS

```
bppficorr [-media] [-hoursago hours] [-rotation] [-policy policy_name]  
-client client_name  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

For the specified client, `bppficorr` lists the persistent snapshots currently found in the NetBackup catalog. Without the *-media* option, `bppficorr` compares the catalog information to the actual information on the client. It removes any entries in the catalog that do not have corresponding snapshots on the client. This option is useful if a snapshot on the client is renamed or removed.

Note: NetBackup manages persistent snapshots. Do not rename or remove a persistent snapshot; otherwise, the data cannot be restored.

The output of `bppficorr` goes to standard output.

You must have administrator privileges to initiate this command.

OPTIONS

`-media`

Lists all persistent snapshot entries in the NetBackup catalog for the client that is specified on the `-client` option. The list includes the backup IDs and the media descriptions for each backup ID. See the *NetBackup Administrator's Guide* for details on the media description.

`-hoursago hours`

Includes the images that were written up to *n* hours ago (1 or greater). The default is all images.

`-policy policy_name`

NetBackup lists the persistent snapshot information in the NetBackup catalog for this policy for the specified client. The default is all policies that include the client that is specified on the `-client` option.

`-client client_name`

A required option. NetBackup lists the persistent snapshot information in the NetBackup catalog for this client. This name must be as it appears in the NetBackup catalog. By default, `bpfficorr` searches for all clients.

NOTES

`bpfficorr` writes activity log information to the `/usr/opensv/netbackup/logs/admin` directory (UNIX and Linux systems) or the `<install_path>\NetBackup\logs\admin` directory (Windows systems). You can use the information in the directory for troubleshooting.

EXAMPLES

Example 1 - Resynchronize the NetBackup catalog with a client's actual snapshots:

```
# bpfficorr -client lupine
```

Example 2 - Display the snapshots that are currently in the catalog for client lupine:

```
# bpfficorr -media -client lupine
```

Sample output:

```
Listing frozen image info from NBU catalog
-----
backup_id          created          name
-----
1 lupine_1034167036  Wed Oct  9 07:37:16 2002
1 vxvm:32:vxfs:/V1fs:/dev/vx/dsk/oradg/PFI-V1_1034167036
2 lupine_1033995680  Mon Oct  7 08:01:20 2002
1vxfs_pfi:34:vxfs:/ora8:VX+NBU+PFI+ORA+2002.10.07.08h01m20s
3 lupine_1033880459  Sun Oct  6 00:00:59 2002
1 vxfs_pfi:34:vxfs:/V1fs:VX+NBU+PFI+FS+2002.10.06.00h00m59s
```

bplclients

bplclients - administer clients within NetBackup policies

SYNOPSIS

bplclients

```
bplclients policy_name | -allunique [-pt policy_type] [-L | -l | -U  
| -noheader] [-M master_server,...] [-v]
```

```
bplclients policy_name -add host_name hardware_os [-priority  
priority] [-M master_server,...] [-v] [-generation generation]  
[-reason "string"]
```

```
bplclients policy_name -delete host_name ... [-M master_server,...]  
[-v] [-generation generation] [-reason "string"]
```

```
bplclients policy_name -modify host_name [-hardware hardware] [-os  
os] [-priority priority] [-M master_server,...] [-v] [-generation  
generation] [-reason "string"]
```

```
bplclients policy_name -rename old_client_name new_client_name [-os  
os] [-hardware hardware] [-generation generation] [-reason "string"]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

bplclients does one of the following:

- Produce a listing of clients.
- Add a new client to a policy.
- Delete a list of clients from a policy.
- Modify an existing client in a policy.

For the `-add`, `-delete`, and `-modify` options, bplclients returns to the system prompt immediately after it submits the client change request to NetBackup. To determine whether the change was successful, run bplclients again to list the updated client information.

When the listing option is used, the list is ordered alphabetically by client name. Each client entry is on a single line, with a single entry for each client.

Authorized users can initiate this command.

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

OPTIONS

`bplclients` consists of two forms. The `bplclients` form that you use determines the options that you use with `bplclients`.

The first form of `bplclients` has no options and produces a listing of information about the clients for all policies.

The second form of `bplclients` produces a listing of information about the clients for a single policy or for all policies. The following options apply to this form:

`-add host_name hardware os [priority]`

Add a client to the policy. If the local system has defined the maximum number of clients already, an error is returned. The maximum number of clients is unlimited (the installation default) for NetBackup Enterprise Server and 4 for NetBackup Server. Specify the host name, hardware type, and operating system (see the definitions section). (`priority` is not implemented at this time)

`-delete host_name ...`

Delete one or more clients from the policy. Up to 20 clients can be deleted at a time. The clients are provided as a space-delimited list of host names.

`-generation generation`

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bplinfo` or `bpllist` to list the current generation value. If no generation is specified, the command acts on the current version.

`-hardware hardware`

The hardware type of this client. In the dialog box for adding clients to a policy with the Backup Policy Management utility, select one of the hardware types.

`-l`

List in long format. No two-line header appears at the top of the listing; the header is embedded in the line for each client. The line for each client includes the following fields:

Client/HW/OS/Pri: (the header)

Client name

Hardware type

Operating system

Priority

Ignore the four additional fields. They are either unused or used for internal processes.

-l

List in short format; this option produces a terse listing. It also is called *raw output mode*. No two-line header appears at the top of the listing; the header is embedded in the line for each client. The line for each client includes the following fields:

CLIENT (the header)

Client name

Hardware type

Operating system

Priority

You can ignore the four additional fields. They are either unused or used for internal processes.

This option is useful for scripts or the programs that rework the listing contents into a customized report format.

-M *master_server,...*

Lists alternative master servers. This option consists of a comma-delimited list of host names. If this option is present, each master server in the list runs the `bplclients` command. Each master server in the list must allow access by the system that issues the `bplclients` command. If an error occurs for any master server, the process stops at that point.

If `bplclients` produces a list, the list is the composite of the returned information from all the master servers in this list.

If `bplclients` adds, deletes, or modifies a client (explained later), the change is made on all the master servers in this list.

-modify *host_name ...*

Modify the attributes for a client within a policy. The client was added to the policy previously. The attribute values follow the client name and replace the previous equivalent attribute values for this client. You must modify at least one of the client's attributes. `-priority` is not implemented at this time.

-noheader

List without any header. The listing consists of one line for each client, which contains the hardware type, operating system, and client name.

`-os os`

Specifies a different operating system for the client. In the dialog box for adding clients to a policy with the Backup Policy Management utility, select one of the operating systems.

The values that you choose for the hardware and the os options must form a valid combination.

`policy_name`

Change the client information for this policy. This option must be the first option on the command line.

`policy_name | -allunique [-pt policy_type]`

`policy_name` specifies the name of a policy. It lists client information only for the policy with this name.

`-allunique` without `[-pt policy_type]` lists client information for all policies that are defined for NetBackup on the master server.

If you use `-allunique -pt policy_type`, where `policy_type` is a specific policy type (such as Sybase), the following occurs: The command lists the client information only for the clients that belong to that type of policy.

If the command line contains neither the `policy_type` nor `-allunique` option, the listing contains client information for all policies.

If you use this option, it must be the first option on the command line.

`-pt policy_type`

Specify the policy type by entering one of the following character strings (the default is Standard):

```
Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows-NT
NDMP
NetWare
Oracle
OS/2
Standard
Sybase
```

The following policy types apply only to NetBackup Enterprise Server:

AFS
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
SAP
Split-Mirror
Vault

`-priority priority`

Not implemented.

`policy_name`

The policy that has the client. This option must be the first option on the command line.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-rename old_client_name new_client_name`

`old_client_name` specifies the current name of the client and
`new_client_name` specifies the new name.

`-U`

Lists in user format. The listing consists of one line for each client, which contains the hardware type, operating system, and client name. A two-line header begins the listing. This option is the default format for the listing.

`-v`

Selects the verbose mode. This option causes `bplclients` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when you enable the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

This option must precede the `-add`, `-delete`, or `-modify` option on the command line.

EXAMPLES

Example 1 - While the master server runs, list the clients that are known to the master server.

```
# bpplclients
Hardware          OS                Client
-----
Novell            Novell 6.5       marge
Windows-x64      Windows2008      marmot
HP9000-800        HP-UX 11.23      squash
Windows-x64      Windows2008      tigers
```

This command can also be entered on a client named `hatt`, with the same results.

Example 2 - List the defined clients for the policy `onepolicy`:

```
# bpplclients onepolicy
Hardware          OS                Client
-----
Solaris           Solaris10        jeckle
RS6000            AIX5             streaky
HP9000-800        HP-UX 11.23      chilly
HP9000-800        HP-UX 11.31      shark
```

Example 3 - Add the client `marmot` to the policy `twopolicy` on the master servers `serv1` and `serv2`. The hardware type for `lynx` is `HP9000`; the operating system is `HP-UX 11.23`. The default priority is used. (The command is all on one line.)

```
# bpplclients twopolicy -M serv1,serv2 -add lynx HP9000 HP-UX 11.23
```

Example 4 - Delete the clients `marmot` and `vole` from the policy `twopolicy` on the master servers `serv1` and `serv2`. (The command is all on one line.)

```
# bpplclients twopolicy -M serv1,serv2 -delete marmot vole
```

Example 5 - While the master server `hatt` runs, list client information for policy `BackTrack` on the master server `beaver`:

```
# bpplclients BackTrack -M beaver
Hardware          OS                Client
-----
Solaris           Solaris10        saturn
```

Example 6 - Assume that you have a policy that is called `my_policy` with one defined client. The client name is `pear`, the operating system is `Solaris 10`, and the hardware type is `Solaris`.

```
# bpplclients my_policy -rename pear apple -os MacOS -hardware Mac
```

This command changes the client name `pear` in `my_policy` to `apple`. It also changes the `os` from Solaris to MacOS and hardware from Solaris to Mac.

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

It has the following form:

```
bpplclients: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX and Linux systems:

```
/usr/opensv/NetBackup/logs/admin/*  
/usr/opensv/NetBackup/db/policy/policy_name/clients
```

Windows systems:

```
install_path\NetBackup\logs\admin\*  
install_path\NetBackup\db\policy\policy_name\clients
```

SEE ALSO

See [bpadm](#) on page 52.

See [bpplinfo](#) on page 266.

bppldelete

bppldelete – delete policies from the NetBackup database

SYNOPSIS

```
bppldelete policyname [-verbose] [-M master_server,...] [-generation  
generation] [-reason "string"]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

bppldelete deletes policies from the NetBackup database.

Any authorized user can initiate this command.

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

OPTIONS

`-generation generation`

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bppllist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-M master_server,...`

Deletes the policy information for a specific master server(s). For example, to delete policy `MWF_PM` from master server `Saturn`, enter the following:

```
bppldelete MWF_PM -M Saturn
```

`policyname`

Specifies the policy to remove from the NetBackup database.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512

characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-verbose`

Selects verbose mode for logging.

bpplinclude

`bpplinclude` - maintain list of files automatically backed up by NetBackup policy

SYNOPSIS

```
bpplinclude policy_name [-v] [-M master_server,...] -L | -l  
[-generation generation]  
bpplinclude policy_name [-v] [-M master_server,...] [-generation  
generation] -add pathname ... | -add -f filename | -delete pathname  
... | -delete -f filename | -modify old_pathname new_pathname ...  
[-reason "string"]  
On UNIX and Linux systems, the directory path to this command is  
/usr/openv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

`bpplinclude` maintains the policy file list for a NetBackup policy. The policy file list is the list of files that are backed up when NetBackup runs an automatic backup for the policy. The policy file list does not apply to user backups or archives since users select the files when they start those operations.

`bpplinclude` performs one of the following operations:

- Adds the pathnames to the policy file list
- Deletes the pathnames from the policy file list
- Modifies the pathnames in the policy file list
- Displays the policy file list for a policy

The `-add`, `-delete`, and `-modify` options include a list of pathnames. The list of pathnames must be the final part of the `bpplinclude` command line. The pathname must be the entire path from the root of the file system to the desired location.

For the absolute pathname syntax for your client type, refer to the pathname rules topics in the *NetBackup Administrator's Guide*.

The last part of the path can be a file name, a directory name, or a wildcard specification. You can enclose pathnames in quotes. Use enclosing quotes if the pathname contains special characters or a wildcard specification.

Filepath rules do not verify the existence of the input directories or files. NetBackup backs up only the files it finds and does not require that all entries in the list be present on every client.

See the *NetBackup Administrator's Guide* for additional information on policy file lists.

For database extensions, the input entries are scripts. NetBackup runs these during the backup. See the NetBackup guide that comes with the extension product for additional information.

The added entries to the policy file list can be directives, rather than pathnames for the following: certain policy attributes (such as **Allow multiple data streams**) and extension products (such as NetBackup for NDMP).

Refer to the *NetBackup Administrator's Guide* or the NetBackup guide for the extension product.

The options `-l` and `-L` produce nearly identical displays of the policy file list.

`bpplinclude` sends its error messages to `stderr`. `bpplinclude` sends a log of its activities to the NetBackup admin log file for the current day.

Authorized users can initiate this command.

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

OPTIONS

`-add pathname ...`

Adds the specified pathname to the policy file list. The pathname can be a directory, a file name, a script, or a directive.

A pathname must be enclosed in quotes (") if it contains special characters, such as blank(" "), or a wildcard specification. Use a blank to separate two pathnames, not a comma. `bpplinclude` interprets a comma as part of the pathname; it concatenates two or more comma-delimited pathnames into a single pathname with embedded commas. The command does not verify the syntax or the existence of the pathnames.

`-add -f filename`

Adds all files that are listed in *filename* to the policy file list.

`-delete pathname`

Deletes the specified pathnames from the policy file list. Refer to `-add` for the pathname-list syntax. If you delete a pathname from the policy file list, you still can recover any backups or archives for that pathname. This option must be the final entry on the command line.

`-delete -f filename`

Deletes all the listed file in *filename* from the policy file list.

`-generation generation`

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bppllist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-L`

Displays the contents of the policy file list in long format.

`-l`

Displays the contents of the policy file list in compact format.

Note: The `-l` and `-L` displays are similar.

`-modify {old_path_name new_path_name}`

Modifies an entry in the policy file list. The values are a list of pathname pairs {*old_path_name new_path_name*}. For each pathname pair, *new_name_path* replaces *old_name_path* in the policy file list. If no list entry matches *old_path_name*, then *new_path_name* is not entered into the policy file list. Refer to the `-add` option for the pathname syntax. Delimit the list entries with spaces, both within a pathname pair and between pathname pairs. This option must be the final entry on the command line.

`-M master_server,...`

A list of master servers. This list is a comma-separated list of hostnames. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`policy_name`

Specifies the policy for which the policy file list is to be set.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

-v

Selects verbose mode for logging. This option is meaningful only when you run with the debug log function on (that is, when the following directory is defined):

UNIX and Linux systems: /usr/opensv/netbackup/logs/admin

Windows systems: *install_path*\NetBackup\logs\admin

EXAMPLES

Example 1 - While the backup runs on another master server kiwi, display the policy file list for policy oprdoc_policy on the master server plim:

```
# bpplinclude oprdoc_policy -L -M plim

Include: /oprdoc (UNIX and Linux systems)

Include: c:\oprdoc (Windows systems)
```

Example 2 - Add and delete the pathnames that include one wildcard entry to illustrate bpplinclude's interpretation of wildcards:

```
UNIX and Linux systems:
# bpplinclude mkbpolicy -add /yap /y*
# bpplinclude mkbpolicy -L
  Include: yap
  Include: /y*
# bpplinclude mkbpolicy -delete /y*
# bpplinclude mkbpolicy -L
  Include: /yap

Windows systems:
# bpplinclude mkbpolicy -add C:\yap C:\y*
# bpplinclude mkbpolicy -L
  Include: C:\yap
  Include: C:\y*/y*
# bpplinclude mkbpolicy -delete C:\y*
# bpplinclude mkbpolicy -L
  Include: C:\yap
```

Note: `bpplinclude` does not interpret the wildcard entry `y*` for `-delete` as meaning that both `yap` and `y*` should be deleted. Only `y*` is deleted from the include list for `mkbpolicy`. The interpretation of the wildcard occurs when NetBackup selects files to back up, during the actual backup.

Example 3 - Add two entries to the policy file list for a policy, and then modify them:

```
UNIX and Linux systems:
# bpplinclude mkbpolicy -add "/ima file" "/ura file"
# bpplinclude mkbpolicy -L
    Include: /ima file
    Include: /ura file
bpplinclude mkbpolicy -modify "/ima file" "/ima file 2" "/ura file"
"/ura file 2"
bpplinclude mkbpolicy -L
    Include: /ima file 2
    Include: /ura file 2
```

```
Windows systems:
# bpplinclude mkbpolicy -add "C:\ima file" "C:\ura file"
# bpplinclude mkbpolicy -L
    Include: C:\ima file
    Include: C:\ura file
# bpplinclude mkbpolicy -modify "C:\ima file" "C:\ima file 2"
"C:\ura file" "C:\ura file 2"
# bpplinclude mkbpolicy -L
    Include: C:\ima file 2
    Include: C:\ura file 2
```

Example 4 - Add a raw partition to the policy file list for the policy `rc` (UNIX clients). The full path name for the device is used (the command is all on one line):

```
bpplinclude rc -add /devices/sbus@2,0/dma@2,81000/esp@2,80000/
sd@6,0:h,raw
```

See the Adding UNIX Raw Partitions to the File List section of the *NetBackup Administrator's Guide*.

Example 5 - Display the policy file list for the policy `mkb_policy`:

```
# bpplinclude mkb_policy -l

UNIX and Linux systems:
    INCLUDE /etc/services
```

```
INCLUDE /etc/aliases  
INCLUDE /usr/bin
```

Windows systems:

```
INCLUDE C:\services  
INCLUDE C:\aliases  
INCLUDE C:\Programs
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/policy/policy_name/includes
```

Windows systems:

```
install_path\NetBackup\logs\admin\  
install_path\NetBackup\dv\policy\policy_name\includes
```

SEE ALSO

See [bpplclients](#) on page 251.

See [bpplinfo](#) on page 266.

See [bpschedule](#) on page 333.

See [bppldelete](#) on page 258.

See [bppllist](#) on page 278.

bplinfo

bplinfo - manage or display policy attributes for NetBackup

SYNOPSIS

```

bplinfo policy_name -L | -l | -U [-v] [-M master_server,...]
bplinfo policy_name -set | -modify [-v] [-active | -inactive]
[-blkincr flag] [-chkpt flag] [-chkpt_intrvl interval]
[-collect_bmr_info flag] [-collect_tir_info value] [-compress flag]
[-crossmp flag] [-disaster flag] [-ef effective_time] [-encrypt flag]
[-follownfs flag] [-granular_restore_info 0 | 1] [-job_subtype
sub_type] [-keyword "keyword phrase"] [-M master_server,...]
[-multiple_streams flag] [-policyjobs max_jobs] [-pool label]
[-priority number] [-pt policy_type] [-residence label] [-rfile flag]
[-data_class class | *NULL*] [-sg server_group | *ANY* | *NONE*]
[-ut] [-generation generation] [-res_is_stl 0 | 1] [-reason "string"]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

bplinfo initializes, modifies, or displays the attribute values for a NetBackup policy. Authorized users can initiate this command.

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

bplinfo consists of two forms. The options that you use with bplinfo depend on the form of bplinfo being used.

The first form of bplinfo displays policy information. The -L, -l, and -U options lists the policy information in different ways.

The second form of bplinfo initializes or modifies the policy attributes.

- -set initializes or reinitializes policy attributes to their default values, except for those attributes that are specified on the current command line.
- -modify modifies the policy attributes specified on the current command line. The rest of the policy attributes not on the current command line remain unchanged.

Warning: To modify policy attributes, use the `-modify` option. This option affects only the attributes that you specify on the command line. Be careful how you use the `-set` option, which resets all attributes to their default values, except those that are specified on the command line. If you use `-set` to change one or two attributes, you may inadvertently return all the unspecified attributes to their default values.

OPTIONS

`policy_name -L | -l | -U`

Lists the information for this policy. This option is required.

`-L` specifies a long list type and produces a listing with one policy attribute per line, in the format `policy_attribute: value`. The value can be expressed both in numeric and name form. Fields in the list include:

Policy Type

Policy Generation (version)

Active

Follow NFS Mounts (applies only to NetBackup Enterprise Server)

Cross Mount Points

Client Compress

Collect TIR Info

Policy Priority

Ext Security Info

File Restore Raw

Client Encrypt

Max Jobs/Policy

Mult. Data Stream

Snapshot Method

Snapshot Method Arguments

Perform Offhost Backup

Backup Copy

Use Data Mover

Data Mover Type

Use Alternate Client

Alternate Client Name

Use Virtual Machine

Hyper-V Server

Enable Instant Recovery

Disaster Recovery

Collect BMR Info

Max Frag Size

Checkpoint Restart

Residence

Volume Pool

Share Group

Data Classification

Residence is Storage Lifecycle Policy

Granular Restore

Generation

-1 specifies a short list type and produces a terse listing. This option is useful for scripts or the programs that rework the listing contents into a customized report format. A short listing contains the following information for the specified policy:

Line 1: "INFO", client_type, follow_nfs_mounts, client_compress, priority, proxy_client, client_encrypt, disaster_recovery, max_jobs_per_policy, cross_mount_points, max_frag_size, active, collect_tir_info, block_incr, ext_sec_info, i_f_r_f_r, streaming, frozen_image, backup_copy, effective_date, policy ID, number_of_copies, checkpoint, chkpt_interval, policy_info_unused1, pfi_enabled, offhost_backup, use_alt_client, use_data_mover, data_mover_type, collect_bmr_info, res_is_ss, granular_restore_info, job_subtype

Line 2: "KEY", keyword

Line 3: "BCMD", backup_command

Line 4: "RCMD", restore_command

Line 5: "RES", residence

Line 6: "POOL", pool

Line 7: "FOE", this field is not used

`-U` specifies a user list type and produces a listing with one policy attribute per line, in the format *policy_attribute: value*. This listing is similar to the `-L` listing, but contains fewer fields.

`-v`

Selects the verbose mode. This option causes `bpplinfo` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

`-M master_server,...`

A list of alternative master servers. This list is a comma-delimited list of hostnames. If this option is present, each master server in the list runs the `bpplinfo` command. Each master server in the list must allow access by the system that issues the `bpplinfo` command. If an error occurs for any master server, the process terminates at that point.

For the display form of `bpplinfo`, the report is the composite of the returned information from all the master servers in this list. `bpplinfo` queries each of these master servers. The master server returns information from its policy catalog.

For the policy-definition form of `bpplinfo`, the policy is created or modified on each master server in the list.

The default is the master server for the system running `bpplinfo`.

The second form of `bpplinfo` initializes attribute values for a policy or modifies the attribute values for a policy. The following options apply to this form:

Note: Not all options apply to every policy type. For example, if the policy type is MS-Windows, `bpplinfo` accepts the options `-compress` and `-crossmp`. When `bpplinfo` completes, it returns a zero status. However, NetBackup handles the policy with the MS-Windows policy type as though the options were not set.

`-active | -inactive`

Set the policy to active or inactive. If the policy is active, NetBackup runs all its automatic schedules and permits user-directed backups and archives to be used. A policy must be active for an automatic backup to occur (the default).

If the policy is inactive, NetBackup does not run any automatic schedules or permit user-directed schedules to be used. This option is useful to inactivate a policy temporarily to prevent schedules from being used.

`-blkincr flag`

Note: This option applies only if you are running NetBackup Enterprise Server and also have Veritas Oracle Edition, which supports block-level incrementally.

0 (disabled) or 1 (enabled). Perform block-level-incremental backups for clients in this policy.

If 1, do perform block-level-incremental backups.

If 0, do not perform block-level-incremental backups.

`-chkpt [1|0]`

Enables and disables the checkpoint restart for the policy. If 1, the command enables the checkpoint restart. If 0, the command disables the checkpoint restart. The default is 0.

`-chkpt_intrvl interval`

Enables and disables the checkpoint interval for the policy. The variable *interval* is the checkpoint interval in minutes. The default interval is 15 minutes. The range for this interval is between 5 minutes and 180 minutes. If the checkpoint restart is not enabled, then this parameter has no effect.

`-collect_tir_info value`

Collect true-image-recovery (TIR) information. True-image recovery allows NetBackup to restore a directory to exactly what it was at the time of any scheduled full or incremental backup. The files that are deleted before the selected backup time are not restored. After this attribute is enabled, NetBackup starts to collect additional information. It begins with the next full or incremental backup for the policy.

If 0, NetBackup does not keep track of true-image-recovery information.

If 1, NetBackup collects TIR information.

If 2, NetBackup collects TIR information and tracks client files.

`-collect_bmr_info flag`

Collect Bare Metal Restore information.

If *flag* is 0, do not collect Bare Metal Restore information.

If *flag* is 1, collect Bare Metal Restore information.

If `-collect_bmr_info` is set to 1 and Bare Metal Restore is not licensed or the policy type is not Standard or MS-Windows, `bplinfo` fails.

If `-collect_bmr_info` is set to 1 but the policy does not collect true image restore information with move detection, Bare Metal Restore ignores the following: incremental backups and restore files from the last full backup.

`-compress flag`

0 (disabled) or 1 (enabled). Specifies whether to compress files or not. If 1, the client software compresses the selected files onto the media. Compression may increase total backup time. If 0, the files are not compressed onto the media (the default).

This option has no effect on the hardware compression that may be available on the storage unit.

`-crossmp flag`

0 (disabled) or 1 (enabled). Specifies whether to cross mount points during backups or not.

If 1, NetBackup backs up or archives all files and directories in the selected path, regardless of the file system on which they reside.

If 0, NetBackup backs up or archives only those files and directories on the same file system as the selected file path (the default).

This attribute can affect the Follow NFS policy attribute, which applies only to NetBackup Enterprise Server.

Refer to the *NetBackup Administrator's Guide* for more details.

`-data_class class`

Specifies the data classification (for example, gold or platinum).

`-disaster 0|1`

Collect required information for intelligent disaster recovery. This attribute applies only when you back up Windows clients.

0 = Do not allow disaster recovery (Default)

1 = Allow disaster recovery

`-ef effective time`

This time specifies the time the policy is active.

`-encrypt flag`

Specifies whether files should be encrypted or not. If *flag* is set to 1, encryption is enabled.

`-follownfs flag`

Note: This option applies only to NetBackup Enterprise Server.

0 (disabled) or 1 (enabled). Specifies whether to follow NFS mount points or not. For policy types MS-Windows and OS/2, setting this flag affects the policy attribute **Backup network drives** instead of the Follow NFS attribute.

If 1, NetBackup backs up or archives any NFS-mounted files encountered.

If 0, NetBackup does not back up or archive any NFS-mounted files encountered (the default).

The behavior of this attribute varies depending on the setting of the Cross Mount Points attribute.

Refer to the *NetBackup Administrator's Guide* for more details.

`-granular_restore_info flag`

0 (disabled) or 1 (enabled).

If 1, display granular restore information.

If 0, do not display granular restore information.

`-job_subtype DUPLICATE | LIVEUPDATE`

Allows the generic policies for the Duplicate feature or the LiveUpdate feature to be displayed. By default, the policies for these two features are not displayed.

`-keyword "keyword phrase"`

The value is associated with all backups created by using this policy. The keyword phrase can be used to link related policies. It can also be used during restores to search only for the backups that have the keyword phrase association.

`-M master_server,...`

Same as explained earlier.

`-multiple_streams flag`

0 (disabled) or 1 (enabled). **Allow Multiple data streams.**

If 1, allow multiple data streams.

If 0, do not allow multiple data streams.

`policy_name -set | -modify`

Initializes or modifies attributes for this policy. This option is required.

`-set` initializes (or reinitializes) attributes for the policy to their default values, except for those attributes that the options on the current command-line set.

`-modify` modifies attributes for the policy. Attributes not explicitly set by options on the current command line do not change their values.

`-pool label`

Specifies the volume pool for the policy. The default is NetBackup. The volume pool should be one of the volume pools for the policy storage unit. This attribute is not relevant if a disk storage unit is the residence for the policy. If the policy storage unit is Any_available (Residence: - appears on the `bplinfo` display), the volume pool for any storage unit can be selected. If `**NULL**` is specified, the volume pool is set to NetBackup. To display the configured volume pools, run the following command:

UNIX and Linux systems: `/usr/opensv/volmgr/bin/vmpool -listall`

Windows systems: `install_path\Volmgr\bin\vmpool -listall`

`-policyjobs max_jobs`

The maximum number of concurrent jobs that NetBackup allows for this policy (corresponds to the Limit Jobs per Policy setting in the administration interface). `max_jobs` is always greater than or equal to 0.

For the default or when `-policyjobs` is 0, `bplinfo` sets `max_jobs` to a value that corresponds to unlimited. In this example, the maximum number of jobs is 8 for NetBackup and 2003 for NetBackup Enterprise Server.

`-priority number`

The priority of this policy in relation to other policies. Priority is greater than or equal to 0. This value determines the order in which policies are run. The higher the value, the earlier the policy is run. The default is 0, which is the lowest priority.

`-pt policy_type`

Specify the policy type by entering one of the following character strings (the default is Standard):

Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NDMP

NetWare
Oracle
OS/2
Standard
Sybase

The following policy types apply only to NetBackup Enterprise Server:

AFS
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
SAP
Split-Mirror
Vault

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-res_is_stl 0 | 1`

Specify this flag only when the name of the storage unit and the name of the storage lifecycle policy are the same. In all other cases this flag is ignored. The possible values are as follows:

0 - the residence is a non-storage life cycle policy

1 - the residence is a storage life cycle policy

`-residence label`

Specifies the label of the storage unit for storing the backups that were created according to this schedule. The default is `Any_available`, which allows the policy to use any storage unit whose **On demand only** attribute is set to No. If the policy needs to use a specific storage unit or the desired storage unit has its **On demand only** attribute set to Yes, then specify the storage unit. If `"*NULL*"` is specified, the residence for the schedule is set (or reset) to `Any_available`. The policy residence determines the residence for the policy schedules, unless the Override Policy Storage Unit setting on an individual schedule specifies a residence. Run `bpstulist` to display the set of defined storage units.

`-rfile flag`

0 (disabled) or 1 (enabled).

If 1, allow Individual File Restore From Raw.

If 0, do not allow Individual File Restore From Raw.

For a FlashBackup policy, this option is ignored, since the attribute is always enabled.

Note: Advanced Client is available only if you are running NetBackup Enterprise Server and have the separately-priced option.

`-sg [server_group | *ANY* | *NONE*]`

Specifies the server group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If *NONE* is specified, the writing media server owns the media that this policy writes. If *ANY* is specified, EMM chooses the media owner. *ANY* is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following command:

UNIX and Linux systems:

```
/usr/opensv/netbackup/bin/admincmd/nbsvrgrp -list -summary
```

Windows systems:

```
install_path\NetBackup\bin\admincmd\nbsvrgrp -list -summary
```

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

The third `bplinfo` form (not in the synopsis) shows usage information and has only one option, as follows:

EXAMPLES

Note: References to NFS Mounts in the following examples apply only to NetBackup Enterprise Server.

Example 1 - Set the storage unit of the policy `tstpolicy` to `tstunit` and view the results, perform the following:

```

bpplinfo tstpolicy -modify -residence tstunit
bpplinfo tstpolicy -L
Policy Type:          Standard (0)
  Active:             no
  Effective:          no
  Follow NFS Mounts: no
  Cross Mount Points: no
  Client Compress:    no
  Collect TIR Info:   no
  Policy Priority:     0
  Ext Security Info:  no
  File Restore Raw:   no
  Client Encrypt:     no
  Max Jobs/Policy:    8
  Mult. Data Streams: 1
  Block Level Incremental: no
  Perform Snapshot Backup: no
  Backup Copy:        0
  Date Mover Type:    2
  Use Alternate Client: no
  Alternate Client Name: (none)
  Enable Instant Recovery: no
  Disaster Recovery:  0
  Collect BMR Info:   no
  Max Frag Size:      0 MB (1048576 MB)
  Checkpoint Restart: no
  Residence:          tstunit
  Volume Pool:        NetBackup

```

Example 2 - Activate the policy named test1 without modifying any other policy attributes, enter the following:

```
# bpplinfo test1 -modify -active
```

Example 3 - Return the attributes of tstpolicy to their default values, perform the following:

```

# bpplinfo tstpolicy -set
# bpplinfo tstpolicy -L
Policy Type:          Standard (0)
  Active:             yes
  Follow NFS Mounts: no
  Cross Mount Points: no
  Client Compress:    no

```

```
Collect TIR Info:    no
Policy Priority:     0
Ext Security Info:  no
File Restore Raw:   no
Client Encrypt:     no
Multiple Streams:   0
Disaster Recovery:  0
Max Jobs/Policy:    8
Disaster Recovery:  0
Collect BMR Info:   no
Max Frag Size:      0 MB (1048576 MB)
Residence:          -
Volume Pool:        NetBackup
```

Example 4 - Display a short listing for the policy that is named `mkbpolicy`:

```
# bpplinfo mkbpolicy -l
INFO 0 0 0 0 *NULL* 0 0 99 0 0 0 0 0 0 0 *NULL* 1
KEY my temp directory
BCMD *NULL*
RCMD *NULL*
RES mkbunit *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
POOL NetBackup *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
FOE 0 0 0 0 0 0 0 0 0 0
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*
/usr/opensv/netbackup/db/policy/policy_name/info
```

Windows systems:

```
install_path\NetBackup\logs\admin/*
install_path\NetBackup\db\policy\policy_name\info
```

bppllist

`bppllist` – list policy information

SYNOPSIS

```
bppllist [polycyname] [-L | -l | -U] [-allpolicies] [-inventory] [-M  
master_server,...] [-hwos] [-byclient client] [-keyword "keyword  
phrase"] [-verbose] [generation -generation]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bppllist` lists policies within the NetBackup database.

Any authorized users can initiate this command.

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

OPTIONS

`-allpolicies`

Lists all policies.

`-hwos`

Lists possible hardware and the operating system.

`-L`

Displays a full (long) listing.

`-l`

Displays the information in raw output mode.

`-M master_server,...`

Lists the policy information for one or more specified master.

`-U`

Displays information in user list mode. This listing is similar to the long-type list, but it has fewer entries.

`-byclient client`

Lists the policy information for all policies that contain the client indicated.

`-inventory`

Creates an inventory of the current NetBackup policies and compares it to the previously created inventory. You can create touch file `LOG_CLASS_QUERIES` in `/usr/opensv/netbackup` to log changes to policies.

The changes are logged in `/usr/opensv/netbackup/logs/PolicyQueries.log`. The customer is responsible for the administration of the log file (periodic truncation, etc.).

`-keyword "keyword phrase"`

The value is associated with all backups created by using this policy. The keyword phrase can be used to link related policies. It can also be used during restores to search only for the backups that have the keyword phrase association.

polycyname

Specifies the policy in the NetBackup database.

`-verbose`

Selects verbose mode for logging.

bppsched

bppsched - add, delete, or list NetBackup schedules

SYNOPSIS

```

bppsched policy_name [-v] [-M master_server,...] [-L | -l | -U]
[-label sched_label] [-generation generation] [-reason "string"]
bppsched policy_name [-v] [-M master_server,...] -delete
sched_label,... [-generation generation] [-reason "string"]
bppsched policy_name [-v] [-M master_server,...] -deleteall
[-generation generation] [-reason "string"]
bppsched policy_name [-v] [-M master_server,...] -add sched_label
[-st sched_type] [-freq frequency] [-mpxmax mpx_factor]
[-number_copies number] [-synthetic 0|1] [-pfi_fast_recovery 0|1]
[-rl retention_level [,rl_copy,...]] [-residence storage_unit_label
[,stunit_copy,...]] [-pool volume_pool_label [,pool_copy,...]]
[-res_is_stl 0|1] [-fail_on_error 0|1[,0|1,...,0|1]] [-sg share_group
[,share_copy,...]] [-window start_duration] [-cal 0|1|2] [-ut] [-incl
mm/dd/yyyy] [-excl mm/dd/yyyy] [-weekday day_name week] [-dayomonth
value | 1] [-generation generation] [-reason "string"]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

```

DESCRIPTION

bppsched does one of the following:

- Add a new schedule to a policy.
- Delete one or more schedules from a policy.
- Delete all the schedules from a policy.
- List one or all schedules in a policy.

For the `-add` and `-delete` options, bppsched returns to the system prompt immediately after it submits the schedule change request to NetBackup. To determine whether the change was successful, run bppsched again to list the updated schedule information.

When the listing option is used, a single entry for each schedule appears even if the `-M` option is used. The `-l` form lists the information for each schedule on several lines. `-l` does not identify the attributes by name; these are as follows (where the names are not described; they are reserved for internal NetBackup use):

Line 1: SCHED, schedule name, type, max_mpx, frequency, retention level, u_wind/o/d, two internal attributes, maximum fragment size, calendar, number of copies, and fail on error. Note that u_wind/o/d is a field reserved for future use. The u_wind entry in the `-L` display is also reserved for future use.

Line 2: SCHEDWIN, seven pairs of the form *start,duration*, which expresses the start and duration of the window for each day of the week. It starts with Sunday.

Line 3: SCHEDRES, residence (a value for each copy).

Line 4: SCHEDPOOL, pool (a value for each copy).

Line 5: SCHEDRL, retention level (a value for each copy).

Line 6: SCHEDFOE, fail on error (a value for each copy).

If the `-M` option is used, `bppsched` performs the operation on each of the master servers that are listed. For instance, if `bppsched` adds a schedule, `bppsched` adds the schedule to the policy on each of the master servers that is listed for `-M`. If `-M` is used on a listing request, the listing is composed of returned information from all of the master servers in the `-M` list. If the command fails for any of the master servers, activity stops at that point.

To modify an existing NetBackup schedule, use the NetBackup command `bppschedrep`.

Authorized users can initiate this command.

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

OPTIONS

These options are common to all forms of `bppsched`:

`policy_name`

The name of the policy that contains the schedules. The policy must exist before you run this command. This option is required, and must be the first one on the command line.

`-M master_server,...`

A list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the

`bpplsched` command. Each master server in the list must allow access by the system that issues the `bpplsched` command.

If this option is present, the command is run on each master server in the list. If an error occurs for any master server, the process terminates at that point.

If `bpplsched` produces a listing, the listing is the composite of the returned information from all the master servers in this list.

If `bpplsched` adds or deletes a schedule, all master servers in this list receive the change.

`-v`

Selects the verbose mode. This option causes `bpplsched` to log additional information for debugging purposes. The information goes into the NetBackup administration debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

Windows systems: `install_path\NetBackup\logs\admin`

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

The remaining options depend on the form of `bpplsched`. The first form of `bpplsched` adds a schedule to the named policy. The following options apply to this form of `bpplsched`:

`-add sched_label [suboptions]`

Add a single schedule to the named policy.

The sub-options for the `-add` option are explained later in this description. These are attributes of the schedule being added.

Refer to the *NetBackup Administrator's Guide* for details on schedules and their attributes.

`-cal 0 | 1 | 2`

Indicates whether `bpplsched` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

`-dayomonth value | l`

Specifies the day of every month to run the schedule. Enter `l` (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the schedule the 15th day of every month, enter:

```
-dayomonth 15
```

To run the last day of every month, enter:

```
-dayomonth l
```

`-excl mm/dd/yyyy`

Indicates to exclude this single date.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, 0 is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq frequency`

Determines how often backups run. Represents the number of seconds between the backups that are initiated according to this schedule. When it is omitted on the command line, the default value is 604800 (duration of one week in seconds).

`-generation generation`

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bpplhist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-incl mm/dd/yyyy`

Indicates to include this single date.

`-mpxmax mpx_factor`

The maximum number of jobs for this schedule that NetBackup multiplexes on any one drive. `mpx_factor` is an integer that can range from 1 through 8 for NetBackup Server and 1 through 32 for NetBackup Enterprise Server. A value of one (1) means that backups for this schedule are not multiplexed. The default is no multiplexing.

`-number_copies number`

Specify the number of simultaneous backup copies. The minimum value is 1. The maximum value is 4 or the **Maximum backup copies** global parameter, whichever is smaller. The default is 1.

`-pfi_fast_recovery 0|1`

Enables the user to turn on the feature to retain snapshots for instant recovery. The default value is 0, which means this feature is disabled. A value of 1, enables this feature.

`-pool volume_pool_label[,pool-copy,...]`

The name of the volume pool. This choice overrides the policy-level volume pool. If you enter `"*NULL*"`, NetBackup uses the volume pool that is specified at the policy level. The default is to use the volume pool that is specified at the policy level. The volume pool label cannot be None. If you do not specify a volume pool at either the schedule level or the policy level, NetBackup uses a default value of NetBackup.

When you specify `-number_copies` greater than 1, specify a pool for each copy. If the storage unit is a disk enter `"*NULL"` for that copy.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("`...`") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-res_is_stl`

Identifies that the data in the storage unit is storage lifecycle.

`-residence storage_unit_label[,stunit-copy,...]`

The name of the storage unit, which specifies the location of the backup images. The value `"*NULL*"` causes NetBackup to use the storage unit that is specified at the policy level. The default is for NetBackup to use the storage unit that is specified at the policy level. If you do not specify a storage unit at either the schedule level or the policy level, NetBackup uses the next storage unit available.

When you specify `-number_copies` greater than 1, specify a residence for each copy.

`-rl retention_level[,rl-copy,...]`

The retention level determines how long to retain backups and archives. The `retention_level` is an integer between 0 and 24. The default retention level is

1. Valid retention levels and their corresponding default retention times are listed later in this description.

When you specify `-number_copies` greater than 1, specify a retention level for each copy.

Caution: You can change the retention period that is associated with each level by using the NetBackup administration interface. Therefore, your configuration may have different values for each level than those shown here. Use the NetBackup administration interface to determine the actual retention periods before you make any changes with this command.

Otherwise, backups can expire sooner than you expect, which results in loss of data.

0	1 week
1	2 weeks
2	3 weeks
3	1 month
4	2 months
5	3 months
6	6 months
7	9 months
8	1 year
9 - 24	infinite

`-sg share_group [,share_copy,...]`

Specifies the share group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If `*NONE*` is specified, the writing media server owns the media that this policy writes. If `*ANY*` is specified, EMM chooses the media owner. `*ANY*` is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following:

UNIX and Linux systems:

```
/usr/opensv/netbackup/bin/admincmd/nbsvrgrp -list -summary
```

```
Windows systems: install_path\NetBackup\bin\admincmd\nbsvrgrp  
-list -summary
```

`-st sched_type`

The type of the schedule. The default schedule type is FULL. The following list contains the possible values for this attribute with their meanings:

FULL - full

INCR - differential incremental

CINC - cumulative incremental

UBAK - user backup

UARC - user archive

`-synthetic 0|1`

Enables the user to determine which schedule occurs. A value of zero (0) means the schedule is a real (non-synthetic) backup schedule. (0 is the default.) A value of one (1) means the schedule is a synthetic backup schedule.

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

`-weekday day_name week`

Specifies a day of the week, and the week of the month, as a run day in the schedule.

The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.

The *week* is the number of the week in the month.

For example, to instruct the policy to run the second Monday of the month, enter:

```
-weekday Monday 2
```

`-window start duration`

Specifies when NetBackup can run the backups for this schedule. Every day of the week has the same window.

start is the time at which the backup window opens for this schedule. This time is the number of seconds since midnight. This number is an integer between 0 and 86399 (86400 seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This unit is a non-negative integer.

The second form of `bppsched` deletes one or more schedules from the named policy. The following option applies to this form of `bppsched`:

```
-delete sched_label
```

Delete the listed schedules from the named policy. Separate the elements of the `sched_label` list with spaces. There can be up to 25 labels in the list.

The third form of `bppsched` deletes all schedule from the named policy. The following option applies to this form of `bppsched`:

```
-deleteall
```

Delete all schedules from the named policy.

The fourth form of `bppsched` produces a listing of information about the schedules for the named policy. The following options apply to this form of `bppsched`:

```
-l
```

The list type is short (the default list type). This option produces a terse listing that includes all attributes for the schedule. Each schedule occupies one line of the listing. Most attribute values are expressed numerically. This option is useful for scripts or the programs that rework the listing contents into a customized report format.

```
-L
```

The list type is long. This listing includes all attributes for the schedule. Some attribute values are descriptive terms, rather than numbers.

```
-label sched_label
```

List the attributes for this schedule in the named policy. The default is to list information for all schedules for the named policy.

```
-U
```

The list type is user. This listing is similar to the long-type list, but it has fewer entries. Most attribute values are descriptive terms, rather than numbers.

EXAMPLES

Example 1 - List the information for schedule `user` within policy `tstpolicy` in two different ways. The first display is in long mode. The second is in User mode, which shows fewer entries than the Long mode display.

```
# bppsched tstpolicy -L -label user
Schedule:          user
```

```
Type:                UBAK (2)
Frequency:           1 day(s) (86400 seconds)
Retention Level:    0 (1 week)
u-wind/o/d:         0 0
Incr Type:          DELTA (0))
Incr Depends:       (none defined)
Max Frag Size:0 MB (1048576 MB)
Maximum MPX:        1
Number copies:1
Fail on Error:0
Residence:          (specific storage unit not required)
Volume Pool:        (same as policy volume pool)
Daily Windows:
Day                Open          Close          W-Open         W-Close
Sunday             000:00:00    024:00:00     000:00:00     024:00:00
Monday             000:00:00    024:00:00     024:00:00     048:00:00
Tuesday            000:00:00    024:00:00     048:00:00     072:00:00
Wednesday          000:00:00    024:00:00     072:00:00     096:00:00
Thursday           000:00:00    024:00:00     096:00:00     120:00:00
Friday             000:00:00    024:00:00     120:00:00     144:00:00
Saturday           000:00:00    024:00:00     144:00:00     168:00:00
```

```
# bpplsched tstpolicy -U -label user
Schedule:            user
Type:                User Backup
Retention Level:    0 (1 week)
Maximum MPX:        1
Number copies:1
Fail on Error:0
Residence:          (specific storage unit not required)
Volume Pool:        (same as policy volume pool)
Daily Windows:
Sunday             00:00:00 --> Sunday    24:00:00
Monday             00:00:00 --> Monday    24:00:00
Tuesday            00:00:00 --> Tuesday   24:00:00
Wednesday          00:00:00 --> Wednesday 24:00:00
Thursday           00:00:00 --> Thursday  24:00:00
Friday             00:00:00 --> Friday    24:00:00
Saturday           00:00:00 --> Saturday  24:00:00
```

Example 2 - While in operation on the system `hatt`, list information for the schedule named `full` in policy `tstpolicy`, as defined on the master server `beaver`:

```
# bppsched tstpolicy -M beaver -L -label full
Schedule:          full
Type:              FULL (0)
Frequency:         0+ day(s) (14400 seconds)
Retention Level:  0 (1 week)
u-wind/o/d:       0 0
Incr Type:         DELTA (0)
Incr Depends:     (none defined)
Max Frag Size:    0 MB (1048576 MB)
Maximum MPX:      1
  Number copies:1
  Fail on Error:0
  Residence:       (specific storage unit not required)
Volume Pool:      (same as policy volume pool)
Daily Windows:
Day      Open      Close      W-Open      W-Close
Sunday   000:00:00  024:00:00  000:00:00  024:00:00
Monday   000:00:00  024:00:00  024:00:00  048:00:00
Tuesday  000:00:00  024:00:00  048:00:00  072:00:00
Wednesday 000:00:00  024:00:00  072:00:00  096:00:00
Thursday 000:00:00  024:00:00  096:00:00  120:00:00
Friday   000:00:00  024:00:00  120:00:00  144:00:00
Saturday 000:00:00  024:00:00  144:00:00  168:00:00
```

Example 3 - Add a new schedule, full_2, to the policy `tstpolicy` on beaver, and then lists the new schedule in Long mode. These commands run on the system `hatt`.

```
# bppsched tstpolicy -M beaver -add full_2
# bppsched tstpolicy -M beaver -label full_2 -L
Schedule:          full_2
Type:              FULL (0)
Frequency:         7 day(s) (604800 seconds)
Retention Level:  1 (2 weeks)
u-wind/o/d:       0 0
Incr Type:         DELTA (0)
Incr Depends:     (none defined)
Max Frag Size:    0 MB (1048576 MB)
Maximum MPX:      1
  Number copies:1
  Fail on Error:0
  Residence:       (specific storage unit not required)
Volume Pool:      (same as policy volume pool)
Daily Windows:
```

Day	Open	Close	W-Open	W-Close
Sunday	000:00:00	000:00:00		
Monday	000:00:00	000:00:00		
Tuesday	000:00:00	000:00:00		
Wednesday	000:00:00	000:00:00		
Thursday	000:00:00	000:00:00		
Friday	000:00:00	000:00:00		
Saturday	000:00:00	000:00:00		

Example 4 - Delete the schedules, full_3, user, user_2, and user_3 from policy tstpolicy:

```
# bpplsched tstpolicy -delete full_3 user user_2 user_3
```

Example 5 - List the schedule information for policy tstpolicy:

```
# bpplsched tstpolicy -L
Schedule:          full
Type:              FULL (0)
Frequency:         1 day(s) (86400 seconds)
Retention Level:  0 (1 week)
u-wind/o/d:       0 0
Incr Type:        DELTA (0)
Incr Depends:     (none defined)
Max Frag Size:   0 MB (1048576 MB)
Maximum MPX:     1
  Number copies:  1
  Fail on Error:  0
  Residence:      (specific storage unit not required)
Volume Pool:      (same as policy volume pool)
Daily Windows:
Day      Open      Close      W-Open      W-Close
Sunday   000:00:00  024:00:00  000:00:00  024:00:00
Monday   000:00:00  024:00:00  024:00:00  048:00:00
Tuesday  000:00:00  024:00:00  048:00:00  072:00:00
Wednesday 000:00:00  024:00:00  072:00:00  096:00:00
Thursday 000:00:00  024:00:00  096:00:00  120:00:00
Friday   000:00:00  024:00:00  120:00:00  144:00:00
Saturday 000:00:00  024:00:00  144:00:00  168:00:00

Schedule:          user
Type:              UBAK (2)
Frequency:         1 day(s) (86400 seconds)
```

```

Retention Level: 0 (1 week)
u-wind/o/d:      0 0
Incr Type:       DELTA (0)
Incr Depends:    (none defined)
Max Frag Size:   0 MB (1048576 MB)
Maximum MPX:     1
Number copies:1
Fail on Error:0
Residence:       (specific storage unit not required)
Volume Pool:     (same as policy volume pool)
Daily Windows:
Day              Open              Close              W-Open            W-Close
Sunday           000:00:00  024:00:00  000:00:00  024:00:00
Monday           000:00:00  024:00:00  024:00:00  048:00:00
Tuesday          000:00:00  024:00:00  048:00:00  072:00:00
Wednesday        000:00:00  024:00:00  072:00:00  096:00:00
Thursday         000:00:00  024:00:00  096:00:00  120:00:00
Friday           000:00:00  024:00:00  120:00:00  144:00:00
Saturday         000:00:00  024:00:00  144:00:00  168:00:00

```

Example 6 - Add a new schedule, full, with a window from 11 p.m. to midnight.
The second `bpplsched` lists the information for schedule full:

```

bpplsched elevenpm -add full -window 82800 3600
bpplsched elevenpm -U -label full
Schedule:          FULL (0)
Type:              Full Backup
Frequency:         every 7 days (604800 seconds)
Retention Level:  1 (2 weeks)
Maximum MPX:      1
Number copies:1
Fail on Error:0
Residence:        (specific storage unit not required)
Volume Pool:      (same as policy volume pool)
Daily Windows:
Sunday            23:00:00  -->  Sunday            24:00:00
Monday            23:00:00  -->  Monday             24:00:00
Tuesday           23:00:00  -->  Tuesday            24:00:00
Wednesday         23:00:00  -->  Wednesday          24:00:00
Thursday          23:00:00  -->  Thursday           24:00:00
Friday            23:00:00  -->  Friday             24:00:00
Saturday          23:00:00  -->  Saturday           24:00:00

```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/policy/policy_name/schedule
```

Windows systems:

```
install_path\NetBackup\logs\admin\*  
install_path\NetBackup\db\policy\policy_name\schedule
```

SEE ALSO

See [bpplschedrep](#) on page 293.

bppschedrep

bppschedrep – modify NetBackup schedule attributes

SYNOPSIS

```
bppschedrep policy_name sched_label [ -M master_server,...] [-v]  
[-generation generation] [-st sched_type] [-freq backup_frequency]  
[-mpxmax mpx_factor] [-cal 0|1|2] [-incl mm/dd/yyyy] [-excl  
mm/dd/yyyy] [-delincl mm/dd/yyyy] [-delexcl mm/dd/yyyy] [-weekday  
day_name week] [-dayomonth 1-31|1] [-delweekday day_name week]  
[-deldayomonth 1-31|1] [-ci] [-ce] [-cw] [-cd] [-number_copies  
number] [-rl retention_level[,rl-copy2,...]] [-fail_on_error  
0|1[,0|1,...,0|1]] [-residence storage_unit_label [,stunit_copy2,...]]  
[-pool volume_pool_label [,pool_copy2,...]] [-sg share_group  
[,share_copy2,...]] [-(0..6) start duration] [-res_is_stl 0 | 1]  
[-reason "string"]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

bppschedrep changes the attributes of a NetBackup schedule. The schedule and policy that bppschedrep names should already exist when this command is run. If the `-M` option is used, bppschedrep changes the schedule on each of the listed master servers.

Any authorized user can initiate this command.

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

OPTIONS

`-(0..6) start duration`

Specifies the window during which NetBackup can run the backups for this schedule. This window applies to a specific day of the week. 0 corresponds to Sunday, 1 to Monday, and so on.

start is the time at which the backup window opens for this schedule. This time is the number of seconds since midnight. It is an integer between 0 and 86400 (the number of seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This unit is a non-negative integer.

`-cal 0|1|2`

Indicates whether `bppschedrep` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

`-dayomonth 1-31|1`

Specifies the day of every month to run the schedule. Enter 1 (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the schedule the 15th day of every month, enter:

`-dayomonth 15`

To run the last day of every month, enter:

`-dayomonth 1`

`-deldayomonth 1-31|1`

Specifies a day of every month to exclude as a run day. Enter 1 (lowercase L) to exclude the last day of every month, whether the month contains 28, 29, 30, or 31 days. This command can only remove the dates that were added by using the `-dayomonth` command.

For example, to exclude the 20th day of every month from the schedule, enter:

`-deldayomonth 20`

`-delweekday day_name week`

Specifies a day of the week and the week of the month to exclude as a run day from the schedule. This command can only remove the dates that were added by using the `-weekday` command.

The `day_name` is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.

The `week` is the number of the week in the month.

For example, to exclude the second Monday of the month, enter:

`-delweekday Monday 2`

`-excl mm/dd/yyyy`

Indicates to exclude this single date.

`-delincl mm/dd/yyyy`

Indicates to delete this single date. This command can only remove the dates that were added by using the `-incl` command.

`-delexcl mm/dd/yyyy`

Indicates to delete this single date.

`-ci`

Clear all specific include dates.

`-ce`

Clear all specific exclude dates.

`-cw`

Clear all week days.

`-cd`

Clear all days of a month.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, 0 is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq backup_frequency`

The backup frequency controls how much time can elapse between successful automatic backups for clients on this schedule. Frequency does not apply to user schedules because the user can perform a backup or archive any time the backup window is open. This value is a positive integer that represents the number of seconds between successful automatic backups for this schedule.

`-help`

Prints a command-line usage message when `-help` is the only option on the command line.

`-generation generation`

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bppinfo`

or `bppllist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-incl mm/dd/yyyy`

Indicates to include this single date.

`-M master_server, ...`

A list of alternative master servers. This list is a comma-separated list of hostnames. If this option is present, each master server in the list runs the `bppschedrep` command. Each master server in the list must allow access by the system that issued the `bppschedrep` command. If an error occurs for any master server, the process terminates at that point.

The schedule attributes is modified on all the master servers in this list.

`-mpxmax mpx_factor`

The maximum multiplexing factor for this schedule. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

The multiplexing factor can range from 1 through 8 for the NetBackup Server and 1 through 32 for the NetBackup Enterprise Server. A value of 1 specifies no multiplexing and a value greater than one means that NetBackup should create multiplexed images on the destination media. The multiplexing factor should be less than or equal to the multiplexing factor for the storage unit.

For more information on multiplexing, refer to the multiplexing topic in the *NetBackup Administrator's Guide*.

`-number_copies number`

Specify the number of simultaneous backup copies. The minimum value is 1. The maximum value is 4 or the **Maximum backup copies** global parameter, whichever is smaller. The default is 1.

`policy_name`

The name of the policy that contains the schedule. This policy has been previously created.

`-pool volume_pool_label[,pool-copy2,...]`

Specifies the volume pool(s) for the schedule. Do not use this option if a disk storage unit is the residence for the schedule. If `"*NULL"` is specified, the volume pool for the schedule is the volume pool of the policy that contains this schedule.

Specify a pool for each copy.

To display the configured volume pools, run the following command:

UNIX and Linux systems: `/usr/opensv/volmgr/bin/vmpool -listall`

```
Windows systems: install_path\Volmgr\bin\vmppool -listall
```

```
-reason "string"
```

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

```
-res_is_stl 0 | 1
```

Specify this flag only when the name of the storage unit and the name of the storage lifecycle policy are the same. In all other cases this flag is ignored. The possible values are as follows:

0 - the residence is a non-storage life cycle policy

1 - the residence is a storage life cycle policy

```
-residence storage_unit_label[,stunit-copy2,...]
```

Specifies the label(s) of the storage unit to be used for storing the backups that were created according to this schedule. If "**NULL*" is specified, the residence for the schedule defaults to the residence of the policy that contains this schedule. If the residence value is a storage unit label, the residence for the schedule becomes that storage unit and overrides the residence for the policy.

Specify a storage unit for each copy.

Run `bpstulist` to display the set of defined storage units.

```
-rl retention_level[,rl-copy2,...]
```

Specifies how long NetBackup retains the backups that it creates by using this schedule. Valid retention levels and their corresponding default retention times are listed later in this description.

Specify a retention level for each copy.

Caution: You can change the retention period that is associated with each level by using the NetBackup administration interface. Therefore, your configuration may have different values for each level than those shown here. Use the NetBackup administration interface to determine the actual retention periods before you make any changes with this command.

Otherwise, backups can expire sooner than you expect, which results in loss of data.

0	1 week
1	2 weeks
2	3 weeks
3	1 month
4	2 months
5	3 months
6	6 months
7	9 months
8	1 year
9 - 24	infinite

NetBackup keeps the information about the backups for the specified time. Then it deletes information about them. When the information is deleted, the files in the backups are unavailable for restores. When all the backups on a volume have expired, the volume can be reassigned.

sched_label

Specifies the name of the schedule to be changed. This schedule has been previously created.

-sg share_group [,share_copy2,...]

Specifies the share group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If *NONE* is specified, the writing media server owns the media that this policy writes. If *ANY* is specified, EMM chooses the media owner. *ANY* is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following:

```
UNIX and Linux systems: /usr/opensv/netbackup/bin/admincmd/nbsvrgrp
                        -list -summary
```

```
Windows systems: install_path\NetBackup\bin\admincmd\nbsvrgrp
                  -list -summary
```

-st sched_type

Specifies the type of backup this schedule performs. Schedule types fall into either an automatic or user category. Automatic schedules define the windows during which the NetBackup scheduler can initiate a backup for this policy.

User schedules define the windows during which a user can initiate a backup or archive.

The values for schedule type are

FULL	(full backup)
INCR	(differential incremental backup)
CINC	(cumulative incremental backup)
UBAK	(user backup)
UARC	(user archive)

`-weekday day_name week`

Specifies a day of the week, and the week of the month, as a run day in the schedule.

The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.

The *week* is the number of the week in the month.

For example, to instruct the policy to run the second Monday of the month, enter:

```
-weekday Monday 2
```

`-v`

Selects the verbose mode. This option causes `bppschedrep` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/openv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - Set the frequency for a schedule.

```
# bppschedrep mkbpolicy incr -freq 604800
```

This sets to one (1) week the frequency with which automatic backups are performed for the schedule *incr* in policy *mkbpolicy*.

Example 2 - For Saturday and Sunday of each week, have the window for schedule full in policy *mkbpolicy* open at 10 p.m. instead of 11 p.m. Also, set the window duration to two (2) hours instead of one (1) hour. `bpplschedrep` resets the windows, and `bpplsched` lists the new schedule values.

```
# bpplschedrep newpolicy full -0 79200 7200 -6 79200 7200
# bpplsched newpolicy -U -label full
Schedule:                full
  Type:                   Full Backup
  Frequency:               every 7 days
  Retention Level:        1 (2 weeks)
  Maximum MPX:            1
  Residence:               (specific storage unit not required)
  Volume Pool:             (same as policy volume pool)
  Daily Windows:
    Sunday    22:00:00  -->  Sunday    24:00:00
    Monday    23:00:00  -->  Monday    24:00:00
    Tuesday   23:00:00  -->  Tuesday   24:00:00
    Wednesday 23:00:00  -->  Wednesday 24:00:00
    Thursday  23:00:00  -->  Thursday  24:00:00
    Friday    23:00:00  -->  Friday    24:00:00
    Saturday  22:00:00  -->  Saturday  24:00:00
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*
/usr/opensv/netbackup/db/policy/policy_name/schedule
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\policy\policy_name\schedule
```

SEE ALSO

See [bpplsched](#) on page 280.

bppolicynew

bppolicynew - create, copy, or rename a NetBackup policy

SYNOPSIS

```
bppolicynew policy_name [-verbose] [-M master_server,...] [-reason "string"]  
bppolicynew policy_name -sameas existing_policy_name [-verbose] [-M master_server,...] [-reason "string"]  
bppolicynew existing_policy_name -renameto policy_name [-verbose] [-M master_server,...] [-reason "string"]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

bppolicynew performs one of the following operations on a NetBackup policy:

- Create a new policy with default attribute values.
- Create a new policy with the same attributes as an existing policy.
- Rename an existing policy.

When **bppolicynew** runs without **-sameas** or **-renameto**, it creates a new NetBackup policy with default attribute values. If **-M** is present, the defaults that are used for the policy definition on each master server are the defaults for that master server.

bppolicynew copies a policy by adding a new policy to the NetBackup database. The clients, files, schedules, and attributes for the new policy are the same as those for the existing policy. **bppolicynew** does not create a policy copy with the same name as an existing policy.

If **bppolicynew** renames a policy, the existing association of images with the policy is lost. This means that the images that were created before the policy was renamed are not included in a list of images for the renamed policy. The command does not rename a policy with the same name as an existing policy.

bpplinfo replaces the policy-attribute defaults with new values. **bpplclients**, **bpplinclude**, and **bpplsched** define the clients, backup files, and schedules for the policy. A policy needs to have at least one client, one file specification, and one automatic schedule before it can run automatic backups.

`bpolicynew` sends its error messages to `stderr`. `bpolicynew` sends a log of its activity to the NetBackup admin log file for the current day.

Authorized user can initiate this command.

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

See the *NetBackup Administrator's Guide* for additional information on policies.

OPTIONS

policy_name

Specifies the name of a NetBackup policy that `bpolicynew` creates or the name to which `bpolicynew` changes an existing policy. The option has no default value.

This policy name must differ from any existing policy name. It is composed of numeric, alphabetic, plus, minus, underscore, and period characters. Do not use a minus as the first character or leave spaces between characters.

existing_policy_name

The name of a NetBackup policy that already exists when `bpolicynew` runs. The option does not have a default value.

`-renameto`

Change the name of the existing policy to the new policy name.

`-sameas`

Create a new policy by copying its characteristics from the existing policy.

`-help`

Prints a command-line usage message.

`-M master_server,...`

Specifies a list of comma-separated master server hostnames. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issued the command. If an error occurs, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-verbose`

Select verbose mode for logging. This option is meaningful only when it runs with the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

policy_name

Specifies the name of a NetBackup policy that `bppolicynew` creates or the name to which `bppolicynew` changes an existing policy. The option has no default value.

This policy name must differ from any existing policy name. It is composed of numeric, alphabetic, plus, minus, underscore, and period characters. Do not use a minus as the first character or leave spaces between characters.

existing_policy_name

The name of a NetBackup policy that already exists when `bppolicynew` runs. The option does not have a default value.

`-renameto`

Change the name of the existing policy to the new policy name.

`-sameas`

Create a new policy by copying its characteristics from the existing policy.

`-help`

Prints a command-line usage message.

`-M master_server,...`

Specifies a list of comma-separated master server hostnames. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issued the command. If an error occurs, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`-verbose`

Select verbose mode for logging. This option is meaningful only when it runs with the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Note that references to Follow NFS Mounts in these examples apply only to NetBackup Enterprise Server.

Example 1 - Create a policy with default attribute values on the master server *plim*:

```
# bppolicynew ishkabibble -M plim
# bppllist ishkabibble -U -M plim
-----
Policy Name:          ishkabibble
Policy Type:          Standard
Active:               yes
Client Compress:      no
Follow NFS Mounts:    no
Cross Mount Points:   no
Collect TIR info:     no
Block Incremental:    no
Mult. Data Streams:   no
Client Encrypt:        no
Policy Priority:       0
Max Jobs/Policy:      99
Disaster Recovery:    0
Residence:             (specific storage unit not required)
Volume Pool:          NetBackup
Keyword:              (none specified)

Clients:              (none defined)

Include:              (none defined)

Schedule:             (none defined)
```

Example 2 - Create a new policy, *mypolicy_copy* from the existing policy *mypolicy*. *bppllist* shows that *mypolicy_copy* has the same attributes as *mypolicy*. For brevity, most of the schedule information is omitted here:

```
# bppolicynew mypolicy_copy -sameas mypolicy
# bppllist mypolicy_copy -U
-----
Policy Name:          mypolicy_copy
Policy Type:          Standard
Active:               yes
Client Compress:      no
```

```
Follow NFS Mounts: no
Cross Mount Points: no
Collect TIR info: no
Block Incremental: no
Mult. Data Streams: no
Client Encrypt: no
Policy Priority: 0
Max Jobs/Policy: 99
Disaster Recovery: 0
Residence: myunit
Volume Pool: NetBackup
Keyword: (none specified)
```

```
HW/OS/Client: Linux RedHat zippity
```

```
Include: /tmp/my
```

```
Schedule: full
Type: Full Backup
Frequency: every 7 days
Maximum MPX: 1
Retention Level: 0 (1 week)
Residence: (specific storage unit not required)
Volume Pool: (same as policy volume pool)
Daily Windows:
    Sunday 00:00:00 --> Sunday 08:00:00
    Monday 00:00:00 --> Monday 08:00:00
    Tuesday 00:00:00 --> Tuesday 08:00:00
    Wednesday 00:00:00 --> Wednesday 08:00:00
    Thursday 00:00:00 --> Thursday 08:00:00
    Friday 00:00:00 --> Friday 08:00:00
    Saturday 00:00:00 --> Saturday 08:00:00
```

```
Schedule: incr
Type: Differential Incremental Backup
```

```
# bppolicynew mypolicy_copy -sameas mypolicy
# bppllist mypolicy -U
```

```
-----
Policy Name: mypolicy
Policy Type: Standard
Active: yes
Client Compress: no
```

Follow NFS Mounts: no
Cross Mount Points: no
Collect TIR info: no
Block Incremental: no
Mult. Data Streams: no
Client Encrypt: no
Policy Priority: 0
Max Jobs/Policy: 99
Disaster Recovery: 0
Residence: myunit
Volume Pool: NetBackup
Keyword: (none specified)

HW/OS/Client: Linux RedHat zippity

Include: /tmp/my

Schedule: full
Type: Full Backup
Frequency: every 7 days
Maximum MPX: 1
Retention Level: 0 (1 week)
Residence: (specific storage unit not required)
Volume Pool: (same as policy volume pool)
Daily Windows:
Sunday 00:00:00 --> Sunday 08:00:00
Monday 00:00:00 --> Monday 08:00:00
Tuesday 00:00:00 --> Tuesday 08:00:00
Wednesday 00:00:00 --> Wednesday 08:00:00
Thursday 00:00:00 --> Thursday 08:00:00
Friday 00:00:00 --> Friday 08:00:00
Saturday 00:00:00 --> Saturday 08:00:00

Schedule: incr
Type: Differential Incremental Backup

bpllist mypolicy_copy -U

Policy Name: mypolicy_copy
Policy Type: Standard
Active: yes
Client Compress: no
Follow NFS Mounts: no

```

Cross Mount Points: no
Collect TIR info: no
Block Incremental: no
Mult. Data Streams: no
Client Encrypt: no
Policy Priority: 0
Max Jobs/Policy: 99
Disaster Recovery: 0
Residence: myunit
Volume Pool: NetBackup
Keyword: (none specified)

HW/OS/Client: Linux RedHat zippity

Include: /tmp/my

Schedule: full
Type: Full Backup
Frequency: every 7 days
Maximum MPX: 1
Retention Level: 0 (1 week)
Residence: (specific storage unit not required)
Volume Pool: (same as policy volume pool)
Daily Windows:
    Sunday 00:00:00 --> Sunday 08:00:00
    Monday 00:00:00 --> Monday 08:00:00
    Tuesday 00:00:00 --> Tuesday 08:00:00
    Wednesday 00:00:00 --> Wednesday 08:00:00
    Thursday 00:00:00 --> Thursday 08:00:00
    Friday 00:00:00 --> Friday 08:00:00
    Saturday 00:00:00 --> Saturday 08:00:00

Schedule: incr
Type: Differential Incremental Backup

```

Example 3 - Rename a policy from policy_old to policy_new. Before and after the renaming, bppllist shows the policies in the NetBackup configuration database:

```

bppllist
  mypolicy
  policy_old
  test
bpolicynew policy_old -renameto policy_new
bppllist

```

```
mypolicy  
policy_new  
test
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, `bppllist` logs the exit status in the administrative daily log under the log directory:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

It has the following form:

```
bpolicynew: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/policy/policy_name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*  
install_path\NetBackup\db\policy\policy_name
```

SEE ALSO

See [bpplclients](#) on page 251.

See [bpplinfo](#) on page 266.

See [bpplsched](#) on page 280.

See [bppldelete](#) on page 258.

See [bppllist](#) on page 278.

bpps

bpps - list all processes and statistics for each process

SYNOPSIS

```
<install_path>\NetBackup\bin\bpps [-l | -s | -S] [-t sample_time[m]]  
[-i | -x process_group] ... [host_name] ...  
<install_path>\NetBackup\bin\bpps -? [process_group ...]
```

DESCRIPTION

This command operates only on Windows systems.

The `bpps` command lists the process statistics for all processes that run on your system. This command enables you to list a specific process group. It also enables you specify a sample time in seconds (or milliseconds) before it lists the processes.

Note: The command options that `bpps` uses are unrelated to the options that the UNIX `bpps` command uses.

OPTIONS

- ?
Print the help screen. If you specify `process_group` here, it displays the list of processes that are included or excluded when you specify `process_group` with `-i` or `-x` options.
- l
Output a long listing.
- s
Output a short listing (default).
- S
Output a short listing without the header (for example, host name, date, and column headings).
- t *sample_time*[m]
Specify the sample time (default 1 second). The sample time is specified in seconds unless followed by *m*, which specifies the sample time in milliseconds.
- i *process_group*
Include the specified process group in the listing (default NB_ALL).

-x process_group

Exclude the specified process group from the listing.

host_name

The name of the host computer on which you list group process statistics.

NOTES

The following is a list of all of the valid process groups and a brief description of each:

MM_ALL

All Media Manager processes.

MM_CLIS

Media Manager command line programs.

MM_CORE

Media Manager core processes.

MM_GUIS

Media Manager GUI programs.

MM_SERVICES

Media Manager services.

MM_UIS

Media Manager user interface programs.

MM_WORKERS

Media Manager worker processes.

NB_ALL

All NetBackup, Media Manager, and ARO processes.

NB_ALL_CLIS

All NetBackup and Media Manager command line programs.

NB_ALL_CORE

All NetBackup, Media Manager, and ARO core processes.

NB_ALL_GUIS

All NetBackup and Media Manager GUI programs.

NB_ALL_SERVICES

All NetBackup and Media Manager Services.

NB_ALL_UIS

All NetBackup and Media Manager user interface programs.

NB_ALL_WORKERS

All NetBackup and Media Manager worker processes.

NB_CLIENT_ALL

All NetBackup client processes.

NB_CLIENT_CLIS

NetBackup client command line programs.

NB_CLIENT_CORE

NetBackup client core processes.

NB_CLIENT_GUI

NetBackup client GUI programs.

NB_CLIENT_SERVICES

NetBackup client services.

NB_CLIENT_UI

NetBackup client user interface p

NB_CLIENT_WORKERS

NetBackup client worker processes.

NB_SERVER_ALL

All NetBackup Server processes.

NB_SERVER_CLIS

NetBackup Server command line programs.

NB_SERVER_CORE

NetBackup Server core processes.

NB_SERVER_GUI

NetBackup Server GUI programs.

NB_SERVER_SERVICES

NetBackup Server services.

NB_SERVER_UI

NetBackup Server user interface programs.

NB_SERVER_WORKERS

NetBackup Server worker processes.

NBDB_SERVICES

NetBackup Database services.

NBDB_CLIS

NetBackup Database command line programs.

NBDE_ALL

All NetBackup Database processes.

VLT_CORE

Core Vault processes.

VLT_GUI

Vault GUI programs.

VLT_CLIS

Vault command line programs.

VLT_UIS

Vault user interface programs.

VLT_ALL

All Vault processes.

OTHER_PROCESSES

All processes not included in NB_ALL.

FILES

install_path\NetBackup\bin\bp.conf

bpps

bpps - list process statistics for the processes that run on your system

SYNOPSIS

```
/usr/opensv/netbackup/bin/bpps [-a | -x]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `bpps` command lists the process statistics for all processes that run on your system.

Note: The command options that `bpps` uses are unrelated to the options that the Windows `bpps` command uses.

OPTIONS

- a Includes the Media Manager processes in the listing.
- x Includes Media Manager processes and the extra shared processes such as `pbx_exchange` in the listing.

bprd

bprd - initiate NetBackup request daemon

SYNOPSIS

```
/usr/opensv/netbackup/bin/bprd [-verbose]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

bprd is responsible for starting automatic client backups and for responding to client requests for file restores and user backups and archives. bprd runs only on the master server and can be started only by the administrator.

The following steps occur in the order listed when bprd starts:

- After it disassociates itself from the terminal, the daemon does the following:
 - Logs a message that indicates it started.
 - Starts bpdbm (NetBackup database manager).
 - Verifies that no other instance of bprd is running. If another instance of bprd is found, the program terminates.
- The program reads the NetBackup configuration attributes and recycles older error and debug log files. Activity and error logs are also recycled on a daily basis.
- bprd determines its port number by checking the services file for an entry with a service name of bprd and a protocol name of tcp. For example:

```
bprd 13720/tcp
```
- After it binds to its port, the program performs the following tasks: It schedules automatic client backups, accepts requests from client machines for file restores or user backups or archives, and accepts administrative requests from the server.

You can use `bprdreq -terminate` to terminate bprd. If you terminate bprd, it does not terminate bpdbm.

OPTIONS

`-verbose`

Specifies that the `bprd` command writes additional information in its daily debug log for debugging purposes.

FILES

```
/usr/opensv/netbackup/db/*  
/usr/opensv/netbackup/bp.conf  
/usr/opensv/netbackup/logs/bprd/*  
/usr/opensv/netbackup/bin/initbprd  
/usr/opensv/netbackup/bin/initbpbm
```

SEE ALSO

See [bpadm](#) on page 52.

See [bpbm](#) on page 116.

bprecover

`bprecover` - recover selected NetBackup related catalogs

SYNOPSIS

```
bprecover -wizard [-copy number]  
bprecover -r -nbdb [-priority number] [-copy number] [-L output_file]  
bprecover -l | -r -vxss -p policy_name [-v]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

The `bprecover` command initiates the NetBackup utility for restoring the NetBackup catalogs. It recovers the catalogs that were backed up by using the procedures that are described in the *NetBackup Administrator's Guide*. Use `bprecover` only if catalogs were destroyed on disk.

`bprecover` has three modes:

- `-wizard` lets you recover the entire NetBackup catalog or the catalog image and configuration files by using a recovery wizard.
- NBDB recovery (`-r -nbdb`) lets you recover the NetBackup relational database and the BMR database, if BMR is configured.
- Symantec Product Authentication and Authorization Service recovery (`-r -vxss`) lets you recover the data associated with this service.

You must have administrator privileges to run this command.

OPTIONS

`-copy number`

Specifies the number of the copy of the catalog backup image to be used for the recovery operation. This option restores from a non-primary copy of the catalog backup image.

`-l`

Used with `-vxss` to list the header information for the VxSS backup.

`-L output_file`

Reports the results of the recovery in the specified output file.

`-nbdb`

Used with the `-r` option during catalog recovery procedures to recover and resynchronize the NetBackup relational databases (NBDBs) and the BMR database (BMRDB), if BMR is configured.

For complete catalog recovery procedures, see the Disaster Recovery chapter of the *NetBackup Troubleshooting Guide*.

`-p policy_name`

Specifies a policy name for the VxSS backup.

`-priority number`

Used with `-nbdb` to recover the relational databases, or with `-vxss` to recover the VxSS backup.

`-r`

Recovers the images from the specified policy name.

`-v`

Selects the verbose mode when used with the `-vxss` option.

`-vxss`

When `-vxss` is used with the `-p policy_name` option, you can recover the Symantec Product Authentication and Authorization Service data. The image is recovered from the following location:

UNIX and Linux systems:

`/usr/opensv/netbackup/db/NBU_VSSDB_IMAGE/policy_name`

Windows systems:

`install_path\NetBackup\db\NBU_VSSDB_IMAGE\policy_name`

`-wizard`

Enables a user to perform the same functions from a command line that are present on the recovery wizard. For example, a user can specify the full pathname to the catalog disaster recovery file or recover the entire NetBackup catalog. The wizard prompts you for the catalog disaster recovery file.

The `-copy` option lets you select the number of the copy

Note: The operator must be logged on locally to the master server that is to be recovered.

EXAMPLES

Example 1 - Recover the entire NetBackup catalog or the catalog image and configuration files. On Windows, a series of screens takes you through the recovery process. On UNIX or Linux, a series of prompts takes you through the recovery process.

```
# bprecover -wizard
```

The Disaster Recovery chapter of the *Troubleshooting Guide* describes each step of the recovery process.

Example 2 - Recover the NetBackup relational databases and reports the results of the recovery in the `recovery.rpt` file.

```
# bprecover -r -nbdb -L recovery.rpt
```

The Disaster Recovery chapter of the *Troubleshooting Guide* describes each step of the recovery process.

ERRORS

If any errors occur during the recover operation, NetBackup writes error messages to one of the following: `stderr` (UNIX and Linux systems) or the MS-DOS command window when you run the `bprecover` command (Windows systems).

Also, debug logs are accumulated in the following directory path:

On Windows, `<install_path>\NetBackup\logs\admin`

On UNIX and Linux, `/usr/opensv/netbackup/logs/admin`

SEE ALSO

NetBackup Troubleshooting Guide for information on disaster recovery.

bprestore

bprestore - restore files from NetBackup Server

SYNOPSIS

```
bprestore [-A | -B] [-K] [-l | -H | -y] [-r] [-T] [-L progress_log
[-en]] [-R rename_file] [-C client] [-D client] [-S master_server]
[-disk_media_server media_server] [-t policy_type] [-p policy] [-k
"keyword_phrase"] [-cm] [-drs] [-md] [-dd] [-td temp_dir] [-s date]
[-e date] [-F file_options] [-spsredir_server hostname] [-spscurver]
[-spsignorelock] [-spspreserveiis] [-spsrestoresecurity] [-spsverkeep
[0 | 1 | 2]] [-vhd_fn VHD_filename] [-vhd_type 0 | 1] [-vhd_dsize
VHD_disk_size] [-vhd_dof 0 | 1] -BR portal_name | teamsite_name]
[-copy copy_number] [-granular_restore] [-priority number] [-w
[hh:mm:ss]] -f listfile | filenames [-ev_migrated_data]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\

DESCRIPTION

bprestore lets users restore a backed up or archived file or list of files. You can also name directories to restore. If you include a directory name, bprestore restores all files and subdirectories of that directory. You can exclude a file or a directory path that was previously included in the restore by placing an exclamation mark (!) in front of the file or the directory path (does not apply to NDMP restores). For example, the exclude capability is useful if you want to exclude part of a directory from the restore.

Note: If a policy, schedule type, or date range is not specified, bprestore starts with the most recently full backup image. It includes all subsequent incremental and differential backup images. The most recent copy of a file is restored from these images.

By default, you are returned to the system prompt after bprestore is successfully submitted. The command works in the background and does not return completion status directly to you. The -w option lets you change this behavior so bprestore works in the foreground and then returns completion status after a specified time period.

The `bprestore` command restores the file from the most recent backups within the time period you specify, except for a true-image restore. (See the `-T` option description.)

`bprestore` overwrites any file of the same name that already exists on the local client disk, unless you include the `-K` option. You also can restore the files that were backed up or archived on another client (`-C` option). To restore from other clients, the NetBackup administrator must validate you.

`bprestore` writes informative and error messages to a progress-log file if you do the following: create the file before you run the `bprestore` command and then specify the file with the `-L progress_log` option. If `bprestore` cannot restore the requested files or directories, you can use the progress log to find the reason for the failure.

For detailed troubleshooting information, create a directory that is named `/usr/opensv/netbackup/logs/bprestore` (UNIX and Linux systems) or `install_path\NetBackup\logs\bprestore` (Windows systems) with public-write access. `bprestore` then creates a debug log file in this directory.

For UNIX and Linux systems, if a nonroot user specifies `USEMAIL = mail_address` in the `$HOME/bp.conf` file, the following occurs: NetBackup sends mail on the restore completion status to `mail_address`. This message is sent when the restore process is complete.

The following restrictions apply to `bprestore`:

- You can restore the files and the directories that you own and those owned by other users if you have read access. You need write access to another user's directories and files to restore that user's files to their original location.
- The operating system restricts the number of files and directories that you can specify on a single `bprestore` command line. If this restriction is a problem, use the `-f` option to restore the files.

Use the `bplist` command to display information on the files and directories that were backed up or archived.

Note: If you restore catalog files directly using `bprestore` on a Solaris system, use the following path: `/opt/opensv/netbackup/bin/bprestore`.

OPTIONS

`-A` | `-B`

Specifies whether to restore from archives (`-A`) or backups (`-B`). The default is `-B`.

`-BR` *portal_name* | *teamsite_name*

Specifies a portal name or the team site name to where the selected portal or team site is to be redirected in a SharePoint farm. A user should specify the redirected portal or team site as `http://portalname` | `http://teamsitename`, and should already exist in a farm.

`-cm`

Enables the restore operation to play through log files and roll back any incompleting transactions. Use this option if your selection contains the last backup to be restored. If this option is not selected, the database is left in an intermediate state and is not yet usable.

`-copy` *copy_number*

Specifies the copy number to restore from. The user is able to restore from a different copy than the primary copy. For example, `-copy 3` restores copy 3 of a file or list of files.

Alternatively, you may specify the copy from which to restore at a global level (for all restore operations). Put the copy number into the file `ALT_RESTORE_COPY_NUMBER`.

Refer to "Restoring from a specific backup copy" of the NetBackup Backup, Archive, and Restore online Help for a complete description.

`-disk_media_server` *media_server*

Identifies the disk media server to be used for the restore operation. The default server is the one currently being used.

`-drs`

Restores the files without access-control attributes. By default, access-control attributes are restored along with file and directory data. Option `-drs` is available only to NetBackup administrators.

`-ev_migrated_data`

Restores the migrated data from Enterprise Vault. `bprestore`

`-ev_migrated_data` does not support the restoration of migrated data from a non-Enterprise Vault source. Use the other `bprestore` parameters as required.

The following example restores migrated data from Vault1 to masterserver ms1 using an NDMP policy type. The files to be restored are listed in file `restorefiles`.

```
# bprestore -S ms1 -C Vault1 -t 19 -ev_migrated_data restorefiles
```

`-F file_options`

Allows either Backup Exec files to be restored, or both Backup Exec and NetBackup files to be restored. The default (`-F` is not specified), is to restore only NetBackup files.

To restore only Backup Exec files specify:

```
-F 524288
```

To restore Backup Exec and NetBackup files specify:

```
-F 1048576
```

```
-K
```

Causes `bprestore` to keep existing files rather than overwrite them when it restores files with the same name. The default is to overwrite existing files.

Note: The `-l` | `-H` | `-y` options apply only when you restore UNIX files to a UNIX system.

`-granular_restore`

`-l` | `-H` | `-y`

Specify `-l` to rename the targets of UNIX links by using the `-R rename_file` option in the same way as when you rename files.

Specify `-H` to rename UNIX hard links by using the `-R rename_file` option in the same way as when you rename files. Soft links are unchanged.

Specify `-y` to rename UNIX soft links by using the `-R rename_file` option in the same way as when you rename files. Hard links are unchanged.

See Example 5 in the EXAMPLES section.

`-md`

Mounts the database so that it is available to users. This option is only available if Commit after restore completes is selected.

`-r`

Specify this option to restore raw partitions (UNIX and Linux systems) or disk images (Windows systems) instead of file systems.

`-L progress_log [-en]`

Specifies the name of an existing file in which to write progress information.
For example:

UNIX and Linux systems: `/home/tlc/proglog`

Windows systems: `c:\proglog`

The default is not to use a progress log.

Include the `-en` option to generate a log entry in English. The name of the log contains the string `_en`. This option is useful to support any personnel that assist in a distributed environment where different locales may create logs of various languages.

`-R rename_file`

Specifies the name of a file with name changes for alternate-path restores.

For example: `bprestore -R /C/renamefile /C/origfile`

Where `/C/rename_file` is the file with the name change and `/C/origfile` is the file to be renamed.

Use the following form for entries in the rename file:

```
change backup_filepath to restore_filepath
```

The file paths must start with `/` (slash)

The first `backup_filepath` that is matched is replaced with the `restore_filepath` string.

The default is to restore by using the original path.

On UNIX and Linux systems: For example, the following entry renames

```
/usr/fred to /usr/fred2:
```

```
change /usr/fred to /usr/fred2
```

On Windows systems: For example, the following entry renames

```
C:\users\fred to C:\users\fred2:
```

```
change /C/users/fred to /C/users/fred2
```

Use all upper case for the drive letter and end the entry with a return.

When you restore to a Windows client, you can also use the following method for specifying entries in the rename file. (Do not use this method for other clients.)

```
rename bulength backup_filepath reslength  
restore_filepath
```

Where:

bulength is the number of ASCII characters in the backup path.

reslength is the number of ASCII characters in the restore path.

The first *backup_filepath* that is matched is replaced with the *restore_filepath* string.

For example, the following entry renames C:\fred.txt to C:\fred2.txt:

```
rename 11 /C/fred.txt 12 /C/fred2.txt
```

(Be sure to end the entry with a return.)

-C *client*

Specifies a client name to use for finding backups or archives from which to restore files. This name must be as it appears in the NetBackup catalog. The default is the current client name.

Note: The destination client does not default to the source client. See the description for -D *client* option.

-D *client*

Specifies a destination client. The default is the current client name.

On UNIX and Linux systems, the master server root user can use this option to do the following: Direct restored files to a machine other than the client that the -C option specifies.

On Windows systems, the master server administrator can use this option to do the following: Direct restored files to a machine other than the client that the -C option specifies.

disk_media_server *media_server*

Specifies the disk media server to be used for the restore operation. The default is the current media server.

-S *master_server*

Specifies the name of the NetBackup server.

On UNIX and Linux systems, the default is the first server found in the /usr/opensv/netbackup/bp.conf file.

On Windows systems, the default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-spscurver`

For SharePoint operation, `-spscurver` restores only the most recent version of an item.

`-spsignorelock`

For SharePoint operation, `-spsignorelock` releases the lock on the SharePoint farm topology, if it is set.

`-spspreserveiis`

For SharePoint operation, `-spspreserveiis` preserves the existing Internet Information Services (IIS) Web site and application pool.

`-spsredir_server hostname`

For SharePoint operation, this option specifies the Web server on which the redirected portal or team site resides in a SharePoint farm. The redirected Web server should be specified as *hostname*.

`-spsrestoresecurity`

For SharePoint operation, `-spsrestoresecurity` includes security information in the restore operation.

`-spsverkeep 0 | 1 | 2`

For SharePoint operation, `-spsverkeep` specifies if versioning is enabled on the restore destination.

`-t policy_type`

Specifies one of the following numbers that corresponds to the policy type. The default is 0 for all clients except Windows, where the default is 13.

0 = Standard

4 = Oracle

6 = Informix-On-BAR

7 = Sybase

8 = MS-SharePoint

10 = NetWare

13 = MS-Windows-NT

14 = OS/2

15 = MS-SQL-Server

16 = MS-Exchange-Server

19 = NDMP

Note that the following policy types apply only to NetBackup Enterprise Server:

11 = DataTools-SQL-BackTrack

17 = SAP

18 = DB2

20 = FlashBackup

21 = Split-Mirror

22 = AFS

35 = NBU-Catalog

39 = Enterprise-Vault

`-p policy`

Specifies the policy for which the backups or archives were performed.

`-s date, -e date`

Specifies the start and the end date range for the listing. The `bprestore` command restores only files from backups or the archives that occurred within the specified start and end date range.

`-s` specifies a start date and time for the restore window. `bprestore` restores files only from the backups or the archives that occurred at or after the specified date and time.

Note: To restore multistreamed images, first run `bplist -l` to get the modification time of the desired files during the last backup that contained the files. Specify that date as the `-s` when you run the `bprestore` command. If you specify no start or end date for files that have been backed using multiple data streams, errors may result.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default start date is 01/01/1970 00:00:00.

The default is to return the most recent image. For backups, this image is the most recent full backup if a full backup exists. If a full backup does not exist, then the most recent incremental or user-directed backup is restored.

`-e` specifies an end date and time for the restore window. `bprestore` restores only files in the backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date and time.

The end backup date and time do not need to be exact, except for a true-image restore (see the `-T` option description). `bprestore` restores the file that has the specified backup date and time. Or it restores the file that precedes the end date and time, which is the most recent backup. The default is the current date and time.

`-td temp_dir`

This option provides a location where the associated log and any patch files are to be kept until the database is restored. If storage groups are restored, a subdirectory in `temp_dir` is created for each storage group. The log and patch files for each storage group are kept in the corresponding subdirectory.

On UNIX and Linux systems, the default location is `/temp`.

On Windows systems, the default location is `C:\temp`.

`-T`

Specifies a true-image restore, where only the files and the directories that existed in the last true-image backup are restored. This option is useful only if true-image backups were performed. If this option is not specified, all files and directories that meet the specified criteria are restored, even if they were deleted.

When the `-T` option is specified, the image that is requested must be uniquely identified. Unique identification is accomplished by using the `-e` option with seconds granularity. The `-s` option (if any) is ignored. The seconds granularity of an image can be retrieved by using the `bplist` command with the `-l` and `-listseconds` options.

`-vhd_dof 0 | 1`

For Hyper-V operation, `-vhd_dof` specifies whether or not to delete on any failure. Possible values are 1 (delete on failure) and 0 (do not delete on failure).

`-vhd_dsize VHD_disk_size`

For Hyper-V operation, `-vhd_dsize` specifies the size of the VHD file to be recovered.

`-vhd_fn VHD_filename`

For Hyper-V operation, `-vhd_fn` specifies the name of the VHD file to be recovered.

`-vhd_type 0 | 1`

For Hyper-V operation, `-vhd_type` specifies the type of the VHD file. Possible values for this option are the following:

1 - Fixed.

2 - Dynamic.

`-w [hh:mm:ss]`

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the restore is complete, the command exits with a timeout status. The restore, however, still completes on the server.

If you specify 0 or do not specify a time, the wait time is indefinite for the completion status.

`-k "keyword_phrase"`

Specifies a keyword phrase for NetBackup to use when it searches for backups or archives from which to restore files. The phrase must match the one that was previously associated with backup or archive by the `-k` option of the `bpbackup` or the `bparchive` command.

Use this option in place of or in combination with the other restore options to more easily restore your backups and archives. The meta-characters that follow simplify the match of keywords or parts of keywords in the phrase:

* matches any string of characters.

The "?" character matches any single character.

[] matches one of the sequence of characters that is specified within the brackets.

[-] matches one of the range of characters that the "-" separates.

The keyword phrase can be up to 128 characters in length. All printable characters are permitted including space (" ") and period (".").

The phrase must be enclosed in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

`-f listfile`

Specifies a file (*listfile*) that contains a list of files to be restored and can be used instead of the *filenames* option. In *listfile*, list each file path must be on a separate line.

The required format for the file list depends on whether the files have spaces or newlines in the names.

To restore the files that do not have spaces or new lines in the names, use this format:

`filepath`

Where *filepath* is the path to the file that you restore. For example:

Note: For Windows systems, use upper case for the drive letter. For example, C:\NetBackup\Log1.

UNIX and Linux systems:

`/home`
`/etc`
`/var`

Windows systems:

`C:\programs`
`C:\winnt`
`C:\documents\old_memos`

To restore the files that have spaces or new lines in the names, use one of the following formats:

`filepathlen filepath`
`filepathlen filepath start_date_time end_date_time`
`filepathlen filepath -s datetime -e datetime`

The *filepath* is the path to the file you restore.

The *filepathlen* is the total number of characters in the file path.

The *start_date_time* and *end_date_time* are the decimal number of seconds since 01/01/1970 00:00:00.

datetime is the same as the command line (*mm/dd/yy [hh[:mm[:ss]]]*). The command uses the start date, end date, and time from the command line unless a line in *listfile* overrides it. The dates may change from line to line.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

To exclude a file or a directory path that was previously included in the restore, place an exclamation mark (!) in front of the file or the directory path. (Exception: NDMP restores)

The following is an example that uses *filepathlen filepath*:

UNIX and Linux systems:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
12 !/etc/passwd
```

Windows systems:

```
11 C:\programs
8 C:\winnt
22 C:\documents\old memos
17 !C:\programs\test
```

```
-f filenames
```

Names one or more files to be restored and can be used instead of the `-f` option.

Any files that you specify must be listed at the end of the command line, following all other options. You must also specify absolute file paths. To

exclude a file or a directory path that was previously included in the restore, place an exclamation mark (!) in front of the file or the directory path. (Exception: NDMP restores.)

For Windows systems, use upper case for the drive letter. For example, C:\NetBackup\log1.

EXAMPLES

Example 1 - Restore files from backups of `file1` that were performed between 04/01/2006 06:00:00 and 04/10/2006 18:00:00. Enter on one line the following:

UNIX and Linux systems:

```
# bprestore -s 04/01/2010 06:00:00 -e 04/10/2010 18:00:00  
/usr/user1/file1
```

Windows systems:

```
# bprestore -s 04/01/10 06:00:00 -e 04/10/10 18:00:00 C:\user1\file1
```

Example 2 - Restore the files that are listed in a file named `restore_list` by using the most recent backups, enter the following:

UNIX and Linux systems: # `bprestore -f restore_list`

Windows systems: # `bprestore -f c:\restore_list`

Example 3

UNIX and Linux systems:

Restore directory `/home/kwc` from the backups that are associated with a keyword phrase that contains "My Home Directory". Use a progress log named `/home/kwc/bkup.log`. Enter the following on one line:

```
# bprestore -k "**My Home Directory*" -L /home/kwc/bkup.log /home/kwc
```

Windows systems:

Restore directory `C:\kwc` from the backups that are associated with a keyword phrase that contains "My Home Directory". Use a progress log named `d:\kwc\bkup.log`. Enter the following on one line:

```
# bprestore -k "**My Home Directory*" -L d:\kwc\bkup.log C:\kwc
```

Example 4 - Restore the D drive on the Windows client slater from the backups that are associated with a keyword phrase that contains "My Home Dir". Use a progress log named `bkup.log`. Enter the following all on one line or use the backslash continuation character:

```
UNIX and Linux systems: # bprestore -k "*My Home Dir*" -C slater  
-D slater -t 13 -L /home/kwc/bkup.log /D
```

```
Windows systems: # bprestore -k "*My Home Dir*" -C slater -D slater  
-t 13 -L c:\kwc\bkup.log D:\
```

Example 5 - Assume that you have a rename file named `/home/kwc/rename` on a UNIX client and it contains the following:

```
change /home/kwc/linkback to /home/kwc/linkback_alt
```

To restore the hard link that is named `/home/kwc/linkback` to alternate path `/home/kwc/linkback_alt` on that client, run the following command:

```
# bprestore -H -R /home/kwc/rename /home/kwc/linkback
```

Example 6 - Assume that you want to restore files from backups of the file `user1`.

The backups were performed between 04/01/10 06:00:00 and 04/10/10 18:00:00. You also want to exclude all files with a `.pdf` extension, except for the file named `final_doc.pdf`. To perform this operation, run the following (on one line):

```
UNIX and Linux systems: # bprestore -s 04/01/10 06:00:00 -e 04/10/10 \  
18:00:00 /home/user1 !/home/user1/*.pdf /home/user1/final_doc.pdf
```

```
Windows systems: # bprestore -s 04/01/10 06:00:00 -e 04/10/10 18:00:00  
C:\user1\ !C:\user1\*.pdf C:\user1\final_doc.pdf
```

FILES

UNIX and Linux systems:

```
$HOME/bp.conf  
/usr/opensv/netbackup/logs/bprestore/log.mmddyy
```

Windows systems:

```
install_path\NetBackup\logs\bprestore\*.log
```

SEE ALSO

See [bp](#) on page 50.

See [bparchive](#) on page 53.

See [bplist](#) on page 200.

bpschedule

bpschedule - add, delete, or list disk staging storage unit (DSSU) schedules

SYNOPSIS

```

bpschedule [-v] [-M master_server,...] -add sched_label [-freq
frequency] [-stage_priority number] [-altreadhost hostname]
[-number_copies number] [-residence storage_unit_label
[,stunit-copy2,...]] [-pool volume_pool_label [,pool-copy2,...]]
[-fail_on_error 0|1[,0|1,...0|1]] [-window start_duration]] [-cal
0|1|2] [-ut] [-incl mm/dd/yyyy] [-excl mm/dd/yyyy] [-weekday
day_name_week] [-dayomonth 1-31 | 1]
bpschedule [-v] [-M master_server,...] -delete sched_label...
bpschedule [-v] [-M master_server,...] -deleteall
bpschedule [-v] [-M master_server,...] [-L | -l | -U] [-label
sched_label]

```

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The `bpschedule` command does the following:

- Adds a new disk staging storage unit (DSSU) schedule.
- Deletes one or more DSSU schedules.
- Deletes all the DSSU schedules.
- Lists one or all DSSU schedules (default is list all DSSU schedules).

For the `-add` and `-delete` options, `bpschedule` returns to the system prompt immediately after it submits the DSSU schedule change request to NetBackup. To determine whether the change was successful, run `bpschedule` again to list the updated schedule information.

The list option displays a single entry for each schedule, even if the `-M` option is used. The `-l` form lists the information for each schedule on several lines. `-l` does not identify the attributes by name; these are as follows (where the names are not described, they are reserved for internal NetBackup use):

Line 1: SCHED, schedule name, type, max_mpx, frequency, retention level, u_wind/o/d, two internal attributes, maximum fragment size, calendar, number of copies, and fail on error. Note that u_wind/o/d is a field reserved for future use. The u_wind entry in the -L display is also reserved for future use.

Line 2: SCHEDWIN, seven pairs of the form start,duration, expresses the start and duration of the window for each day of the week. The week starts with Sunday.

Line 3: SCHEDRES, residence (a value for each copy).

Line 4: SCHEDPOOL, pool (a value for each copy).

Line 5: SCHEDRL, retention level (a value for each copy).

Line 6: SCHEDFOE, fail on error (a value for each copy).

If the -M option is used, `bpschedule` performs the operation on each of the listed master servers. For instance, if `bpschedule` adds a schedule, `bpschedule` adds the schedule to the policy on each of the listed master servers for -M. If -M is used on a listing request, the listing is composed of the returned information from all the master servers in the -M list. If the command fails for any of the master servers, activity stops at that point.

To modify an existing NetBackup schedule, use the NetBackup command `bpschedulerep`.

Any authorized user can initiate this command.

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

OPTIONS

These options are common to all forms of `bpschedule`:

`-M master_server,...`

Specifies a list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the `bpschedule` command. Each master server in the list must allow access by the system that issues the `bpschedule` command.

If this option is present, the command is run on each master server in the list. If an error occurs for any master server, the process terminates at that point.

If `bpschedule` produces a listing, the listing is the composite of the returned information from all the master servers in this list.

If `bpschedule` adds or deletes a schedule, all master servers in this list receive the change.

-v

Selects the verbose mode where `bpschedule` logs additional information for debugging purposes. The information goes into the NetBackup administration debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

The remaining options depend on the form of `bpschedule`. The first form of `bpschedule` adds a schedule to the specified storage unit name. The following options apply to this form of `bpschedule`:

`-add sched_label [suboptions]`

Adds a single schedule to the specified storage unit name. The following describes the suboptions for the `-add` option. These are attributes of the schedule being added.

Refer to the *NetBackup Administrator's Guide* for details on schedules and their attributes.

`-cal 0|1|2`

Indicates whether `bpschedule` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

`-dayomonth 1-31 | 1`

Specifies the day of every month to run the schedule. Enter 1 (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the schedule the 15th day of every month, enter:

`-dayomonth 15`

To run the last day of every month, enter:

`-dayomonth l`

`-excl mm/dd/yyyy`

Indicates to exclude this single date.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, 0 is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq frequency`

Determines how often backups run. Represents the number of seconds between the backups that are initiated according to this schedule. Valid range for this option is 0 through 2419200 (number of seconds in four weeks). When this value is omitted on the command line, the default value is 604800 (duration of one week in seconds).

`-incl mm/dd/yyyy`

Indicates to include this single date.

`-number_copies number`

Specifies the number of simultaneous backup copies. The minimum value is 1. The maximum value is 4 or the **Maximum backup copies** global parameter, whichever is smaller. The default is 1.

`-pool volume_pool_label[,pool-copy2,...]`

The name of the volume pool. This choice overrides the policy-level volume pool. The value **"*NULL*"** causes NetBackup to use the volume pool that is specified at the policy level. The default is to use the volume pool that is specified at the policy level. The volume pool label cannot be None. If you do not specify a volume pool at either the schedule level or the policy level, NetBackup uses a default value of NetBackup.

When you specify `-number_copies` greater than 1, specify a pool for each copy.

`-residence storage_unit_label [,stunit-copy2,...]`

The name of the storage unit, which specifies the location of the backup images. The value **"*NULL*"** causes NetBackup to use the storage unit that is specified at the policy level. The default is for NetBackup to use the storage unit that is specified at the policy level. If you do not specify a storage unit at either the schedule level or the policy level, NetBackup uses the next storage unit available.

When you specify `-number_copies` greater than 1, specify a residence for each copy.

`-stage_priority number`

The order in which storage units are to be selected within a storage unit group:

1 = Use the storage units in the order that appears in the storage unit group dialog box (default).

2 = Use the storage unit least recently used. (The storage units take turns.)

3 = Use the first storage unit in the list that is not full or down. If the storage unit is only busy, the policy waits to write to it.

`-altreadhost hostname`

The server to be used to read a backup image that a different media server originally wrote.

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

`-weekday day_name week`

Specifies a day of the week, and the week of the month, as a run day in the schedule.

The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.

The *week* is the number of the week in the month.

For example, to instruct the policy to run the second Monday of the month, enter:

```
-weekday Monday 2
```

`-window start_duration`

Specifies when NetBackup can run the backups for this schedule. Every day of the week has the same window.

start is the time at which the backup window opens for this schedule. This number is the number of seconds since midnight. This number is an integer between 0 and 86399 (86400 seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This number is a non-negative integer.

The second form of `bpschedule` deletes one or more schedules from the named policy. The following option applies to this form of `bpschedule`:

`-delete sched_label`

Deletes the listed schedules from the named policy. Separate the elements of the *sched_label* list with spaces. There can be up to 25 labels in the list.

The third form of `bpschedule` deletes all schedule from the named policy. The following option applies to this form of `bpschedule`:

`-deleteall`

Deletes all schedules from the named policy.

The fourth form of `bpschedule` produces a listing of information about the schedules for the named policy. The following options apply to this form of `bpschedule`:

`-l`

The list type is short. This list is the default list type. This option produces a terse listing that includes all attributes for the schedule. Each schedule occupies one line of the listing. Most attribute values are expressed numerically. This option is useful for scripts or the programs that rework the listing contents into a customized report format.

`-L`

The list type is long. This listing includes all attributes for the schedule. Some attribute values are descriptive terms, rather than numbers.

`-label sched_label`

List the attributes for this schedule in the named policy. The default is to list information for all schedules for the named policy.

`-u` The list type is user. This listing is similar to the long-type list, but it has fewer entries. Most attribute values are descriptive terms, rather than numbers.

EXAMPLE

List the information for schedule `test` in long form.

```
# bpschedule -L -label test
Schedule:          test
  Type:            FULL (0)
  Frequency:       7day(s) (604800 seconds)
  Retention Level: 1(2 weeks)
  u-wind/o/d:      0 0
  Incr Type:       DELTA (0)
  Incr Depends:    (none defined)
  Max Frag Size:   0 MB (1048576 MB)
  Maximum MPX:    1
  Number copies:   1
  Fail on Error:   0
  Residence:       (specific storage unit not required)
```

```
Volume Pool:      (same as policy volume pool)
Daily Windows:
Day              Open           Close           W-Open         W-Close
Sunday          000:00:00  000:00:00
Monday          000:00:00  000:00:00
Tuesday         000:00:00  000:00:00
Wednesday      000:00:00  000:00:00
Thursday        000:00:00  000:00:00
Friday          000:00:00  000:00:00
Saturday        000:00:00  000:00:00
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*
/usr/opensv/netbackup/db/sched/schedule name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\sched\schedule name
```

SEE ALSO

See [bpschedulerep](#) on page 340.

bpschedulerep

bpschedulerep – modify attributes of disk staging storage unit (DSSU) schedule

SYNOPSIS

```

bpschedulerep sched_label [ -M master_server,... ] [-v] [-freq
backup_frequency] [-stage_priority number] [-altreadhost hostname]
[-cal 0|1|2] [-incl mm/dd/yyyy] [-excl mm/dd/yyyy] [-delincl
mm/dd/yyyy] [-delexcl mm/dd/yyyy] [-weekday day_name week] [-dayomonth
1-31 | 1] [-delweekday day_name week] [-deldayomonth 1-31 | 1] [-ci]
[-ce] [-cw] [-cd] [-number_copies number] [-fail_on_error
0|1[,0|1,...,0|1]] [-residence storage_unit_label [,stunit-copy2,...]]
[-pool volume_pool_label [,pool-copy2,...]] [-(0..6) start duration]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

```

DESCRIPTION

bpschedulerep changes the attributes of a NetBackup disk staging storage unit (DSSU) schedule. The schedule that bpschedulerep named should already exist when this command is run. bpschedulerep changes the schedule on each of the master servers that are listed, if the -M option is used.

Any authorized user can initiate this command.

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

OPTIONS

-(0..6) start duration

Specifies the window during which NetBackup can run the backups for this schedule. This window applies to a specific day of the week. 0 corresponds to Sunday, 1 to Monday, and so on.

start is the time at which the backup window opens for this schedule. This number is the number of seconds since midnight. It is an integer between 0 and 86400 (the number of seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. It is a non-negative integer.

```
-cal 0|1|2
```

Indicates whether `bpschedulerep` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

```
-dayomonth 1-31 | 1
```

Specifies the day of every month to run the schedule. Enter 1 (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the schedule the 15th day of every month, enter:

```
-dayomonth 15
```

To run the last day of every month, enter:

```
-dayomonth l
```

```
-deldayomonth 1-31 | 1
```

Specifies a day of every month to be excluded as a run day. Enter 1 (lowercase L) to exclude the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to exclude the 10th of every month from the schedule, enter:

```
-deldayomonth 20
```

```
-delweekday day_name week
```

Specifies a day of the week and the week of the month to be excluded as a run day from the schedule.

The *day_name* is: Sunday, Monday, ..., Friday, or Saturday.

The *week* is the number of the week in the month.

For example, to exclude the second Monday of the month, enter:

```
-delweekday Monday 2
```

```
-excl mm/dd/yyyy
```

Indicates to exclude this single date.

```
-delincl mm/dd/yyyy
```

Indicates to delete this single date.

`-delexcl mm/dd/yyyy`

Indicates to delete this single date.

`-ci`

Clears all specific include dates.

`-ce`

Clears all specific exclude dates.

`-cw`

Clears all week days.

`-cd`

Clears all days of a month.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, 0 is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq backup_frequency`

Specifies how much time can elapse between successful automatic backups for clients on this schedule. Frequency does not apply to user schedules because the user can perform a backup or archive any time the backup window is open. This value is a positive integer that represents the number of seconds between successful automatic backups for this schedule.

`-help`

Prints a command-line usage message.

`-incl mm/dd/yyyy`

Indicates to include this single date.

`-M master_server,...`

A list of alternative master servers. This list is a comma-separated list of hostnames. If this option is present, each master server in the list runs the `bpschedulerep` command. Each master server in the list must allow access by the system that issued the `bpschedulerep` command. If an error occurs for any master server, the process terminates at that point.

The schedule attributes are modified on all the master servers in this list.

`-number_copies number`

Specify the number of simultaneous backup copies. The minimum value is 1. The maximum value is 4 or the **Maximum backup copies** global parameter, whichever is smaller. The default is 1.

`-pool volume_pool_label[,pool-copy2,...]`

Specifies the volume pool(s) for the schedule. Do not use this option if a disk storage unit is the residence for the schedule. If `"*NULL*"` is specified, the volume pool for the schedule is the volume pool of the policy that contains this schedule.

Specify a pool for each copy.

To display the configured volume pools, run the following command:

On UNIX and Linux systems: `/usr/opensv/volmgr/bin/vmpool -listall`

On Windows systems: `install_path\Volmgr\bin\vmpool -listall`

`-residence storage_unit_label[,stunit-copy2,...]`

Specifies the label(s) of the storage unit to be used for storing the backups that were created according to this schedule. If `"*NULL*"` is specified, the residence for the schedule defaults to the residence of the policy that contains this schedule. If the residence value is a storage unit label, the residence for the schedule becomes that storage unit; it overrides the residence for the policy.

Specify a storage unit for each copy.

Run `bpstulist` to display the set of defined storage units.

`-stage priority number`

The order in which storage units are to be selected within a storage unit group:

1 = Use the storage units in the order that appears in the storage unit group dialog box (default).

2 = Use the storage unit least recently used. (The storage units take turns.)

3 = Use the first storage unit in the list that is not full or down. If the storage unit is only busy, the policy waits to write to it.

`-altreadhost hostname`

The server to be used to read a backup image that a different media server originally wrote.

`sched_label`

The name of the previously created schedule to be changed.

`-weekday day_name week`

Specifies a day of the week, and the week of the month, as a run day in the schedule.

The *day_name* is: Sunday, Monday, ..., Friday, or Saturday.

The *week* is the number of the week in the month.

For example, to instruct the policy to run the third Monday of the month, enter:

```
-weekday Monday 3
```

-v

Selects the verbose mode. This option causes `bpschedulerep` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - Change and schedule named test.

```
# bpschedulerep test -cal 2
```

The following is received after the change and a `bpschedule -label test` listing.

```
SCHED test 0 1 604800 1 0 0 0 *NULL* 0 2 0 0 0
SCHEDWIN 0 0 0 0 0 0 0 0 0 0 0 0 0
SCHEDRES *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
SCHEDPOOL *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
SCHEDRL 1 1 1 1 1 1 1 1
SCHEDFOE 0 0 0 0 0 0 0 0
```

Example 2 - For Saturday and Sunday of each week, have the window for schedule test open at 10 p.m. instead of 11 p.m. Also, have the window duration be two (2) hours instead of one (1) hour. `bpschedulerep` resets the windows, and `bpschedule` lists the new schedule values.

```
# bpschedulerep test -0 79200 7200 -6 79200 7200
bpschedule -U -label test
Schedule:          test
Type:              Full Backup
Frequency:         every 7 days
Retention Level:  1 (2 weeks)
Maximum MPX:      1
Residence:         (specific storage unit not required)
Volume Pool:      (same as policy volume pool)
Daily Windows:
```

Sunday	22:00:00	-->	Sunday	24:00:00
Monday	23:00:00	-->	Monday	24:00:00
Tuesday	23:00:00	-->	Tuesday	24:00:00
Wednesday	23:00:00	-->	Wednesday	24:00:00
Thursday	23:00:00	-->	Thursday	24:00:00
Friday	23:00:00	-->	Friday	24:00:00
Saturday	22:00:00	-->	Saturday	24:00:00

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/sched/schedule name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*  
install_path\NetBackup\db\sched\schedule name
```

SEE ALSO

See [bpschedule](#) on page 333.

bpsetconfig

`bpsetconfig` - update a NetBackup configuration

SYNOPSIS

```
bpsetconfig [-h host] [-u user] [file,...] [-r "string"]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpsetconfig` command is used as a stand-alone program, or as a helper program with the `backuptrace` and the `restoretrace` commands, to update a configuration. This command is available for all NetBackup server platforms.

You must have administrator privileges to run this command.

OPTIONS

`-h host`

The host name of the server or client whose configuration is updated.

`file...`

The file(s) where the updates are listed. If not specified, standard input is read.

`-r "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-u user`

The user whose configuration is updated.

EXAMPLE

The following shows how to set a NetBackup configuration on a different system.

```
bsetconfig -h orange.colors.org  
SERVER = yellow.colors.org  
SERVER = orange.colors.org
```

```
<ctl-D>
```

```
<ctl-Z>
```

Sets the NetBackup configuration on the system `orange.colors.org` to the designated server that follows. This means that `yellow.colors.org` is the master server for the client `orange.colors.org`:

```
SERVER = yellow.colors.org  
SERVER = orange.colors.org
```

bpstsinfo

bpstsinfo - display information on storage servers, LSUs, images, and plugins

SYNOPSIS

```

bpstsinfo -serverinfo | -si [-servername | -sn server_name]
[-serverprefix server_prefix] [-remote remote_server,...] [-remote
remote_server [-remote remote_server...]] ]
bpstsinfo -lsuinfo | -li [-servername | -sn server_name]
[-serverprefix server_prefix] [-lsuname lsu_name,...]
[-filteronimagemodetype [ STS_SA_IMAGE | STS_SA_OPAQUEF |
STS_SA_CLEARF] [-remote remote_server [-remote remote_server...]] ]
bpstsinfo -imageinfo | -ii [-servername | -sn server_name]
[-serverprefix server_prefix] [-lsuname lsu_name,...] [-imagename
image_name] [-imagedate image_date] [[-imagedatestart image_date]
[-imagedateend image date]] [-imagetype STS_FULL_ONLY | STS_INCR_ONLY]
[-remote remote_server [-remote remote_server...]] ]
bpstsinfo -diskspaceinfo | -dsi -stype name SnapVault | AdvancedDisk
| SharedDisk
bpstsinfo -plugininfo | -pi [-serverprefix server_prefix] [-stype
server_type]
bpstsinfo -imagegroupelist | -igl [-servername | -sn server_name]
[-serverprefix server_prefix] [-lsuname lsu_name,...] [-imagename
image_name] [[-imagedatestart image_date] [-imagedateend image date]]
[-imagetype STS_FULL_ONLY | STS_INCR_ONLY ] [-remote remote_server
[-remote remote_server...]] ]
bpstsinfo -comparedbandstu | -cdas -servername | -sn server_name |
-storage_server storage_server -serverprefix server_prefix | -stype
server_type [-lsuname lsu_name],... -oldservervolume
old_sts_server:old_volume [-oldservervolume old_sts_server:old_volume
...] [-remote remote_server [-remote remote_server...]] ]
bpstsinfo -deleteimage | -di -servername | -sn server_name
-serverprefix server_prefix -lsuname lsu_name -imagename image_name
-imagedate image_date [-remote remote_server [-remote
remote_server...]] ]

```

ON UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The `bpstsinfo` command displays the attributes for plugins, storage servers, logical storage units (LSUs), and the images that reside on disk. The command also compares images old and current servers and volumes, displays all image IDs for an image group, and deletes a specified image. A log of the command activity is sent to the NetBackup admin log file for the current day. All errors for this command go to `stderr`.

Only authorized users can run this command.

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

OPTIONS

Only one of the following options can be specified on a single command line.

`-serverinfo | -si`

Prints the storage server information.

`-lsuinfo | -li`

Prints the LSU information.

`-imageinfo | -ii`

Prints the image information.

`-diskspaceinfo | -dsi`

Prints the aggregated space for a specified disk type.

`-plugininfo | -pi`

Prints the plugin information for internal and external plugins on the system. When you use `-plugininfo` with no sub-options, all plugins are printed. Use with `-serverprefix` to restrict the printout to only the plugin with the specified prefix. Use `-stype` to restrict the printout to only plugins of the specified storage server type.

`-imagegroupelist | -igl`

For a given image and image group type, print all associate image IDs

`-comparedbandstu | -cdas`

Compares the image information in the catalog to image information on the storage server physical media. The command compares the specified previous OpenStorage server(s) and volume(s) to the current OpenStorage server and volume. This option requires `-servername`, `-serverprefix`, `-lsuname`, `-oldservervolume` arguments.

`-deleteimage | -di`

Deletes the specified image. This option requires `-servername`, `-serverprefix`, `-lsuname`, `-imagename`, and `-imagedate` arguments.

SUB-OPTIONS

`-stype SnapVault | AdvancedDisk | SharedDisk`

Specifies the disk type that is used with the `-diskspaceinfo` option to display the aggregated space. Note that `SharedDisk` applies to NetBackup 6.5 media servers only. An example of the output display:

```
Disktype: AdvancedDisk TotalCapacity: 100000000 TotalUsed:
10000000
```

Licensing is based on the *TotalCapacity* and *TotalUsed* values.

`-filteronimagemodetype [STS_SA_IMAGE | STS_SA_OPAQUEF | STS_SA_CLEARF]`

Limits the LSUs to be printed on the system to the specified image mode type.

`-imagedate image_date`

Specifies a single image. The following are acceptable formats:

03/08/2009 09:41:22

1110296416

This option can be used with `-imageinfo` only; it cannot be used with

`-imagedatestart` or `-imagedateend`.

`-imagedateend image_date`

Optional filter argument. By default, all images are used. Specify `MM/DD/YYYY HH:MM:SS` to the images to something that is equal to or newer than the *image_date*.

`-imagedatestart image_date`

Optional filter argument. By default, all images are used. Specify `MM/DD/YYYY HH:MM:SS` to limit the images to something that is equal to or newer than the *image_date*.

`-imagename image_name`

Optional filter argument. By default, all images are used. Specify *image_name* to limit to only the images that match.

`-imagetype STS_FULL_ONLY | STS_INCR_ONLY`

Optional filter argument. By default, both the full and the incremental images are used. `STS_FULL_ONLY` or `STS_INCR_ONLY` to limit to only images from a full backup or an incremental backup.

`-lsuname lsu_name,...`

Optional filter argument. By default, all LSUs are used. Specify *lsu_name* to limit to one LSU for each `-lsuname` supplied.

`-remote remote_server [-remote remote_server ...]`

Specifies the name of a remote server to query for disk information. The remote server performs the `bpstsinfo` operation instead of the host on which the `bpstsinfo` command is executed. You can specify multiple remote servers, one for each `-remote` supplied.

`-servername server_name`

Specifies the hostname of the STS server. If `-servername` is not specified, the hostname of the local host is used.

`-serverprefix server_prefix`

Limits server prefixes to the one that *server_prefix* specifies. Optional filter argument. By default, all server prefixes are used. This option can be used with `-serverinfo`, `-lsuinfo`, and `-imageinfo`. The following are valid prefixes:

- `ntap`:
- `STSBasicDisk`:
- `PureDisk`:

`-stype server_type`

Specifies the vendor-specific string that identifies the OpenStorage storage server type. This option applies only to the OpenStorage disk type.

EXAMPLES

Example 1 - List the attributes of the NearStore storage server named apricot:

```
# bpstsinfo -serverinfo -serverprefix "ntap:" -servername apricot
ServerInfo:
  Server Name: apricot
  Supported Stream Formats:
  [
    TAR
  ]
  Server Flags: (STS_SRV_IMAGELIST | STS_SRV_CRED | STS_SRV_CONRW)
  Media: (STS_LSU_MEDIUM_DISK)
  Maximum Connections: 128
  Current Connections: 4
  Supported Interfaces:
  [
```

```

    10.80.104.74
  ]
Supported Credentials:
[
STS_CRED_MD5
]

```

Example 2 - List the attributes of the `lsu /vol/dsul` on NearStore storage server apricot:

```

# bpstsinfo -lsuinfo -serverprefix "ntap:" -servername apricot -lsuname /vol/dsul
LsuInfo:
  Server Name: mmnetapp2
  LSU Name: /vol/dsul
  description:
  Attention:
    Severity: STS_ESNONE
    Message:
  Size: 171798691840
  Bytes Used: 8895016960
  Maximum Transfer: 2048
  Block Size: 4096
  Resident Images: 47
  SaveAs: (STS_SA_CLEARF | STS_SA_IMAGE)
  Media: (STS_LSU_MEDIUM_DISK)

```

Example 3 - List the attributes of the images on the `lsu /vol/dsul` on the NearStore storage server apricot:

```

# bpstsinfo -imageinfo -serverprefix "ntap:" -servername apricot -lsuname /vol/dsul
ImageInfo:
  Image Name: monel_1119652734_C1_F1
  Date: 1119652734
  Full Date:
  Policy: db_backup
  SaveAs: (STS_SA_CLEARF | STS_SA_IMAGE)
  Stream Format: TAR
  Type: STS_IMG_FULL
  Server Name: apricot
  LSU Name: /vol/dsul
  Size: 17596416
  Block Size: 8192
  Exports:

```

```
/vol/dsul/nbu_monel_C1_F1.CLF_db_backup_0000 (STS_EXFS_NFS)  
Status: (STS_II_IMAGE_CREATED | STS_II_FILES_CREATED)
```

bpstuadd

bpstuadd - create NetBackup storage unit or storage group

SYNOPSIS

```

bpstuadd -label storage_unit_label -path path_name [-dt disk_type]
| -dp disk_pool [-dt disk_type] | -density density_type [-rt
robot_type -rn robot_number] [-host host_name] [-cj max_jobs] [-odo
on_demand_only_flag] [-flags flags] [-cf clearfiles] [-tt
transfer_throttle] [-hwm high_water_mark] [-lwm low_water_mark] [-okrt
ok_on_root] [-mfs max_fragment_size] [-maxmpx mpx_factor] [-nh
NDMP_attach_host] [-nodevhost] [-verbose] [-hostlist host_name...]
[-M master_server,...] [-reason "string"]
bpstuadd -group storage_unit_group storage_unit_label,... [-sm
selection_method]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The `bpstuadd` command creates a NetBackup storage unit or storage unit group. When you create a single storage unit, make sure that you include a label for the new storage unit: either the `-density` the `-path`, or the `-dp` option. `bpstuadd` cannot create the storage unit if the master server has already created the maximum number of storage units that its NetBackup configuration allows. The command does not create a storage unit that specifies the same destination medium as an existing storage unit.

Note: This command does not enable you to change a disk storage unit (DSU) or a tape storage unit to a disk staging storage unit (DSSU). In addition, you cannot change a DSSU to a DSU or a tape storage unit.

NetBackup has several types of storage units. The storage-unit type affects how NetBackup stores the data. The options on the `bpstuadd` command line determine one of the following:

- **Disk.** The storage destination is a disk file system directory, a disk pool, or both.

- **Disk Staging.** A disk staging storage unit (DSSU) addresses the automatic (or scheduled sweeping) of images from the DSSU to the final storage unit.
- **Media Manager.** The storage destination is a tape device managed by the Media Manager.
- **NDMP.** An NDMP is a storage unit that Media Manager controls. The NetBackup for NDMP option must be installed. In this command description, references to Media Manager storage-unit types also apply to the NDMP storage-unit type except where specifically mentioned. The media for an NDMP storage unit always attach directly to an NDMP host and cannot be used to store data for other NetBackup clients. To define an NDMP storage unit, run the `bpstuadd` command on the master server .

Refer to the *NetBackup for NDMP Administrator's Guide* for more information on how to add NDMP storage units.

Errors go to `stderr`. A log of the command activity goes to the NetBackup admin log file for the current day.

See the *NetBackup Administrator's Guide* for more information on storage units.

Only authorized users can run this command.

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

OPTIONS

`-cf clearfiles`

Enables the NBU media to perform data translation operations on backup data. Typically, OpenStorage plugins use metadata to perform block-level deduplication operations that reduce the total amount of disk space being used. This value is valid only for disk storage units configured with OST disk pools.

The *clearfiles* variable can be one of the following values:

- 0 - Disables all data translation operations.
- 1 - Enables detailed translation operation. The metadata describes all of the attributes of the files that are backed up. These files are called clear files.
- 2 - Enables simple translation operation. The metadata identifies just the name, size, and byte offset location of the files that are backed up. They are called opaque files.

-cj *max_jobs*

Specifies the maximum number of concurrent jobs that are permitted for this storage unit. *max_jobs* is a non-negative integer. The appropriate value depends on your server's ability to run multiple backup processes comfortably and the available space on the storage media. Also, refer to "Maximum Jobs per Policy" in the *NetBackup Administrator's Guide*.

The *max_jobs* option set to zero (0) means that this storage unit is never selected when a job is scheduled. The default is 1.

-density *density_type*

Specifies the density type of the media. If this option is present, the storage unit type is Media Manager. This option has no default. Either *-density*, *-path*, or *-dp* must be on the command line. If you have specified the robot type on the command line, the value for *density* should be consistent with the robot type. The *-density*, *-path*, and *-dp* options can only be used independently.

Valid values for *density_type* are:

dlt - DLT Cartridge

dlt2 - DLT Cartridge alternate

8mm - 8mm Cartridge

4mm - 4mm Cartridge

qscsi - 1/4 Inch Cartridge

Note: NetBackup supports the following densities on NetBackup Enterprise Servers.

hcart - 1/2-inch cartridge

hcart2 - 1/2-inch cartridge alternate

dtf - DTF Cartridge

-dp *disk_pool*

Specifies the name of the disk pool, which is the data storage area for this storage unit. The disk pool must already exist.

-dt *disk_type*

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

1 - BasicDisk

2 - NearStore

3 - SnapVault

6 - DiskPool

`-flags flags`

Specifies the storage unit to be a staging storage unit, which allows for a quick restore. Valid values for *flags* are: NONE and STAGE_DATA. Currently valid for only disk storage units.

`-group storage_unit_group storage_unit_label...`

Adds a storage unit group and specifies the group name and the storage unit(s) that comprise the group. Add multiple storage units to the storage unit group by separating the names with a space. The maximum length of a storage unit group label is 128 characters.

`-host host_name`

Indicates a single specific media server that is associated with the storage unit. Only this media server can be selected as the system to read or write from the storage. The default is the host name of the local system.

Note: NetBackup Server does not support remote media servers.

The host you select must be either your NetBackup master server or a remote media server (if you configure remote media servers). The host name must be the network name for the server as known by all NetBackup servers and clients.

If *host_name* is a valid network name, but was not configured previously in NetBackup, it is added to NetBackup's configuration as a media server. On UNIX, this server shows up as a `SERVER` entry in the `bp.conf` file; on Windows, Host Properties specifies the server in the Servers list. If *host_name* is not a valid network name, you must configure it manually.

`-hostlist host_name...`

Indicates that a subset of the media servers with access to the storage should be used. Use this option if multiple media servers share a disk pool. You want to dedicate one set of media servers to service a set of policies and clients. Then you want a different set to service other policies and clients (or for a specific role such as duplication jobs).

`-hwm high_water_mark`

Specifies a percentage of a disk storage unit at which it is considered full. This option is a user-configurable threshold. The valid range for the High Water Mark is 0 to 100 (percentage), and the default setting is 98(%). When

the High Water Mark is reached, NetBackup becomes proactive in the following two different scenarios:

- When you run a job and the total capacity is used, the DSU is considered to be Full. If you choose a storage unit in a Storage Unit Group, the following occurs: The media and the device selection (MDS) does not assign a new job to a storage unit whose used capacity exceeds the High Water Mark. Instead, it looks for another storage unit in the group to assign to the job.
- During a job, if the Staging attribute is set and the total capacity is used, staging expires images to free space on the DSU. This action accommodates more backup data.

`-label storage_unit_label`

Specifies the name of the storage unit. This option is required unless you use `-group`. The maximum length of a storage-unit label is 128 characters.

`-lwm low_water_mark`

This option is a user-configurable threshold that the disk storage units that do disk staging use. The valid range for the Low Water Mark is 0 to 100 (percent). The default setting is 80 (percent).

When the High Water Mark is reached, do one of the following:

- Migrate images to other storage units until the Low Water Mark is reached.
- Free disk space by expiring disk images for the oldest staged images until the Low Water Mark is reached.

If you want to save most of your data, configure the Low Water Mark to be near the High Water Mark.

`-M master_server,...`

A list of master servers. This list is a comma-separated list of hostnames. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point. The default is the master server for the system where the command is entered.

`-maxmpx mpx_factor`

The maximum multiplexing factor. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

Refer to "Multiplexing (MPX)" in the NetBackup Administrator's Guide.

The multiplexing factor can range from 1 to 32. The default is 1, which means no multiplexing. A value greater than one (1) means that NetBackup can

create multiplexed images on the destination medium. The license determines the effective subset of the 1 to 32 range for the local NetBackup installation.

`-mfs max_fragment_size`

Specifies the maximum fragment size in megabytes, or how large a fragment a NetBackup image can be. NetBackup supports a maximum fragment size of 1,000,000 megabytes (one terabyte).

For removable media, this value is zero or any integer between 50 (megabytes) and 1,048,576 (megabytes) (1024 GB) inclusive. The default value is 0, which means the maximum of 1,048,576 Mbytes.

For a Disk storage unit, this value ranges from 20 Mbytes to 512,000 Mbytes (512GB). The default value is 512,000 Mbytes.

`-nh NDMP_attach_host`

Specifies the hostname of the NDMP server. If this option is present, the storage unit type is set to NDMP. The default is no NDMP server.

`-nodevhost`

Indicates that no media server is associated with this storage unit. You can select any media server that can access the storage to move the data (such as backup, duplicate, restore).

`-odo on_demand_only_flag`

The On-Demand-Only flag controls the condition under which NetBackup uses the storage unit:

- To make the storage unit available only to the policies or the schedules that request it, set the flag to 1 (enabled).
- To make the storage unit available to any policy or schedule, set the flag to 0 (disabled).

If the storage unit type is Disk, the default is 1; NetBackup uses the storage unit only when explicitly requested. Otherwise, the default is 0.

DSSUs are on demand only. They have to be chosen explicitly as a backup target.

`-okrt ok_on_root`

If this flag is not set, neither backups nor directory creation occur on the root file system. If the `ok_on_root` flag is set, then backups and directory creations occur normally.

The default value for this flag is 0. Backups and directory creations to a disk storage unit (BasicDisk) do not occur if the path is on the root file system.

`-path path_name`

Specifies the path to a disk file system that expressed as an absolute pathname, which is the data storage area for this storage unit. When this option is present, the storage unit type is Disk. This option has no default. Either `-path`, `-dp`, or `-density` must be on the command line. The `-density`, `-path`, and `-dp` options can only be used independently.

In general when this option is used, enable the On-Demand-Only flag (see `-odo`). Otherwise, if you have any NetBackup policies that do not require specific storage units, they can fill the disk file system *path_name*. This action can cause serious system problems. For example, if the system swap area happens to be on the same file system, new processes may fail.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-rn robot_number`

Specifies the robot number for this storage unit. It must be greater than or equal to 0. The robot number can be obtained from the Media and Device Management of the Administration Console. The *NetBackup Administrator's Guide* discusses the rules that concern the use of this number. This option is ignored unless the `-rt` option is present. This option has no default.

`-rt robot_type`

The robot type for this storage unit. For non-robotic (stand-alone) devices select `NONE` or omit this option. The default value is `NONE` (Not Robotic). The value for density should be consistent with the robot type.

If this option is set to any value other than `NONE`, the `-rn` option is required. Available robot type codes are:

`NONE` - Not Robotic

`TLT` - Tape Library DLT

`ACS` - Automated Cartridge System

`TL8` - Tape Library 8MM

`TL4` - Tape Library 4MM

`TLH` - Tape Library Half-inch

`TLM` - Tape Library Multimedia

`-sm selection_method`

Selects the method in which a storage unit group is chosen. This option is valid only for storage unit groups. The possible values for *selection_method* are:

Prioritized = 1 (default)

Least Recently Selected = 2

Failover = 3

Load Balance = 4

Option 1: Prioritized, selects the first storage unit in the list until the unit is down, is full, or its max-concurrent-jobs setting is reached. Then the next storage unit in the list is examined and so on until an available one is found.

Option 2: Least Recently Selected, selects the least-recently selected storage unit.

Option 3: Failover is the same as Prioritized except MDS queues a job to wait for the first storage unit if the max-concurrent-jobs is reached. MDS moves on to the next storage unit in the list only if the first unit is down or full.

Option 4: Load Balance. If the user selects this option and has installed the capacity management License key, Media Device Selection (MDS) balances the job load. It balances the job load by considering if a media server meets the following conditions:

- Enough disk volume free space available to accommodate the estimated job size.
- Enough CPU and memory resources available to accommodate another job.
- Least amount of estimated job size data being processed compared to other media servers of the same class or rank.

If the user does not have the Capacity Management license key, then Load Balance reverts to option 2, the least-recently selected storage unit.

`-tt transfer_throttle`

The Transfer Throttle setting appears for SnapVault storage units only.

The setting indicates the maximum SnapVault data transfer bandwidth. A setting of zero (default) indicates an unlimited bandwidth and data transfer would occur at the full network bandwidth. (Range: 0 (default) to 9999999.)

`-verbose`

Select verbose mode for logging. This option is meaningful only when it runs with debug log function on (that is, when the following directory is defined):

```
UNIX and Linux systems: /usr/opensv/netbackup/logs/admin
```

```
Windows systems: install_path\NetBackup\logs\admin
```

EXAMPLES

Example 1 - Create a new storage unit, named *hatunit*. Its storage unit type is Disk.

The path for the storage unit is /tmp/hatdisk.

The path for the storage unit is C:\tmp\hatdisk.

```
# bpstuadd -label hatunit -path /tmp/hatdisk -verbose

# bpstuadd -label hatunit -path C:\tmp\hatdisk -verbose
<2>bpstuadd: INITIATING: NetBackup 6.0 created: 0
<2>bpstuadd: EXIT status = 0.
```

Example 2 - Create a storage unit by using a UNIX server, which has not been configured previously in NetBackup:

Note: The following example refers to remote media servers and applies only to NetBackup Enterprise Server. NetBackup Server supports only a master server, not remote media servers.

```
# bpstuadd -label parrot_stu -host parrot -density dlt -rt TLD -rn 2
```

Remote media server parrot was added to the bp.conf file.

You must also install NetBackup and Media Manager on parrot and run the `add_media_server_on_clients` executable on the master server.

```
% grep parrot /usr/opensv/netbackup/bp.conf
SERVER = parrot
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, `bpstuadd` logs the exit status in the administrative daily log under the log directory:

```
UNIX and Linux systems: /usr/opensv/netbackup/logs/admin
```

```
Windows systems: install_path\NetBackup\logs\admin
```

It has the following form:

```
# bpstuaddnew: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin/*`

Windows systems: `install_path\NetBackup\logs\admin*`

EMM database

SEE ALSO

See [bpstudel](#) on page 364.

See [bpstudel](#) on page 364.

See [bpsturep](#) on page 374.

bpstudel

bpstudel – delete NetBackup storage unit or storage unit group

SYNOPSIS

```
bpstudel -label storage_unit_label [-verbose] [-M master_server [,...]] [-reason "string"]
```

```
bpstudel -group storage_unit_group [-M master_server [,...]]
```

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The `bpstudel` command deletes a NetBackup storage unit or storage unit group. The command must include either a label name for the storage unit or a group name for the storage unit group, but not both.

If `bpstudel` cannot delete the storage unit (for example, the storage unit label is mistyped), it does not return an error message. You can run `bpstulist` to verify that the storage unit was deleted.

Errors are sent to `stderr`. A log of the command's activity is sent to the NetBackup admin log file for the current day.

See the *NetBackup Administrator's Guide* for additional information on storage units.

Any authorized user can run this command.

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

OPTIONS

```
-label storage_unit_label
```

The name of the storage unit. This option is required. The maximum length for a storage-unit label is 128 characters.

```
-group storage_unit_group
```

Deletes the specified storage unit group the name. If this option is present, the named storage unit group is deleted.

`-M master_server [,...]`

Runs this command on each of the master servers in this list. This list is a comma-separated list of master servers. The master servers must allow access by the system that issued the command. If an error occurs for any master server, the process stops at that point. The default is the master server for the system where the command is entered.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-verbose`

Selects the verbose mode for logging. This mode is meaningful only when you run with the debug log function on (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLE

Delete the storage unit named `tst.dsk` and list the existing storage units before and after the deletion:

```
# bpstulist

UNIX and Linux systems:
stuunit 0 mango 0 -1 -1 1 0 /tmp/stuunit 1 1 2000 *NULL*
tst.dsk 0 mango 0 -1 -1 3 0 /hsm3/dsk 1 1 2000 *NULL*

Windows systems:
stuunit 0 mango 0 -1 -1 1 0 C:\tmp\stuunit 1 1 2000 *NULL*
tst.dsk 0 mango 0 -1 -1 3 0 C:\hsm3\dsk/ 1 1 2000 *NULL*

# bpstudel -label tst.dsk

# bpstulist

UNIX and Linux systems:
stuunit 0 mango 0 -1 -1 1 0 /tmp/stuunit 1 1 2000 *NULL*
```

Windows systems:

```
stuunit 0 mango 0 -1 -1 1 0 C:\tmp\stuunit 1 1 2000 *NULL*
```

FILES

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin/*`

Windows systems: `install_path\NetBackup\logs\admin*`

SEE ALSO

See [bpstuadd](#) on page 354.

See [bpstulist](#) on page 367.

See [bpsturep](#) on page 374.

bpstulist

`bpstulist` - display NetBackup storage units or storage unit groups

SYNOPSIS

```
bpstulist -label storage_unit_label [,...] [-L | -l | -U |  
-show_available | -lsa ] [ -g | -go ] [-verbose] [-M master_server  
[,...]] [-reason "string"]  
bpstulist -group storage_unit_group [-verbose] [-M master_server  
[,...]]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `bpstulist` command displays the attributes for a NetBackup storage unit or storage unit group. If no storage label or storage unit group name is specified, `bpstulist` displays the attributes for all NetBackup storage units or storage unit groups. In addition, this command accepts a comma-separated list of storage unit labels and displays the information for each of the storage units. The `-show_available` and `-lsa` flags enable you to list all of the configured media servers for a particular storage unit.

Errors are sent to `stderr`. A log of the command's activity is sent to the NetBackup admin log file for the current day.

See your *NetBackup Administrator's Guide* for more information on storage units.

Any authorized user can run this command.

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

OPTIONS

List-type options:

- L The list type is long. This option produces a listing with one storage unit attribute per line, in the format *storage-unit attribute: value*. Some attribute values are expressed in both interpreted form and raw form. For instance, a robot-type entry might be `TL4 (7)` (7 is NetBackup's internal value for a TL4 robot).

For a disk storage unit, a long listing has these attributes for each storage unit:

- Label
- Storage Unit Type (For example, Disk (0))
- Media Subtype (For example, BasicDisk (1))
- Host Connection
- Concurrent Jobs
- On Demand Only
- Path
- Robot Type (not robotic)
- Max Fragment Size
- Max MPX
- Stage data
- Block sharing
- File System Export
- High Water Mark
- Low Water Mark
- Ok On Root

A long listing has these attributes for each DiskPool disk storage unit:

- Label
- Storage Unit Type
- Media Subtype (DiskPool (6))
- Host Connection (one host per line)
- Concurrent Jobs
- On Demand Only
- Max Fragment Size
- Max MPX
- Block sharing
- File System Export

A long listing has these attributes for each Media Manager storage unit:

- Label

- Storage Unit Type (For example, Tape (0))
 - Host Connection
 - Concurrent Jobs
 - On Demand Only
 - Robot Type
 - Max Fragment Size
 - Max MPX/drive
- 1 The list type is short, which produces a terse listing. This option is useful for the scripts or the programs that rework the listing contents into a customized report format. This option is the default list type.

A single line contains the information for a storage unit, with all attribute values expressed in raw form. The fields on this line are:

- label
- storage unit type
- host
- robot_type
- robot_number
- density
- concurrent_jobs
- initial_mpx
- path- on_demand_only
- max_mpx
- maxfrag_size
- ndmp_attach_host
- throttle (SnapVault only)
- subtype
- disk_flags
- high_water_mark
- low_water_mark
- ok_on_root
- disk_pool

- host_list (one or more comma delimited)

- U The list type is user. This option produces a listing with one storage-unit attribute per line, in the format *storage-unit attribute: value*. Attribute values are expressed in interpreted form. For instance, a robot-type value might be `TL4`, instead of 7.

For a disk storage unit, a user-type list has these attributes for each storage unit:

- Label
- Storage Unit Type (the storage-unit type)
- Storage Unit Subtype
- Host Connection
- Concurrent Jobs
- On Demand Only
- Max MPX
- Path
- Max Fragment Size
- Stage data
- High Water Mark
- Ok On Root

For a DiskPool disk storage unit, a user-type list has these attributes for each storage unit:

- Label
- Storage Unit Type
- Host Connection (one host per line)
- Concurrent Jobs
- On Demand Only
- Max Fragment Size
- Max MPX
- DiskPool

For a Media Manager storage unit, a user-type list has these attributes for each storage unit:

- Label

- Storage Unit Type
 - Storage Unit Subtype
 - Host Connection
 - Concurrent Jobs
 - On Demand Only
 - Max MPX/drive
 - Robot Type
 - Max Fragment Size
- g** This list type causes the storage unit list to include the storage unit groups. The format of this option produces a listing with one storage unit group per line, in the format *group_name: group_members*. This option also includes the Selection Method value at the beginning of the Storage Unit Group List.
- go** This list type causes the storage unit list to include only information on the storage unit groups.
- label** *storage_unit_label1* [, *storage_unit_label2*...]
Specifies the name of the storage unit. This list is a comma-separated list of storage unit labels. If this option is not present, the listing is for all storage units. The maximum length for a storage-unit label is 128 characters.
- group** *storage_unit_group*
Specifies a list of defined storage units and storage unit groups. For the list of storage units, the list type is short, which produces a terse listing. The list of storage unit groups is in the format *group_name: group_members*.
- lsa**
Lists all storage units in the database including any available media servers on the media server list.
- M** *master_server1* [, *master_server2*...]
Specifies a comma-separated list of master servers. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issued the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.
- reason** "*string*"
Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512

characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-show_available`

Lists all storage units in the database including any available media servers on the media server list.

`-verbose`

Select verbose mode for logging. This mode is meaningful when only you run with the debug log function on (that is, when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - List the storage units that are defined on the master server apricot by using the `-U` display option:

```
# bpstulist -U -M apricot
```

```
Label:                redtest
Storage Unit Type:    Disk
Host Connection:      apricot
Concurrent Jobs:      1
On Demand Only:       yes
Max MPX:              4
Path:                 /usr/redtest
Max Fragment Size:    512000 MB
```

```
Label:                bluetest
Storage Unit Type:    Media Manager
Host Connection:      apricot
Number of Drives:     6
On Demand Only:       yes
Max MPX/drive:        1
Density:              4mm - 4mm Cartridge
Robot Type/Number:    TL4 / 0
Max Fragment Size:    1048576 MB
```

Example 2 - The following output is realized by using the following `bpstuadd` command to create a regular disk staging storage unit:

```
# bpstuadd -label apple -path /tmp/apple -flags STAGE_DATA
```

Short output:

```
apple 0 felix.min.veritas.com 0 -1 -1 1 0 "/tmp/apple" 1 1 2000  
*NULL* 0 1 0 98 80 1 apple felix.min.veritas.com
```

Long output:

```
Label:                apple  
Media Type:           Disk (0)  
Host Connection:     felix.min.veritas.com  
Concurrent Jobs:     1  
On Demand Only:      yes  
Path:                "/tmp/apple"  
Robot Type:          (not robotic)  
Max Fragment Size:   512000  
Max MPX:             1  
Stage data:          no  
Block Sharing:       no  
File System Export:  no  
High Water Mark:    98  
Low Water Mark:     80  
OK On Root:         no
```

FILES

UNIX and Linux systems: /usr/opensv/netbackup/logs/admin/*

Windows systems: install_path\NetBackup\logs\admin*

EMM database

SEE ALSO

See [bpstuadd](#) on page 354.

See [bpstulist](#) on page 367.

See [bpsturep](#) on page 374.

bpsturep

bpsturep – replace selected NetBackup storage unit attributes

SYNOPSIS

```

bpsturep -label storage_unit_label [-verbose] [-host host_name |
-nodevhost] [-path path_name | -dp disk_pool | -density density [-rt
robot_type -rn robot_number] [-nh NDMP_attach_host] [-cj max_jobs]
[-odo on_demand_only_flag] [-mfs max_fragment_size] [-maxmpx
mpx_factor] [-cf clearfiles] [-flags flags] [-tt transfer_throttle]
[-hwm high_water_mark] [-lwm low_water_mark] [-okrt ok_on_root]
[[-addhost | -delhost] host_name [host_name]] [-hostlist host_name
[host_name]] [-M master_server [,...]]
bpsturep -group storage_unit_group [-addstu | -delstu]
storage_unit_label [-M master_server [,...]] [-sm selection_method]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

```

DESCRIPTION

The `bpsturep` command modifies an existing NetBackup storage unit by replacing selected storage-unit or storage-unit-group attributes in the NetBackup catalog. The command line must include a label for the storage unit or a group name for the storage unit group. The label or the group name is the only storage-unit attribute that `bpsturep` cannot modify.

Note: This command does not enable you to change a disk storage unit (DSU) or a tape storage unit to a disk staging storage unit (DSSU). In addition, you cannot change a DSSU to a DSU or a tape storage unit.

Use the `bpsturep` command with care. The changes to the storage unit or storage unit group must be compatible with existing attributes. Make sure that resulting attribute combinations are valid, especially for the following attributes:

```

robot_type
robot_number
density_type
max_fragment_size

```

path_type
NDMP_attach_host

The safest way to modify these attributes is to run `bpsturep` one time for each attribute to be replaced.

`bpsturep` makes the changes by modifying the storage unit with the specified attribute changes. Run `bpstulist` after `bpsturep` to determine whether the intended changes were applied.

Errors go to `stderr`. A log of the command's activity goes to the NetBackup administrative log file for the current day. See your NetBackup Administrator's Guide for additional information on storage units.

Any authorized user can run this command.

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

OPTIONS

`-cf clearfiles`

Enables the NBU media to perform data translation operations on backup data. Typically, OpenStorage plugins use metadata to perform block-level deduplication operations that reduce the total amount of disk space being used. This value is valid only for disk storage units configured with OST disk pools.

The *clearfiles* variable can be one of the following values:

- 0 - Disables all data translation operations.
- 1 - Enables detailed translation operation. The metadata describes all of the attributes of the files that are backed up. These files are called clear files.
- 2 - Enables simple translation operation. The metadata identifies just the name, size, and byte offset location of the files that are backed up. They are called opaque files.

`-cj max_jobs`

The maximum number of concurrent jobs that are permitted for this storage unit. `max_jobs` is a non-negative integer. The appropriate value depends on your server's ability to run multiple backup processes comfortably and the available space on the storage media. Also, refer to "Maximum jobs per policy" in the *NetBackup Administrator's Guide*.

Zero (0) means that this storage unit is never selected when a job is scheduled. The default is 1.

`-density density_type`

If this option is present, the storage unit type is Media Manager. This option does not have a default. If the command line includes a robot type, the value for density should be consistent with the robot type. The `-density`, `-path`, and `-dp` options can only be used independently.

Valid density types are:

`d1t` - DLT cartridge

`d1t2` - DLT cartridge alternate

`8mm` - 8mm cartridge

`4mm` - 4mm cartridge

`qscsi` - 1/4-inch cartridge

Note: The following densities apply only to NetBackup Enterprise Servers.

`hcart` - 1/2 Inch Cartridge

`hcart2` - 1/2 Inch Cartridge alternate

`dtf` - DTF Cartridge

`-dp disk_pool`

Specifies the name of the disk pool, which is the data storage area for this storage unit. This option can be used only when the disk type is 6 (DiskPool). The disk pool must already exist.

`-dt disk_type`

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

1 - BasicDisk

2 - NearStore

3 - SnapVault

6 - DiskPool

`-flags flags`

Specifies the storage unit to be a staging storage unit, which allows for a quick restore. Valid values for *flags* are: NONE and STAGE_DATA. Currently valid for only disk storage units.

`-group storage_unit_group`

The name of a storage unit group. This group is the storage unit whose members `bpsturep` adds or deletes. Use `-addstu storage_unit` to add storage units to the group. Use `-delstu storage_unit` to remove storage units from the group.

`-host host_name`

Note: NetBackup Server does not support remote media servers.

The NetBackup host to which the destination media is attached. The default is the hostname of the local system.

The host you select must be either your NetBackup master server or a media server (if you configure media servers). The host name must be the network name for the server as known by all NetBackup servers and clients.

If *host_name* is a valid network name and is not yet configured, the value *host_name* is added to NetBackup's configuration as a media server. On UNIX, this value shows up in `bp.conf`; on Windows, this value shows up in the Configuration window for Servers. If *host_name* is not a valid network name, you must configure it manually.

`-hwm high_water_mark`

This option is a user-configurable threshold. The default setting for the high water mark is 98%. When the high water mark is reached, NetBackup becomes proactive, under two different circumstances:

- When it initiates a job and the total capacity is used, the DSU is considered to be Full. If it selects from multiple storage units in a storage unit group, the following occurs: The media and the device selection (MDS) do not assign new jobs to units that are at or over the high water mark. It looks for another storage unit in the group, to assign to the job.

- During a job, if the Staging attribute is set and the total capacity is used, staging expires images to free space on the DSU. This action occurs to accommodate more backup data.

`-label storage_unit_label`

The name of a storage unit. This unit is the storage unit whose attributes `bpsturep` replaces. This option is required. The maximum length of a storage-unit label is 128 characters.

`-lwm low_water_mark`

This option is a user-configurable threshold, which Disk Storage Units that do disk staging use. The default setting for the Low Water Mark is 80% (the pre-NetBackup 6.0 behavior is to delete 2 or 10 images).

When the High Water Mark is reached, you should do one of the following:

- Migrate images to other storage units, until the "Low Water Mark" is reached.
- Free disk space by expiring disk images for the oldest staged images, until the "Low Water Mark" is reached.

Note: If you want to save most of your available data, configure the Low Water Mark setting near the High Water Mark. In addition, the Low Water Mark must be less than High Water Mark. They cannot be equal settings.

`-mfs max_fragment_size`

The maximum fragment size in megabytes that is specified (how large a fragment for a NetBackup image can be). NetBackup supports a maximum fragment size of 1,000,000 megabytes (one terabyte).

For a Media Manager storage unit, this value is either zero. Or it is any integer greater than or equal to 50 megabytes (MB) and less than or equal to 1,048,576 megabytes (MB) or (1024 GB). The default value is 0, which is equivalent to the largest value that is allowed, 1024 GB.

For a Disk storage unit, this value ranges from 20 megabytes to 2000 megabytes (2 gigabytes). The default value is 524288 (512 GB).

`-maxmpx mpx_factor`

The maximum multiplexing factor. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

Refer to the "Multiplexing (MPX)" topic in the NetBackup Administrator's Guide.

The multiplexing factor can range from 1 to 32, where one (1) means no multiplexing. A value greater than one (1) means that NetBackup can create multiplexed images on the destination medium. Because of how the local NetBackup installation may be licensed, you may not be able to assign multiplexing factors in the entire range 1..32. The default is 1.

`-M master_server [,...]`

Specifies a list of master servers. This list is a comma-separated list of host names. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issued the command. If an error occurs for any master server, the process

stops at that point in the list. The default is the master server for the system where the command is entered.

`-nh NDMP_attach_host`

Specifies the hostname of the NDMP server. If this option is present, the storage unit type is set to NDMP. The default is no NDMP server.

`-nodevhost`

Indicates that no media server is to be associated with this storage unit.

`-odo on_demand_only_flag`

The *on-demand-only* flag controls whether the storage unit is used only for the backups that explicitly request (demand) the storage unit:

To make the storage unit available only to the policies or the schedules that request it, set the flag to 1 (enabled).

To make the storage unit available to any policy or schedule, set the flag to 0 (disabled).

If the storage unit's type is Disk, the default is 1; NetBackup uses the storage unit only when explicitly requested. Otherwise, the default is 0.

`-okrt ok_on_root`

If this flag is not set, neither backups nor directory creation occurs on the root file system. If the *ok_on_root* flag is set, then backups and directory creations happen normally.

The default value for this flag is 0. (The pre-NetBackup 6.0 setting is 1.) Backups and directory creations to a disk storage unit (BasicDisk) do not occur if the path is on the root file system.

On UNIX and Linux systems, root is "/".

On Windows, root is the Volume where the windows\system directory resides.

`-path path_name`

The path to a disk file system, expressed as an absolute pathname, the data storage area for this storage unit. When this option is present, the storage unit type is `Disk`. This option does not have a default. The `-density`, `-path`, and `-dp` options can only be used independently.

In general when this option is used, enable the on-demand-only flag (see `-odo`). Otherwise, if you have any NetBackup policies that do not require a specific storage unit, they can fill the disk file system *path_name*. This action can cause serious system problems. For instance, if the system swap area happens to be on the same file system, new processes may fail.

If the path name is defined as a disk staging storage unit (DSSU), use this option to change the path name a different DSSU. It cannot be used to change a DSSU to a different type of storage unit.

`-rn robot_number`

The robot number for this storage unit. The robot number must be greater than or equal to 0. The robot number can be obtained from the Media and Device Management of the Administration Console. The *NetBackup Administrator's Guide* discusses the rules that concern the use of this number. This option is ignored unless the `-rt` option is present. This option does not have a default.

`-rt robot_type`

The robot type for this storage unit. For non-robotic (stand-alone) devices select `NONE` or omit this option. The default value is `NONE` (Not Robotic). The value for density should be consistent with the robot type

If this option is set to any value other than `NONE`, the `-rn` option is required.

Available robot type codes are:

`NONE` - Not Robotic

`TLT` - Tape Library DLT

`ACS` - Automated Cartridge System

`TL8` - Tape Library 8MM

`TLH` - Tape Library Half-inch

`TLM` - Tape Library Multimedia

`-sm selection_method`

Selects the method in which a storage unit group is chosen. This option is valid only for storage unit groups. The following are its possible values:

`Prioritized = 1 (DEFAULT)`

`Least Recently Selected = 2`

`Failover = 3`

`Load Balance = 4 (appears if Capacity Management license key is installed)`

Option 1: Prioritized is the default condition. It selects the first storage unit in the list until either the unit is down or full, or its `max-concurrent-jobs` setting is reached. Then the next storage unit in the list is examined and so on until an available one is found.

Option 2: Least Recently Selected selects the least-recently selected storage unit.

Option 3: Failover is the same as Prioritized except MDS queues a job to wait for the first storage unit if the max-concurrent-jobs is reached. MDS moves to the next storage unit in the list only if the first unit is down or full.

Option 4: Load Balance. For this option to appear, make sure that you have installed the Capacity Management license key. If the user selects this option, Media Device Selection (MDS) balances the job load by considering if a media server meets these conditions:

- Enough disk volume free space available to accommodate the estimated job size.
- Enough CPU and memory resources available to accommodate another job.
- Least amount of estimated job size data being processed compared to other media servers of the same class or rank.

If the license expires, then Load Balance reverts to Option 2 behavior. It selects the least-recently selected storage unit.

`-tt transfer_throttle`

The Transfer Throttle setting appears for SnapVault storage units only.

The setting indicates the maximum SnapVault data transfer bandwidth. A setting of zero (default) indicates an unlimited bandwidth and data transfer would occur at the full network bandwidth. (Range: 0 (default) to 9999999.)

`-verbose`

Select `verbose` mode for logging. This mode is meaningful only when it runs with the debug log function on (when the following directory is defined):

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

EXAMPLE

UNIX and Linux systems:

Change the path of disk storage unit *mkbunit*. The path is changed from `/tmp/mkbunit` to `/tmp/mkbunit2`:

```
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 /tmp/mkbunit 1 1 2000 *NULL*
# bpsturep -label mkbunit -path /tmp/mkbunit2
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 /tmp/mkbunit2 1 1 2000 *NULL*
```

Windows systems:

Change the path of disk storage unit *mkbunit*. The path is changed from C:\tmp\mkbunit to C:\tmp\mkbunit2:

```
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 C:\tmp\mkbunit 1 1 2000 *NULL*
# bpsturep -label mkbunit -path C:\tmp\mkbunit2
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 C:\tmp\mkbunit2/ 1 1 2000 *NULL*
```

FILES

UNIX and Linux systems: /usr/opensv/netbackup/logs/admin/*

Windows systems: *install_path*\NetBackup\logs\admin*

EMM database

SEE ALSO

See [bpstuadd](#) on page 354.

See [bpstudel](#) on page 364.

See [bpstulist](#) on page 367.

bptestbpcd

bptestbpcd – test bpcd connections and verify connect options

SYNOPSIS

```
bptestbpcd [-connect_options 0|1|2 0|1|2 0|1|2|3] [-host host_name]  
[-client client_name] [-M server] [-wait_to_close seconds] [-verbose]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The `bptestbpcd` command tries to establish a connection from a NetBackup server to the `bpcd` daemon on another NetBackup system. If successful, it reports information about the sockets that are established.

The first line of output consists of three digits that represent the effective connect options.

- The first digit is 0 if reserved ports are used and 1 if non-reserved ports are used.
- The second digit is 0 if you use legacy (random port) callback and 1 if you use `vnetd` callback.
- The third digit is 1 if the connection is initiated on the `vnetd` port number.
The third digit is 2 if the connection is initiated on the legacy `bpcd` port number.

The second and third lines display the following items: the NetBackup server IP address and port number, the connection direction, and the `bpcd` IP address and port number for the first two established sockets. If the connection is to a NetBackup client, a third socket is established. The following items appear in an additional line: the NetBackup server IP address and port number, the direction of the connection, and the `bpcd` IP address and port number.

OPTIONS

```
-connect_options 0|1|2 0|1|2|3 0|1|2|3
```

The first setting indicates the type of port to use to connect to `bpcd` on the client:

0 = Use a reserved port number.

1 = Use a nonreserved port number. If you select this option, enable Allow Nonreserved Ports for the client. See the Universal Settings dialog under **Host Properties > Media Servers**.

2 = Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

The second setting indicates the `bpcd` call-back method to use to connect to the client:

0 = Use the traditional call-back method.

1 = Use the `vnetd` no call-back method.

2 = Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

The third setting indicates the connection method to use to connect the client:

0 = Connect to a daemon on the client using `vnetd` if possible, otherwise, connect by using the traditional port number of the daemon.

1 = Connect to a daemon on the host using `vnetd` only.

2 = Connect to a daemon on the server by using the traditional port number of the daemon only.

3 = Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

If `-connect_options` is not specified, the configured connect options from the client database, the CONNECT_OPTIONS configuration entry, or the DEFAULT_CONNECT_OPTIONS configuration entry is used.

`-client client_name`

The client name of the system to connect to. If neither `-host` nor `-client` is specified, the host name of the local system is used.

`-host host_name`

The host name of the system to connect to. Typically, `host_name` is the host name of a NetBackup server. If neither `-host` nor `-client` is specified, the host name of the local system issued.

`-M server`

The host name of the NetBackup server that initiates the connection. If `-server` is specified, the host name of the local system is used.

`-wait_to_close seconds`

Number of seconds to wait before you close the sockets after the connection to `bpcd` is established. The default is 0.

`-verbose`

Display additional information about the `bpcd` host or client such as the `bpcd` protocol number.

EXAMPLES

Example 1 - A connection from the local system to server *fred* is tried by using the legacy connect options:

```
# bptestbpcd -host fred -connect_options 0 0 2
0 0 2
10.0.0.32:748 -> 10.0.0.59:13782
10.0.0.32:983 <- 10.0.0.59:635
```

Example 2 - A connection from the server *fred* is tried to the client *wilma* by using the `vnetd` port number if possible:

```
# bptestbpcd -M fred -client wilma -connect_options 2 2 0 1 1 1
10.0.0.59:40983 -> 10.0.0.104:13724
10.0.0.59:40984 -> 10.0.0.104:13724
10.0.0.59:40985 -> 10.0.0.104:13724
```

bptestnetconn

`bptestnetconn` – test and analyze various configurations and connections

SYNOPSIS

```
bptestnetconn [-v] -h | -b | -l  
bptestnetconn [-v] [-i | -frap] [-s | -H hostname]  
bptestnetconn [-v] [-c[service_name] [-o time_value] [-t time_value]]  
[ -H hostname | -s ]  
bptestnetconn -6 [-u]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>NetBackup\bin\`

DESCRIPTION

`bptestnetconn` performs several tasks that help you analyze DNS and connectivity problems with any specified list of hosts, including the server list in the NetBackup configuration. To help troubleshoot connectivity problems between the services that use CORBA communications, `bptestnetconn` can perform and report on CORBA connections to named services. It sends VxUL log messages to OID 112 for easy perusal. The `vxlogcfg` command controls the log verbosity.

OPTIONS

`-6` or `--afcheck`

Checks configuration for `IP_ADDRESS_FAMILY` requirements.

`-a` or `--all`

Reports all times. This option has the same effect as `-fr`. This condition is the default.

`-b` or `--confchecker`

Verifies that `bp.conf` (UNIX) or the NetBackup registry entry (Windows) exists.

`-c` or `--connect service_name`

Reports `connectToObject` times to service. Some CORBA service examples are `EMM/EMMServer`, `NBFSMCLIENT/FSM.ClientClusterMgr`, `nbrmms/DiskPollingService.DPS nbrmms/STSEventService`, and `nbsvcmon/NBSvcMon` (default). Type this option with no spaces between `-c` and `service_name`.

- `-f` or `--flkup`
Reports all forward DNS lookup times for the specified host or hosts.
- `-h` or `--help`
Displays this help message.
- `-H` *hostname*
Specifies a single host name of the system, the IPv4 address, or the name of a file containing a list of such names, one per line.
- `-i` or `--ipservers`
Lists the IP addresses of all servers in the NetBackup configuration.
- `-l` or `--listservers`
Lists all servers in the NetBackup configuration.
- `-o` or `--objconntimeout` *time_value*
Specifies the timeout in seconds for NetBackup level retries in case of CORBA errors.
- `-p` or `--prefnet`
Includes how PREFERRED_NETWORK affects connections to the specified hosts or servers in the output display.
- `-r` or `--rlkup`
Reports all reverse DNS lookup times for the specified host or hosts.
- `-s` or `--servers`
Looks up all NetBackup servers in the configuration.
- `-t` or `--orbconntimeout` *time_value*
Specifies the TCP timeout, the socket level timeout for establishing the TCP/IP connection. Specify `-t` larger than `-o` to distinguish between TCP/IP and CORBA errors. Otherwise, all failures time out after `retries_timeout` seconds (`-o` *time_value*).
- `-u` or `--update`
Updates the `bp.conf` (UNIX) or the Host Properties (Windows) based on the action of the `--afcheck` operation. This option is used only as part of installation.
- `-v` or `--verbose`
Reports in verbose mode. The reverse lookup report shows which servers are media servers, EMMSERVER (if not local), and if any server is also the PREFERRED_NETWORK or CLUSTERNAME.

EXAMPLES

Example 1 - List all the servers in the NetBackup configuration.

```
# bptestnetconn -l
      knothead.min.veritas.com
      www.google.com
      r2d2.starwars.galaxy.com
      whoknows.what.com
      zebra
      lawndartsvm2
      lawndartsvml
```

Example 2 - List all the non-default settings.

```
# bptestnetconn -b
CLIENT_PORT_WINDOW (min)           = 2024           [0]
CLIENT_PORT_WINDOW (max)          = 4048           [0]
CLIENT_CONNECT_TIMEOUT             = 30             [300]
SERVER_CONNECT_TIMEOUT              = 10             [30]
DEFAULT_CONNECT_OPTIONS (daemon port) = vnetd          [Automatic]
CONNECT_OPTIONS                     = [configured]
PREFERRED_NETWORK                   = knothead       [NULL]
FIREWALL_IN                          = [configured]
REVERSE_NAME_LOOKUP                 = PROHIBITED     [ALLOWED]
```

Example 3 - Report all forward DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -f -s
-----
FL:          knothead.min.veritas.com -> 10.80.73.101      :      0 ms [local]
FL:          www.google.com -> 74.125.19.106      :      0 ms
FL:          r2d2.starwars.galaxy.com -> 0.0.0.0          :      4 ms
FL:          whoknows.what.com -> 209.139.193.224    :      0 ms [cluster/ri]
FL:          zebra -> 10.80.120.103          :      0 ms
FL:          lawndartsvm2 -> 10.80.74.153          :      0 ms
FL:          lawndartsvml -> 10.80.74.154          :      0 ms
-----
Slow (>5 sec) or/and failed forward lookups:
      r2d2.starwars.galaxy.com :      0 sec [FAILED]
-----
Total elapsed time: 0 sec
```

Example 4 - Report all reverse DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -r -s
-----
RL:      10.80.73.101 -> knothead.min.veritas.com           :      0 ms
RL:      74.125.19.106 -> nuq04s01-in-f106.1e100.net         :     156 ms MISMATCH
RL:      **LKUP FAIL** -> r2d2.starwars.galaxy.com          :      0 ms
RL:     209.139.193.224 -> **LKUP FAIL**                   :     739 ms
RL:      10.80.120.103 -> zebra.min.veritas.com             :      0 ms
RL:      10.80.74.153 -> lawndartsvm2.min.veritas.com      :      0 ms
RL:      10.80.74.154 -> lawndartsvm1.min.veritas.com      :      0 ms
-----
Slow (>5 sec) or/and failed/mismatched reverse lookups:
          www.google.com :      0 sec [MISMATCH] -> nuq04s01-in-f106.1e100.net
          r2d2.starwars.galaxy.com :      0 sec [FAILED]
          whoknows.what.com :      0 sec [FAILED]
-----
Total elapsed time: 1 sec
```

Example 5 - Report all reverse DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -s -c -t 10 -o 5
-----
CN:      knothead.min.veritas.com : 49 ms [SUCCESS]
CN:      www.google.com : 4 sec [TRANSIENT]
CN:      r2d2.starwars.galaxy.com : 4 sec [TRANSIENT]
CN:      whoknows.what.com : 4 sec [TRANSIENT]
CN:      zebra : 4 sec [TRANSIENT]
CN:      lawndartsvm2 : 4 sec [NO_PERMISSION]
CN:      lawndartsvm1 : 20 sec [TRANSIENT]
-----
Total elapsed time: 40 sec
```

bptpcinfo

bptpcinfo - discover SAN devices and creates 3pc.conf file

SYNOPSIS

```
/usr/opensv/netbackup/bin/bptpcinfo [-a] [-c] [-h] [-u] [-r] [-v] [-d  
disk_device_directory] [-t tape_device_directory] [-p physical_device]  
[-o output_file_name] [-o -]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `bptpcinfo` command discovers all the disk and the tape devices on Fibre Channel and SCSI connections. It provides information about each device (one line per device). By default, this command writes the information to the following file:

```
/usr/opensv/volmgr/database/3pc.conf
```

Note: For off-host backup (Third-Party Copy Device or NetBackup media server backup methods), a `3pc.conf` file must exist at `/usr/opensv/volmgr/database`.

At the start of a backup, using the Third-Party Copy Device or NetBackup media server method, NetBackup automatically runs this command to create the `3pc.conf` file if the file does not already exist. The `3pc.conf` file that `bptpcinfo` creates is complete and you do not need to rerun this command if any of the following is true:

- The backup uses the NetBackup media server backup method.
- You use the Third-Party Copy Device backup method and all required devices (such as disks, tapes, and third-party copy devices) support identification descriptors.

If any of the devices does not support identification descriptors, you should run the `bptpcinfo` command manually to create the `3pc.conf` file, and then edit the file as explained in the SAN Configuration chapter of the *NetBackup Snapshot Client Administrator's Guide*.

OPTIONS

-a
Discovers all the disk and the tape devices on the Fibre Channel and SCSI connections. It adds entries in the `3pc.conf` file (or alternate output file that is specified with the `-o` option). The `-a` option lists all devices in `/dev/rdisk` and `/dev/rmt`.

-c
Checks for syntax errors in an already existing `3pc.conf` file (in `/usr/opensv/volmgr/database`). If the `3pc.conf` file does not exist, a message states "cannot open file." In that case, use other options on this command to create the file. Note that if `-c` is specified, any other options are ignored.

The `-c` option checks for syntax errors such as the following: missing spaces between entries, missing keywords (such as a worldwide name without "w="), or a worldwide name that is not 16 digits in length. Any such errors can cause the backup to fail.

-h
Displays the `btpcinfo` usage statement.

-u
Discovers all the disk and the tape devices on the Fibre Channel and SCSI connections. It also adds entries in the `3pc.conf` file (or alternate the output file that is specified with the `-o` option) for any new devices that are found. If the `3pc.conf` file does not exist, the `-u` option fails (use `-a` instead).

Note: `-u` does not remove obsolete entries. To remove obsolete entries, use `-r`. (The `-u` and `-r` options cannot be used together.)

-r
Removes any obsolete entries in the `3pc.conf` file (or alternate output file that is specified with the `-o` option). An obsolete entry is one that no longer corresponds to any devices on the Fibre Channel or SCSI connections

Note: The `-r` option does not add entries to the `3pc.conf` file for new or reconfigured devices. To add entries, use the `-u` option. (The `-u` and `-r` options cannot be used together.)

`-v`

Specifies the verbose mode, which causes `bptpcinfo` to list information on its discovery progress. The information is written to the screen, not to the `3pc.conf` file.

You can select the `-v` option to track problems in device discovery.

`-d disk_device_directory`

Discovers all disks in the specified directory (usually `/dev/rdisk` on Solaris or HP, and `/dev` on AIX) and creates new entries in the `3pc.conf` file. Or, it creates new entries in the alternate output file that is specified with the `-o` option) by overwriting any current entries.

To avoid overwriting the `3pc.conf` file, use the `-d` option with the `-u` option. When `-d` and `-u` are combined, the new disk entries are added to the existing entries.

`-t tape_device_directory`

Discovers all tape drives in the specified directory (usually `/dev/rmt` on Solaris or HP, and `/dev` on AIX) and creates new entries in the `3pc.conf` file. Or, it creates new entries in the alternate output file specified with the `-o` option) by overwriting any current entries.

To avoid overwriting the `3pc.conf` file, use the `-t` option with the `-u` option. When `-t` and `-u` are combined, the new tape entries are added to the existing entries.

`-p physical_device`

If the specified device is discovered, creates an entry for that device in the `3pc.conf` file. Or, it creates new entries in the alternate output file specified with the `-o` option) by overwriting any current entries.

To avoid overwriting the `3pc.conf` file, use the `-p` option with the `-u` option. When `-p` and `-u` are combined, the new entry is added to the existing entries.

`-o output_file_name`

`-o` specifies an alternate (usually temporary) path for the `bptpcinfo` command output. If this option is not specified, the default is `/usr/openv/volmgr/database/3pc.conf`.

`-o -`

Sends the output to the screen. Note the space before the second hyphen.

EXAMPLES

Example 1 - Discover all the source and the destination devices on the SAN and create the required 3pc.conf file in /usr/opensv/volmgr/database.

```
# btpcinfo -a
```

Example 2 - Discover all the source and the destination devices on the SAN, and send the output to the screen.

```
# btpcinfo -a -o -
```

Sample output:

```
devid [p=devpath] [s=sn] [n=npid] [l=lun] [w=wwpn] [i=iddesc]
1      p=/dev/rdisk/c1t11d3s2   s=SEAGATE:ST19171N:LAE82305 l=3
2      p=/dev/rdisk/c1t13d4s2   s=SEAGATE:ST19101W:NH022724 l=4
3      p=/dev/rdisk/c1t20d0s2   s=HITACHI:OPEN-9:60159003900 l=0
4      p=/dev/rdisk/c1t20d1s2   s=HITACHI:OPEN-9:60159000000 l=1
5      p=/dev/rdisk/c1t20d2s2   s=HITACHI:OPEN-9:60159000100 l=2
6      p=/dev/rdisk/c1t20d3s2   s=HITACHI:OPEN-9-CM:60159001C00 l=3
7      p=/dev/rdisk/c1t20d4s2   s=HITACHI:OPEN-9:60159002B00 l=4
8      p=/dev/rdisk/c1t20d5s2   s=HITACHI:OPEN-9:60159002C00 l=5
```

Example 3 - Discover the devices in the /dev/rmt directory (/dev on AIX) and send the output to the screen:

On Solaris or HP:

```
# btpcinfo -t /dev/rmt -o -
```

Sample output:

```
devid [p=devpath] [s=sn] [n=npid] [l=lun] [w=wwpn] [i=iddesc]
0      p=/dev/rmt/0cbn   s=QUANTUM:DLT8000:CX949P0164 l=1 i=10200E09E6000000868
1      p=/dev/rmt/1cbn   s=QUANTUM:DLT8000:CX949P1208 l=2 i=10200E09E6000001381
2      p=/dev/rmt/4cbn   s=QUANTUM:DLT8000:CX940P2790 l=2 i=1031000005013E000D3
3      p=/dev/rmt/7cbn   s=QUANTUM:DLT7000:TNA48S0267 l=1
4      p=/dev/rmt/19cbn  s=QUANTUM:DLT8000:PKB02P0989 l=1 i=10200E09E6000030C36
5      p=/dev/rmt/20cbn  s=QUANTUM:DLT8000:PKB02P0841 l=2 i=10200E09E6000030DC5
```

On AIX:

```
# btpcinfo -t /dev -o -
```

Sample output:

```
devid [p=devpath]      [s=sn] [n=npid]      [l=lun] [w=wwpn] [i=iddesc]
0 p=/dev/rmt0.1 s=STK:L20:LLC02203684          l=1
1 p=/dev/rmt5.1 s=QUANTUM:DLT8000:CXA49P1113    l=1 i=10200E09E6000034A57
2 p=/dev/rmt6.1 s=QUANTUM:DLT8000:PX13P4180     l=2 i=10200E09E600004B70B
3 p=/dev/rmt7.1 s=STK:9840:331002059900         l=4 i=103500104F0004817E5
4 p=/dev/rmt9.1 s=QUANTUM:DLT8000:PX13P0850     l=9 i=1036005013000B0526942333350
5 p=/dev/rmt10.1 s=QUANTUM:DLT8000:CX949P1208   l=10 i=1036005013000B0526939343950
```

Example 4 - Create a `3pc.conf` file that describes all devices on the SAN, and send the output to an alternate file:

```
# bptpcinfo -a -o /usr/opensv/volmgr/database/3pc_alt1.conf
```

NOTES

Note the following items when you use the `bptpcinfo` command:

- Run the `bptpcinfo` command when no backups are in progress. If a backup uses or reserves a device, `bptpcinfo` may not be able to obtain information on it. It omits such a device from the output.
- If you do not want to overwrite the existing `3pc.conf` file, include the `-o` option and specify the wanted location.
- If you have a host that runs Veritas SANPoint Control, do the following: Use the `bpSALinfo` command to add worldwide name and LUN values for each device in the `3pc.conf` file. If you do not have SANPoint Control, you must edit the new entries in the `3pc.conf` file. To edit, manually add the worldwide name WWPN) and LUNs of each device.

For assistance, refer to the SAN Configuration chapter of the *NetBackup Snapshot Client Administrator's Guide*.

FILES

```
/usr/opensv/volmgr/database/3pc.conf
```

bpup

bpup – start NetBackup services on Windows systems

SYNOPSIS

```
<install_path>\NetBackup\bin\bpup [-S|v] [-f] [-a] [-c] [-d] [-m]  
[-n] [-s]
```

DESCRIPTION

This command operates only on Windows systems.

The `bpup` command is used to start NetBackup services including the NetBackup databases, Media Manager, and clients.

OPTIONS

- s Enables you to select silent mode. With this option, no listing is generated and no confirmation is requested.
- v Selects the verbose mode and generates a detailed listing.
- f Forces the startup of the NetBackup services without prompting the user for a confirmation.
- c Starts the client.
- d Starts the NetBackup database.
- m Starts Media Manager.
- n Starts the NetBackup services.
- s Starts the server and not the client (NetBackup Media Manager).

SEE ALSO

See [bpdown](#) on page 121.

bpverify

`bpverify` – verify the backups that NetBackup creates

SYNOPSIS

```
bpverify [-l] [-p] [-pb] [-v] [-local] [-client name] [-st sched_type]
[-sl sched_label] [-L output_file [-en]] [-policy name] [-s date]
[-e date] [-M master_server] [-Bidfile file_name] [-pt policy_type]
[-hoursago hours] [[-cn copy number] | [-primary]] [-backupid
backup_id] [[-id media_id or path] | [-stype server_type] [-dp
disk_pool_name [-dv disk_volume]]] [-priority number]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`bpverify` verifies the contents of one or more backups by reading the backup volume and by comparing its contents to the NetBackup catalog. This operation does not compare the data on the volume with the contents of the client disk. However, it does read each block in the image, which verifies that the volume is readable. NetBackup verifies only one backup at a time and tries to minimize media mounts and position time.

If either `-Bidfile` or `-backupid` is specified, `bpverify` uses this option as the sole criterion for selecting the set of backups it verifies. If the command line does not contain `-Bidfile` or `-backupid`, then `bpverify` selects the backups that satisfy all the selection options. For instance, if the command line looks like:

```
bpverify -pt Standard -hoursago 10
```

then `bpverify` verifies the set of backups with policy type `Standard` that have been run in the past 10 hours.

If `-p` or `-pb` is specified, `bpverify` previews the set of backups that meet the selection criteria. In this case, `bpverify` displays the backup IDs, but does not perform the verification.

`bpverify` sends its error messages to `stderr`. `bpverify` sends a log of its activity to the NetBackup admin log file for the current day, which are found the following directory:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\Logs\admin`

Any authorized user can run this command.

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

OPTIONS

`-backupid backup_id`

Specifies the backup ID of a single backup to verify. This option takes precedence over any other selection criteria except `-Bidfile`. The default is any backup.

`-Bidfile file_name`

`file_name` specifies a file that contains a list of backup IDs to be verified. In addition, this file is removed during the activation of that command line interface (CLI). This file is removed because the NetBackup GUIs commonly use this parameter. The GUIs expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option, however it removes the file.

The file contains one backup ID per line. If this option is specified, other selection criteria are ignored. The default is no file of backup IDs, which means any backup can be verified.

`-client name`

Specifies the name of the client that produced the original backup. The default is any client.

`-cn copy_number | -primary`

Determines the copy number of the backup ID to verify. Valid values are 1 through the setting that the `bpconfig -max_copies` setting indicates, up to 10. The default is 1.

`-primary` indicates that the primary copy should be verified rather than the copy.

`-dp disk_pool_name [-dv disk_volume]`

Specifies the name of the disk pool, which is the data storage area for this storage unit. Optionally, `bverify` verifies the images that reside on the specified disk volume only. This option must be used with the `-stype` option. The disk pool must already exist.

`-hoursago hours`

Specifies the number of hours before the current time to search for backups. This number is equivalent to the specification of a start time (`-s`) of the current time minus hours. Do not use both this option and the `-s` option.

The *hours* value is a non-negative integer. The default starting time is 24 hours ago.

`-id media_id | path`

Search the image catalog for backups to verify that they are on this media ID or pathname. If a backup has some fragments on this media ID and some another media ID, the following occurs: NetBackup verifies a spanning image as long as the backup begins on the media of the media ID that is provided.

For the images that are stored on disk rather than removable media, specify an absolute pathname instead of *media_id*. The default is any media ID or pathname. BasicDisk and NearStore use this option.

`-L output_file [-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file, in which case the progress information is written to `stderr`. For more information, see DISPLAY FORMATS later in this command description.

Include the `-en` option to generate a log entry in English. The name of the log contains the string `_en`. This option is useful to the support personnel that assist in a distributed environment where different locales may create logs of various languages.

`-l`

Specifies that the list type is long, which causes `bpverify` to write additional information to the progress log. The default list type is short. For additional information, see DISPLAY FORMATS later in this command description.

`-local`

If you initiate `bpverify` from a host other than the master server and do not use `-local` (default), the following occurs: `bpverify` starts a remote copy of the command on the master server.

The remote copy allows the command to be terminated from the Activity Monitor.

Use `-local` to prevent the creation of a remote copy on the master server and to run `bpverify` only from the host where it initiated.

If the `-local` option is used, `bpverify` cannot be canceled from the Activity Monitor.

`-M master_server`

Specifies the master server that provides the `bpverify` image data. The master server must allow access by the system that issued the `bpverify` command. The default is the master server for the system where `bpverify` is entered:

For NetBackup Server:

The default is always the master server where the command is entered.

For NetBackup Enterprise Server:

If the command is entered on a master server, then that server is the default.

If the command is entered on a remote media server, then the master for that media server is the default.

`-p`

Previews the verification, but does not perform the verification. For additional information, see DISPLAY FORMATS later in this command description.

`-pb`

Previews the verification but does not perform the verification. This option is similar to `-p`, but `-pb` does not display information about the individual backups. For additional information, see DISPLAY FORMATS later in this command description.

`-policy name`

Search for backups to verify in the specified policy. The default is any policy.

`-priority number`

Specifies a new priority for the verification job that overrides the default job priority.

`-pt policy_type`

Specifies the policy type for selecting backups to verify. The default is any policy type.

The valid policy types are the following:

AFS
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint

MS-SQL-Server
MS-Windows-NT
NBU-Catalog
NDMP
NetWare
Oracle
OS/2
SAP
Split-Mirror
Standard
Sybase
Teradata

`-s date, -e date`

Specifies the start of the range of dates and times that include all backups to verify. The `-e` option specifies the end of the range.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default start time is 24 hours ago. The default ending time is the current date and time.

`-sl sched_label`

Search for backups to verify that the specified schedule created. The default is all schedules.

`-st sched_type`

Search for backups to verify that the specified schedule type created. The default is any schedule type.

Valid values are:

FULL (full backup)

INCR (differential-incremental backup)

CINC (cumulative-incremental backup)

UBAK (user backup)

UARC (user archive)

NOT_ARCHIVE (all backups except user archive)

`-stype server_type`

A string that identifies the storage server type. Possible values are AdvancedDisk, OpenStorage *vendorname*, PureDisk, and SharedDisk. (SharedDisk applies to NetBackup 6.5 media servers only.)

`-v`

Selects the verbose mode. When `-v` is specified, the debug logs and progress logs include more information. The default is not verbose.

DISPLAY FORMATS

Preview displays:

`bpverify` runs a preview by searching for backups and then by displaying them in one of the following ways (`bpverify` does not verify the backups):

- The `-p` display lists backup IDs that meet the criteria that the `bpverify` command-line options set. The `-p` information appears in volume order. For each volume that contains a selected backup, the media ID and server appear. The selected backup IDs that reside on that volume follow them.
- The `-pb` display is a brief version of the `-p` display. It lists the media ID and server for each volume that contains the backups that meet the selection criteria.

Verification displays:

`bpverify` creates these displays as it verifies images. If `bpverify` contains no option to set the list format, the display format is short. If the command line contains `-l`, the display format is long. If the command line contains both `-l` and `-L`, `bpverify` creates a file that contains the progress log.

The verification list appears in volume order in the following formats:

- In long format, `bpverify` displays the following information for each selected backup ID:
 - Policy, schedule, backup ID, media ID or path, and creation time
 - Files that are backed up
 - Any problems that `bpverify` detects while it verifies the image
 - Whether the image verification is successful or not

- In short format, `bpverify` does not list the files that were backed up.

EXAMPLES

Example 1 - Verify the backups that ran in the past 36 hours:

```
# bpverify -hoursago 36
    Verify started Thu Feb  3 11:30:29 2003
    INF - Verifying policy mkb_policy, schedule Full
    (plim_0949536546), path /tmp/mkbunit, created 02/02/09 18:09:06.
    INF - Verify of policy mkb_policy, schedule Full
    (plim_0949536546) was successful.
    INF - Status = successfully verified 1 of 1 images.
```

Example 2 - Compare the two preview displays, `-p` and `-pb`:

```
# bpverify -p -hoursago 2002
Media id = A00002  Server = plim
Bid = plim_0949616279  Kbytes = 32800  Filenum = 1  Fragment = 1
Bid = gava_0949681647  Kbytes = 12191  Filenum = 2  Fragment = 1
Bid = gava_0949683298  Kbytes = 161    Filenum = 3  Fragment = 1
Bid = gava_0949683671  Kbytes = 11417  Filenum = 4  Fragment = 1
Bid = gava_0949684009  Kbytes = 11611  Filenum = 5  Fragment = 1
Bid = gava_0949684276  Kbytes = 806    Filenum = 6  Fragment = 1
Bid = gava_0949688704  Kbytes = 9869   Filenum = 7  Fragment = 1
Bid = gava_0949688813  Kbytes = 9869   Filenum = 8  Fragment = 1
Bid = gava_0949949336  Kbytes = 10256  Filenum = 9  Fragment = 1
Bid = plim_0949949337  Kbytes = 6080   Filenum = 9  Fragment = 1
Bid = plim_0949949337  Kbytes = 4176   Filenum = 10 Fragment = 2
Bid = gava_0949949686  Kbytes = 10256  Filenum = 11 Fragment = 1
Bid = plim_0949949687  Kbytes = 5440   Filenum = 11 Fragment = 1
Bid = plim_0949949687  Kbytes = 4816   Filenum = 12 Fragment = 2

Media id = 400032  Server = plim
Bid = toaster2_0950199621 Kbytes = 298180 Filenum = 1 Fragment = 1
Bid = toaster2_0950199901 Kbytes = 298180 Filenum = 3 Fragment = 1

# bpverify -pb -hoursago 200
Media id = A00002  Server = plim
Media id = 400032  Server = plim
```

RETURN VALUES

An exit status of 0 means that the command ran successfully. Any exit status other than 0 means that an error occurred.

If the administrative log function is enabled, `bverify` logs the exit status in the administrative daily log under the log directory:

UNIX and Linux systems: `/usr/opensv/netbackup/logs/admin`

Windows systems: `install_path\NetBackup\logs\admin`

It has the following form:

```
bverify: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/db/error/*  
/usr/opensv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\  
install_path\NetBackup\db\error\  
install_path\NetBackup\db\images\  
*
```

cat_convert

cat_convert - run NetBackup catalog format conversion utility

SYNOPSIS

```
cat_convert -a2b [-o] [-s] [-v] source_file or directory [target_file  
or directory]
```

```
cat_convert -dump [-short] [-noheader] [-nopath] [-nodata] [-srec  
num] [-erec num] [-sep char] source_file
```

```
cat_convert -check source_file
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

cat_convert converts NetBackup catalog .f files between version 3.4, 4.0v, or 4.5 ASCII format and 4.5 or later binary format. It automatically detects the source catalog file format and converts it to the other format. NetBackup 6.5 does not support writing new ASCII catalog images. However, it still supports the ability to read existing ASCII catalog images.

The `-dump` option enables users to view the contents of the binary catalog image .f (dot-f) files. It echoes the contents of the .f file to stdout in a readable format. It also has helper options to use to limit the output to only certain records in the file or a subset of the output columns.

The `-check` option provides a consistency check on specified binary .f files.

If cat_convert detects inconsistencies, the utility generates up to four of the following reports that depend on the types of inconsistencies reported:

■ Invalid Inode Report

This report lists invalid inodes. The following is an example:

```
Type Problem Additional Information
Dir No Data Path element name: SUNWmlib
Dir No Name Filenum: 7
File No Data Path element name: vmd.uds
File No Data Path element name: bpcompatd.uds
File No Name Filenum: 8356
Dir No Name Filenum: 8374
```

The following describes the column information in this report:

- **Type** - displays whether the item is a file or a directory.
- **Problem** - displays whether no data or no name is the cause of the invalid inode.
- **Additional information** - the path element name that is associated with the inode, the `filenum` field that the catalog received for the inode, or an error message.
- **Invalid Directory Report**

This report lists inconsistent directories. The following is an example:

Index	InodeIndex	1stChild	1stDir	LastChild	NextIndex	NextDirName
2539	2230	5605F	-1	5605F	788763F	-1 JSP.cla
21281	2229	43380F	-1	1122108F	257809F	56110 fr.tmp
24157	3330	53103F	-1	2688747F	-1F	-1 UNKNOWN
36766	4406	98367F	-1	98367F	-1F	-1 Root
97393	5134	471040F	-1	3136322F	-1F	-1 udst.js
107597	5297	529762F	-1	2625774F	540379F	89162 WNT.ini
114675	1234	575751F	-1	3406262F	784893F	-1 MEM.WPD
225464	1236	1420664F	-1	1420666F	-1F	-1 CVS

Total Directories: 150307

Total Files: 1137006

The following describes the column information in this report:

- **Index** - the relative position of the directory that is reported to the catalog.
- **Inode Index** - an index into the temporary file in which inode information is stored while the backup is in process.
- **1st Child** - the index to the first child (file or directory) under the listed directory. This value is -1 if there is no child. The character F follows the index if the first child is a file, or the character D follows the index if it is a directory.
- **1st Dir** - the index to the first directory under the listed directory. This value is -1 if there is no subdirectory.
- **Last Child** - the index to the last child (file or directory) under the listed directory. This value is -1 if there is no child. The character F follows the index if the last child is a file, or the character D follows the index if it is a directory.
- **Next Index** - the index to the next sibling (file or directory) of the listed file. This value is -1 if there is no sibling. The character F follows the index if

the first next sibling is a file, or the character D follows the index if it is a directory.

- Next Dir - the index to the next sibling directory of the listed directory. This value is -1 if no sibling directory exists.
- Name - the short name of the directory if available, or UNKNOWN if not available.

■ Invalid File Report

This report lists inconsistent files. The following is the format of the report:

```
Index   Inode  Index  Next  Index   Name
2364           12180          2368F  Report.doc
39774           16642          39776D  UNKNOWN
```

The following describes the column information in this report:

- Index - the relative position of the file as reported to the catalog.
- Inode Index - an index into the temporary file in which inode information is stored while the backup is in process.
- Next Index - the index to the next sibling (either a file or directory) of the listed file. This value is -1 if there is no sibling. The character F follows the index if the next sibling is a file, or the character D follows the index if it is a directory.
- Name - the short name of the directory if available, or UNKNOWN if not available.

■ Invalid Directory and File Report

This report lists both inconsistent files and directories. The following is the format of the report:

```
Index   Inode   Type           Name
2363    11134   Directory      /Documents/Directory 1
13679   10077   Directory      /Documents/Directory 2
Total Directories: 460724
                Total Files: 3426572
```

The following describes the column information in this report:

- Index - the relative position of the file as reported to the catalog.
- Inode - the inode number of the file or directory that is reported to the catalog.
- Type - displays whether the item is a file or a directory.

- Name - the short name of the directory if available, or UNKNOWN if not available.

Since this report traverses the directory tree, it may not list all of the files or directories that are reported in the first two reports. Since it provides the fully qualified name of the file or directory, it can be useful in problem resolution. It also provides the total number of files and directories.

These reports are not localized.

You must have administrator privileges to run this command.

OPTIONS

`-a2b`

Convert NetBackup 3.4, 4.0V, 4.5 ASCII format catalog .f file(s) to NetBackup 4.5 binary format .f file(s).

`-check source_file`

Checks the consistency of a binary .f file. *source_file* must be the fully qualified path. Inconsistencies may be due to faulty FlashBackup or NDMP type backups. If this utility detects no inconsistencies, it ends silently and returns a zero return code. If the utility detects any inconsistencies, it returns the number of inconsistencies and prints up to three reports depending on the types of inconsistencies reported.

`-dump`

Enables you to view the contents of catalog image .f files.

`-o`

Overwrite original catalog file content with the new format that converts. `-o` cannot be used with `target_file_directory`.

`-s`

Show statistic information to the console window.

`-erec num`

Modifies the output from the `cat_convert -dump`. Stops the display of records at this record number.

Note: The record number is not necessarily the same as the file number in the first column of the output.

`-nodata`

Eliminates the data column from the output of the `cat_convert -dump`. The data column can result in unnecessarily large outputs.

`-noheader`

Modifies the output from `cat_convert -dump`. An option that modifies the output from the `cat_convert -dump`. Eliminates the column headers.

`-nopath`

Modifies the output from `cat_convert -dump`. Eliminates the path column. The path column can result in unnecessarily large outputs.

`-sep char`

An option that modifies the output from `cat_convert -dump`. An option that modifies the output from the `cat_convert -dump`. Use *char* to separate the columns instead of the white space default separation. For example, you can use this command to generate a comma-separated output.

`-short`

An option that modifies the output from `cat_convert -dump`. Limits the output to a subset of the usual columns.

`-srec num`

An option that modifies the output from `cat_convert -dump`. An option that modifies the output from the `cat_convert -dump`. Starts to display the records at this record number.

Note: The record number is not necessarily the same as the file number in the first column of the output.

`-v`

Show current progress information.

Specify one of the following to convert:

- To specify a target file, the source must be a file.
- To specify a target directory, the source must be a directory.
If the source is a directory, you must use `-a2b`.
The new files that the conversion creates convert to the specified format, and the original file names are used in the target directory.

If you do not specify the target file or directory when you convert source files, the files the conversion process creates have an appended suffix. (`_bin.f` or `_ascii.f`).

If the `catalog .f` file size is more than 4 megabytes, the binary catalog leaves output files separate. It puts them in the `catstore` directory.

EXAMPLES

Example 1

```
# cat_convert -a2b abc.f
```

If `abc.f` is in ASCII format, the *target_file_path* is `abc_bin.f`.

Example 2

```
# cat_convert -a2b abc.f
```

The contents of `abc.f` convert to binary.

Example 3

```
# cat_convert -dump -short abc.f
```

The contents of `abc.f` appear in `stdout` in a user-readable format.

create_nbdb

`create_nbdb` - create NBDB database manually

SYNOPSIS

```
create_nbdb [-drop current_data_directory] [-sz small | medium |  
large] [-dba new_password] [-data data_directory] [-index  
index_directory] [-tlog log_directory] [-mlog log_mirror_directory]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\
```

DESCRIPTION

This command is used to create the NetBackup database (NBDB) manually. This command can be used to drop the existing NBDB database, and to recreate it by using the non-default parameters that were used during installation. A user can perform the following actions:

- Change the default location of the data, index, and transaction log files
- Change the size of the pre-allocated database files
- Add an additional mirrored transaction log for increased database protection

OPTIONS

Without any options, the `create_nbdb` command verifies the version of an existing database and is used during upgrades. If a database does not exist, it creates it by using default parameters.

`-drop`

Used to drop the existing NBDB database.

`-sz small | medium | large`

Changes the size of the pre-allocated database files. During installation, the default size that is used is *small*.

`-data data_directory`

Used to identify the directory of the main database files. If the pathname *data_directory* includes an embedded space, put the entire pathname in quotes. For example:

```
create_nbdb -data "Program Files\NetBackup\bin\data"
```

```
-dba new_password
```

Sets the password for the NBDB and the BMRDB databases for all DBA and application accounts. `nbusql` is the default password that is used during installation. To change only the password for an existing database, use `nbdb_admin -dba new_password`.

```
-index index_directory
```

Used to identify the directory of the index database files.

```
-mlog log_mirror_directory
```

Used to create a mirrored log for increased database protection.

```
-tlog log_directory
```

Identifies the location of the transaction log.

duplicatetrace

duplicatetrace - trace debug logs for duplicate job(s)

SYNOPSIS

duplicatetrace [-master_server *name*] -job_id *number* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmdyy* [*mmdyy* ...]

duplicatetrace [-master_server *name*] -backup_id *id* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmdyy* [*mmdyy* ...]

duplicatetrace [-master_server *name*] [-policy_name *name*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmdyy* [*mmdyy* ...]

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\admincmd\

DESCRIPTION

duplicatetrace consolidates the debug logs for duplicate jobs and writes them to standard output. The messages sort by time. It tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, you must enable debug logging for `bptm` and `bpdm` on the media server and for the following directory on the master server:

UNIX and Linux systems: /usr/opensv/netbackup/admin

Windows systems: *install_path*\NetBackup\admin

For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and `bpcd` on all servers, clients, and the processes that are already identified.

duplicatetrace uses the `-job_id` or `-backup_id` option as the sole criteria for selecting the duplicate jobs it traces. The `-policy_name` option or the `-client_name` option cannot be used with `-job_id` or `-backup_id`. If neither option is specified, then all duplicate jobs that match the selection criteria are selected. If none of the following options are specified, all the duplicate jobs that are activated on the days that day stamps (*mmdyy*) specify are traced: `-job_id`, `-backup_id`, `-policy_name`, or `-client_name`. If `-start_time` and `-end_time` options are used, then the debug logs that reside in the specified time interval are examined.

If `duplicatetrace` starts with `-backup_id bid`, it looks for the duplicate jobs that `bpduplicate` started with `-backup_id bid` where the backup IDs (*bid*) match.

`duplicatetrace -policy_name policy` looks for the duplicate jobs that it started with the `-policy policy` option, where the policy names match.

`duplicatetrace -client_name client` looks for the duplicate jobs that it started with the `-client` option where the client names (*client*) match.

`duplicatetrace` writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

`-master_server`

Name of the master server. Default is the local host name.

`-job_id`

Job ID number of the duplicate job to analyze. Default is any job ID.

`-backup_id`

Backup ID number of the backup image that the duplicate job uses to analyze duplicates. Default is any backup ID.

`-policy_name`

Policy name of the duplicate jobs to analyze. Default is any policy.

`-client_name`

Client name of the duplicate jobs to analyze. Default is any client.

`-start_time`

Specifies the earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`

Specifies the latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddy`

One or more "day stamps". This option identifies the log file names (log.mmddy for UNIX, mmddy.log for Windows) that is analyzed.

OUTPUT FORMAT

The format of an output line is: *daystamp.millisecs.program.sequence machine log_line*

daystamp

The day of the log that is displayed in `yyyymmdd` format.

milliseconds

The number of milliseconds since midnight on the local machine.

program

The name of program (ADMIN, BPTM, BPCD, etc.) being logged.

sequence

Line number within the debug log file.

machine

The name of the NetBackup server or client.

log_line

The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of duplicate job with job ID 3 activated on May 1, 2010.

```
# duplicatetrace -job_id 3 050110
```

Example 2 - Analyze the log of duplicate jobs that duplicate backup image with backup ID pride_1028666945 executed on May 20, 2010. It analyzes only those jobs that were activated with option -backupid pride_1028666945.

```
# duplicatetrace -backup_id pride_1028666945 052010
```

Example 3 - Analyzes the log of duplicate jobs that are activated on policy Pride-Standard and client pride on May 1, 2010 and May 3, 2010. It analyzes only the duplicate jobs that were activated with options -policy Pride-Standard and -client pride.

```
# duplicatetrace -policy_name Pride-Standard -client_name pride  
050110 050310
```

Example 4 - Analyzes the log of all duplicate jobs that are activated on August 5, 2010 and August 23, 2010.

```
duplicatetrace 080510 082310
```

importtrace

`importtrace` - trace debug logs for import jobs

SYNOPSIS

```

importtrace [-master_server name] -job_id number [-start_time
hh:mm:ss] [-end_time hh:mm:ss] mmddyy [mmddyy]
importtrace [-master_server name] -backup_id id [-start_time hh:mm:ss]
[-end_time hh:mm:ss] mmddyy [mmddyy]
importtrace [-master_server name] [-policy_name name] [-client_name
name] [-start_time hh:mm:ss] [-end_time hh:mm:ss] mmddyy [mmddyy]

```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

`importtrace` consolidates the debug log messages for the specified import job[s] and writes them to standard output. The messages sort by time. `importtrace` tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, enable debug logging for `bpbrm`, `bptm`, and `tar` on the media server and for the following directory on the master server:

UNIX and Linux systems: `/usr/opensv/netbackup/admin`

Windows systems: `install_path\NetBackup\admin`

For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and `bpcd` on all servers and clients in addition to the processes already identified.

`duplicate` uses the `-job_id` or `-backup_id` option as the sole criteria for selecting the duplicate jobs it traces. The `-policy_name` option or the `-client_name` option cannot be used with `-job_id` or `-backup_id`. If neither option is specified, then all duplicate jobs that match the selection criteria are selected. If none of the following options are specified, all the duplicate jobs that are activated on the days that day stamps (`mmddyy`) specify are traced: `-job_id`, `-backup_id`, `-policy_name`, or `-client_name`. If `-start_time` and `-end_time` options are used,

then `importtrace` examines the debug logs that are generated in the specified time interval.

If `importtrace` starts with `-backup_id id`, it looks for the import jobs that `bpimport` started with `-backup_id id` where the backup IDs (*id*) match.

If `importtrace` starts with `-policy_name <policy>`, `importtrace` looks for the import jobs that started with `bpimport` with `-policy <policy>` where the policy names (`<policy>`) match.

If `importtrace` starts with `-client_name <client>`, `importtrace` looks for the import jobs that started with `bpimport` with `-client <client>` where the client names (`<client>`) match.

`importtrace` writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

`-master_server`

Name of the master server. Default is the local host name.

`-job_id`

Job ID number of the import job to analyze. Default is any job ID.

`-backup_id`

Backup ID number of the backup image that the import job imports to analyze.
Default is any backup ID.

`-policy_name`

Policy name of the import jobs to analyze. Default is any policy.

`-client_name`

Client name of the import jobs to analyze. Default is any client.

`-start_time`

Earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`

Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddy`

One or more day stamps. This option identifies the log file names (log.mmddy for UNIX, mmddy.log for Windows) to be analyzed.

OUTPUT FORMAT

The format of an output line is:

```
<daystamp>.<milliseconds>.<program>.<sequence> <machine>  
<log_line>
```

daystamp

The day of the log displayed in `yyyymmdd` format.

milliseconds

The number of milliseconds since midnight on the local machine.

program

The name of program (ADMIN, BPBRM, BPCD, etc.) being logged.

sequence

Line number within the debug log file.

machine

The name of the NetBackup server or client.

log_line

The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of import job with job ID 4 activated on August 6, 2009.

```
# importtrace -job_id 4 080609
```

Example 2 - Analyze the log of import jobs that import backup image with backup ID `pride_1028666945` executed on August 20, 2009. This command would analyze only those import jobs, which were activated with option `-backupid pride_1028666945`.

```
# importtrace -backup_id pride_1028666945 082009
```

Example 3 - Analyze the log of import jobs that are activated on policy `Pride-Standard` and client `pride` on August 16, 2009 and August 23, 2009. This command would analyze only those import jobs, which were activated with options `-policy Pride-Standard` and `-client pride`.

```
# importtrace -policy_name Pride-Standard -client_name pride  
081609 082309
```

Example 4 - Analyze the log of all import jobs that are activated on August 5, 2007 and August 17, 2007.

```
# importtrace 080507 081707
```

jbpSA

jbpSA – start BAR client interface on Java-capable UNIX machines

SYNOPSIS

```
/usr/opensv/netbackup/bin/jbpSA [ -d | -display] [-D prop_filename]  
[-h | -Help] [-l debug_filename] [-lc] [-ms nnn] [-mx xxx] [-r  
version]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The jbpSA command starts the Backup, Archive, and Restore client interface on Java-capable UNIX machines.

OPTIONS

-d | -display

Displays the environment variable. For example:

```
-d eagle:0.0
```

-D *prop_filename*

Indicates the debug properties file name. The default name for this file is `Debug.properties`.

-h | -Help

Displays the possible options for the jbpSA command.

-H *host*

Specifies the host system that appears by default in the jbpSA logon dialog box. May be an unqualified host name or a fully qualified host name. No default.

-l *debug_filename*

Indicates the debug log file name. The default name is unique to this startup of jbpSA and is written in `/user/opensv/netbackup/logs/user_ops/nbjlogs`.

-lc

Prints the command lines that the application uses to access its log file.

Note: The application does not always use the command lines to get or update data. It has some protocols that instruct its application server to perform tasks using NetBackup and Media Manager APIs. As the application evolves, fewer command lines are used.

`-ms nnn`

Allows the memory usage configuration for the Java Virtual Machine (JVM) where *nnn* is the megabytes of memory available to the application. Default: 36 MB (megabytes)

Run `jnbSA` on a machine with 512 megabytes of physical memory with 128 megabytes of memory available to the application.

The `-ms` command specifies how much memory is allocated for the heap when the JVM starts. This value may not require changes since the default is sufficient for quickest initialization of `jnbSA` on a machine with the recommended amount of memory.

Example:

```
# jbpSA -ms 36M
```

The memory that is allocated can be specified by using the `jbpSA` command or by setting the `INITIAL_MEMORY` option in `/usr/opensv/java/nbj.conf`.

`-mx xxx`

The `-mx` option allows memory usage configuration for the Java Virtual Machine (JVM). The *xxx* value specifies the maximum heap size (in megabytes) that the JVM uses for dynamically-allocated objects and arrays. Default: 512 MB.

This option is useful if the amount of data is large (for example, a large number of jobs in the Activity Monitor).

Example:

```
# jbpSA -mx 512M
```

The maximum heap size can be specified by using the `jbpSA` command or by setting the `MAX_MEMORY` option in `/usr/opensv/java/nbj.conf`.

`-r version`

Specifies which version of the Backup, Archive, and Restore client to run. Valid values are 6.0, 6.5, and 7.0. If the `-r` option is not specified, the default is the latest version of NetBackup.

jnbSA

`jnbSA` – start NetBackup Administration Console on Java-capable UNIX machines

SYNOPSIS

```
/usr/opensv/netbackup/bin/jnbSA [ -d | -display] [-D prop_filename]  
[-h | -help] [-H host] [-l debug_filename] [-lc] [-ms nnn] [-mx xxx]  
[-r version]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

`jnbSA` starts the NetBackup Administration Console on Java-capable UNIX machines.

OPTIONS

`-d | -display`

Display the environment variable. For example:

```
-d eagle:0.0
```

`-D prop_filename`

Indicate the debug properties file name. The default name for this file is `Debug.properties`.

`-h | -help`

Displays the possible options for the `jnbSA` command.

`-H host`

Specifies the host system that appears by default in the `jnbSA` logon dialog. May be an unqualified host name or a fully qualified host name. No default.

`-l debug_filename`

Indicates the debug log file name. The default name is unique to this startup of `jnbSA` and written in `/user/opensv/netbackup/logs/user_ops/nbjlogs`.

`-lc`

Prints the command lines that the application uses to its log file.

Note: The application does not always use the command lines to get or update data. It has some protocols that instruct its application server to perform tasks using NetBackup and Media Manager APIs. The application evolves and fewer command lines are used.

`-ms nnn`

Allows memory usage configuration for the Java Virtual Machine (JVM) where *nnn* is the megabytes of memory available to the application. Default: 36 MB

Run `jnbSA` on a machine with 512 MB of physical memory with 128 MB of memory available to the application.

The `-ms` command specifies how much memory is allocated for the heap when the JVM starts. This value may not require changes since the default is sufficient for quickest initialization of `jnbSA` on a machine with the recommended amount of memory.

Example:

```
jnbSA -ms 36M
```

The memory that is allocated can be specified by using the `jnbSA` command or by setting the `INITIAL_MEMORY` option in `/usr/opensv/java/nbj.conf`.

`-mx xxx`

Allows memory usage configuration for the Java Virtual Machine (JVM). The *xxx* value is the maximum heap size (in megabytes) that the JVM uses for dynamically-allocated objects and arrays. Default: 512 MB.

This option is useful if the amount of data is large (for example, a large number of jobs in the Activity Monitor).

Example:

```
jnbSA -mx 512M
```

The maximum heap size can be specified by using the `jnbSA` command or by setting the `MAX_MEMORY` option in `/usr/opensv/java/nbj.conf`.

`-r version`

Specifies which version of the NetBackup Administration Console to run.

Valid values are 6.0, 6.5, and 7.0. The default if the `-r` option is not specified is the latest version of NetBackup.

ltid

`ltid` – start or stop the Media Manager device daemon

SYNOPSIS

```
/usr/opensv/volmgr/bin/ltid [-v] [-logmounts [minutes]] [-noverify]
/usr/opensv/volmgr/bin/stopltid
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `ltid` command starts the Media Manager device daemon (`ltid`) and Automatic Volume Recognition daemon (`avrd`). These daemons manage Media Manager devices. With both daemons started, an operator can initiate the operator display, observe the drive status, and control the assignment of requests to stand alone drives. `ltid` can be placed in a system initialization script.

The Media Manager volume daemon, `vmd`, also starts with the `ltid` command. `ltid` also starts the appropriate robotic daemons, if robotic devices were defined in Media Manager.

The `stopltid` command stops `ltid`, `avrd`, and the robotic daemons.

You must have administrator privileges to run this command.

OPTIONS

`-v`

Logs debug information using `syslogd`. This option is most informative when robotic devices are in use. This option starts robotic daemons and `vmd` in verbose mode.

`-logmounts minutes`

If this option is specified, `ltid` logs mount requests using `syslogd`. The mount requests are still posted to Media Manager displays. The mount requests are only logged after a delay of the specified number of minutes.

If `-logmounts` is specified, the default number of minutes is 3. If `-logmounts 0` is specified, `ltid` logs the mount request through `syslogd` immediately. If *minutes* is not zero and the mount request is satisfied before the number of minutes are up, the request is not logged through `syslogd`.

`-noverify`

If this option is specified, `ltid` does not verify drive names. Normally, `ltid` verifies that the no rewind on close drive name has the correct minor number bits that relate to the following: no rewind, variable, berkeley-style, and so on. This option is normally not required, but may be helpful if you use non-standard platform device files. If this option is specified, make sure that the device files are correct.

ERRORS

Error messages are logged by using `syslogd`.

SEE ALSO

`rc(8)`

`syslogd`

See [tpconfig](#) on page 609.

See [tpunmount](#) on page 630.

See [vmadm](#) on page 661.

nbauditreport

nbauditreport - view the audit report

SYNOPSIS

```
nbauditreport -sdate "MM/DD/YY [HH:[MM[:SS]]]" [-edate "MM/DD/YY  
[HH:[MM[:SS]]]" -ctgy [POLICY | JOB | STU | STORAGESRV | POOL |  
AUDITCFG | AUDITSVC | BPCONF] -user username[:domainname] -fmt  
[SUMMARY | DETAIL | PARSABLE] [-notruncate] [-pagewidth NNN] [-order  
[DTU | DUT | TDU | TUD | UDT | UTD]]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The `nbauditreport` command lets you create and view a NetBackup audit report.

When auditing is configured in a NetBackup environment, the following user-initiated actions in NetBackup are recorded and available to view in an audit report:

- Actions that change the NetBackup configuration. Examples are policy creation, deletion, and modification, and changing the audit settings.
- Actions that change NetBackup runtime objects. These actions include initiating a restore job and starting or stopping the audit service.

This command only creates and displays the audit report. You must use the `nbemmcmd -changesetting -AUDIT ENABLED` and `nbemmcmd -changesetting -AUDIT DISABLED` commands to enable and disable auditing itself.

More information is available on auditing and audit reports.

See the Auditing NetBackup administration chapter of the *NetBackup Administrator's Guide, Vol. I*.

OPTIONS

```
-ctgy [POLICY | JOB | STU | STORAGESRV | POOL | AUDITCFG | AUDITSVC  
| BPCONF]
```

Specifies the type of information to be displayed in the audit report. The audit function records and displays information on the use-initiated actions for

the pertinent area (job, pool, etc.). The following are the possible values for this option and the items that are audited for each value:

- POLICY - Adding, deleting, or updating policy attributes, clients, schedules, and backup selections lists.
- JOB - job changes
- STU - storage unit changes
- STORAGESRV - storage server information
- POOL - disk storage pool changes
- AUDITCFG - auditing configuration changes.
- AUDITSVC - starting and stopping the NetBackup Audit service (`nbaudit`).
- BPCONF - changes to the `bp.conf` file. This option applies only to UNIX and Linux.

The default condition, when none of the options is specified, is to display the audit report of all categories.

`-fmt [SUMMARY | DETAIL | PARSABLE]`

Specifies the output format of the audit report.

- SUMMARY is the default condition (no option used). The audit report is a summary only. It displays the audit report in columnar format using the description, user, and timestamp headings.
- DETAIL displays a comprehensive list of auditing information. For example, when a policy is changed, this view lists the name of the attribute, the old value, and the new value.
- PARSABLE displays the same set of information as the DETAIL report but in a parsable format. The report uses the pipe character (`|`) as a separator of the audit data. Use keywords available with the report (DESCRIPTION, ACTION, OLDV, NEWV, etc.) to parse the audit record.

`-sdate mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm -edate mm/dd/yyyy-hh:mm:ss
| mm/dd-hh:mm`

Sets the start date/time (`-sdate`) or the end date/time (`-edate`) of the audit report data that you want to view. No time indication is necessary.

If the start date is specified and the end date is not, the displayed audit data is from the specified start time to the present. If the end date is specified and the start date is not, the displayed audit data is up to the present.

`-notruncate`

Displays the old and new values of a changed attribute on separate lines in the details section of the report. This option is used with the `-fmt DETAIL` option.

`-order [DTU | DUT | TDU | TUD | UDT | UTD]`

Specifies the order in which the information is displayed in the parsable format of the audit report. This option can be used only with the `-fmt PARSABLE` option. The D, T, and U designators represent the following parameters:

- D - description
- T - timestamp
- U - user

`-pagewidth NNN`

Specifies the page width for the details section of the audit report. This option is used with the `-fmt DETAIL` option.

`-user username[:domainname]`

Indicates the name of the user for whom you want to display audit information.

EXAMPLES

Example 1 - The following command displays all audit events that are reported from April 1, 2010 to the present.

```
# nbauditreport -sdate 04/01/10
```

USER	DESCRIPTION	TIMESTAMP
Admin@entry	Schedule 'test1' was added to Policy 'test1'	04/06/10
Admin@entry	Audit setting(s) of master server 'server1' were modified	04/06/10
Admin@entry	Audit setting(s) of master server 'server1' were modified	04/06/10
sys@server1	The nbaudit service on master server 'server1' was started	04/06/10
sys@server1	The nbaudit service on master server 'server1' was stopped	04/06/10
sys@server1	The nbaudit service on master server 'server1' was started	04/06/10
sys@server1	The nbaudit service on master server 'server1' was started	04/01/10

```
Audit records fetched: 7
```

Example 2 - The following command displays a detailed audit report for when Joe modified a set of policy attributes. Because the policy was changed only one time since 6/8/10, one audit record is retrieved.

```
# nbauditreport -fmt DETAIL -ctgy POLICY -sdate 6/8/10
```

```
DESCRIPTION: Attributes of Policy 'pol_stugrp' were modified
```

```
USER: joe
```

```
TIMESTAMP: 06/08/2010 19:14:25
```

```
CATEGORY: POLICY
```

```
ACTION: MODIFY
```

```
DETAILS:
```

ATTRIBUTE	OLD VALUE	NEW VALUE
1 Proxy Client		
2 Residence		stu_grp
3 Collect TIR info	2	0
4 Checkpoint Restart	0	1
5 Checkpoint Interval	0	15
6 Data Mover Type	2	-1
7 Collect BMR Info	1	0
8 Policy Generation	1	2

```
Audit records fetched: 1
```

The DETAILS entry shows the old value and new value of all the attributes that Joe changed.

nbcatsync

`nbcatsync` - run a utility that resyncs the disk media IDs in the image catalog after catalog recovery operations complete

SYNOPSIS

```
nbcatsync -backupid catalog_backup_id [-prune_catalog] [-no_sync_slp] [-dryrun] [-keepgoing]
```

```
nbcatsync -sync_dr_file dr_file_path [-copy number] [-dryrun]
```

On UNIX and Linux systems, the directory path to this command is `/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is `<install_path>NetBackup\bin\`

DESCRIPTION

`nbcatsync` is a post-processing utility that is used in the catalog restore process.

After `bprecover` restores the actual catalog files, the `nbcatsync` utility can do the following:

- Fix the disk media IDs in the fragment records.
- Mark all recovered images as `SS_COMPLETED`.
- Restore disabled functionality.
- Prune images from the catalog which were not found on any currently configured disk volumes. The `-prune_catalog` option deletes catalog entries for the images that do not exist locally.
- Constrain the operation to a set of images based on the catalog restore that was performed.

You can easily create a list of affected backup images for any given catalog restore option. The catalog backup image `.f` file lists the images that the catalog restore recovers. This file lists the images to which you can constrain the operations of the `nbcatsync` utility.

The utility uses the current device configuration in EMM to obtain a list of disk volumes to scan for the following: image fragments that are found in the image list. After the EMM database, the images on currently configured storage, and the image catalog have all been reconciled, `nbcatsync` tries to turn on normal NetBackup processing.

Note: Use the `nbcatsync -dryrun` option to validate what the `nbcatsync` utility can do before it does it. Since `nbcatsync` actions are not reversible, you would have to perform `bprecover -wizard` again to get the previous contents of the image catalog.

OPTIONS

`-backupid catalog_backup_id`

Specifies the catalog backup ID that contains a set of backup images. This option enables `nbcatsync` to fix disk media ID references in the image headers that are restored from this catalog backup image ID.

`-copy number`

Specifies the copy of the catalog to be restored. This option allows catalog recovery from a non-primary copy.

`-dryrun`

Gives the user a chance to validate actions `nbcatsync` normally perform. It lists all the modifications that can occur if the `nbcatsync` command does run.

`-keepgoing`

Ignores bad disk volumes. Otherwise, `nbcatsync` aborts when it encounters any unexpected errors while it looks for images on a disk volume.

`-no_sync_slp`

Prevents the scrubbing of the storage lifecycle policy which removes the EMM image records and sets the `SS_COMPLETED` state in the image catalog to zero. Normally, `nbcatsync` disassociates images from any storage lifecycle policy processing that is performed at the primary site. Then `nbcatsync` can apply appropriate storage lifecycle policy settings for the DR site on the fixed images. However, when `-no_sync_slp` is specified, `nbcatsync` does not change these settings of fixed images, so use this option with care.

`-prune_catalog`

Prunes all non-existent images. `-prune_catalog` removes copies of images on disk volumes that are not found on any of the disk volumes at the DR site. If none of the copies of an image are located, the image itself is deleted.

`-sync_dr_filedr_file_path`

Specifies the DR file at the DR site that corresponds to the catalog backup image to restore from. Do not put a space between the `-sync_dr_file` option and the `dr_file_path` variable.

EXAMPLES

Example 1 - Fix the disk media ID references in DR file `test.txt`, so that `bprecover` can find the catalog backup image. At the DR site, run the following command:

```
# nbcatsync -sync_dr_file test.txt
```

Example 2 - Perform a dry run of fixing the disk media ID references in the image headers of image ID `rg9pctrain05_1254127131` restored from the catalog backup. When you are satisfied with the results, you can repeat the command without the `-dryrun` option.

```
# nbcatsync -backupid rg9pctrain05_1254127131 -dryrun
```

NBCC

NBCC – run the NetBackup consistency check (NBCC) utility.

SYNOPSIS

```
NBCC [-batch] [-debug] [-gather] [-help] [-idar] [-kbfree #####]  
[-locale] [-nozip] [-terse] [-upgrade] [-use_reg_cmd [32 | 64]]  
[-version]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/support/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\support\`

DESCRIPTION

The `NBCC` command executes the NBCC utility that is used to confirm the integrity of portions of the NetBackup catalog that is related to tape media. This check includes the review of configured storage units, EMM servers, tape media, and images that are associated with tape media.

If `NBCC` detects catalog inconsistencies, it generates a set of output files. It can create a support package bundle of these files by using available system utilities.

More information about the NBCC utility is available in the Using NetBackup Utilities section of the *NetBackup Troubleshooting Guide*.

OPTIONS

`-batch`

Runs NBCC in a non-interactive mode. In this mode, the following occurs:

- If the output report already exists, NBCC automatically overwrites it.
- After the processing of `bpimagelist` information, any media servers that are not known by EMM are flagged for all repairs generated by full analysis to be commented out for later review.
- If NBCC detects no NetBackup catalog inconsistencies, it does not create a support package.

`-debug`

Adds additional program debug information to the `nbcc-info.txt` file, which greatly increases the size of this file.

`-gather`

Gathers NetBackup configuration and catalog information only. This option does not check NetBackup catalog consistency.

`-help`

Outputs a more expanded version of help information about the NBCC utility.

`-idar`

Includes the identification of the abandoned tape media resources in the consistency check.

`-kbfreefreespace`

Specifies the amount of free file system space that is required to run NBCC. Only whole numbers are allowed. The default value is located in the help output.

This value overrides the default free space value of 1024000.

To skip all free filesystem space checking, set this value to zero (0). Do this if you run in a non-English locale environment.

`-locale`

Designates the NetBackup `common_local_name`. NBCC searches for this name in the following file:

On UNIX: `/usr/opensv/msg/.conf`

On Windows: `.\VERITAS\msg\LC_CONF`

This name determines the associated date format to use with the `bpimagelist -d` command line option.

`-nozip`

Skips the creation of a support package bundle. The generated NBCC files remain in the output directory.

`-terse`

Extracts only the fields that are associated with the consistency checks from each catalog record into the individual catalog content files.

`-upgrade`

Includes only the consistency checks that relate to the ability to upgrade the NetBackup catalog.

`-use_reg_cmd [32 | 64]`

This option operates only on Windows systems.

This option enables the use of the `Reg.exe` utility to query the Windows registry. The version of `Reg.exe` that supports the `/reg:32` or the `/reg:64`

command line parameters must be installed so that this option works correctly.

`-version`

Outputs the internal version number of NBCC.

PREREQUISITES

The following items are needed before you can use the NBCC utility:

- NBCC is designed for use with the following revisions of NetBackup: 6.0, 6.5, 7.0 and 7.1
- The `vmid` process must be running on the master server, and on all other servers that act as the EMM server in the NetBackup configuration.
- For NBCC to create a support package (if required), the path to the following programs must be included in the `$PATH` environment variable: `tar` and `gzip`. If `gzip` is not available, the `compress` program is used if available. If these programs are not available and you need a single file support package file, you must manually bundle the files in the output directory into a support package.
- If you do not use the command line option `-kbfree 0`, NBCC inspects filesystem usage characteristics. Then it unloads the configuration and catalog information and creates a support package. This information includes available free filesystem space (in Kilobytes). The NBCC default is: Free filesystem space (Kilobytes) = 1024000
- The EMM server must be operational.
- The `bpdbm` process must be running on the master server.
- All media servers must be running with NetBackup installed, the `ltid` process running, and network services configured.
- The UTC time on all servers in the NetBackup configuration and the server where the NBCC program is run, must be synchronized to within a few minutes of each other.

Note: Failure to make sure that the clocks are synchronized may cause NBCC to report inaccurate results.

PROGRAM USAGE

The following are program usage considerations:

- NBCC runs from the support directory (see synopsis). If you want to run from a different directory, NBCC uses the following default directory location:
`/usr/opensv/netbackup/bin/support/config`
- To ensure that catalog consistency problems are identified and fixed correctly, ensure that no NetBackup jobs are running or started from the time when the data is collected until the time when the repair work is completed. Because this is not possible in most configurations, NBCC tries to identify tape media that are associated with active NetBackup jobs. Due to the propagation delay that may occur during normal processing, not all active tape media may be identified. For this reason, you should carefully review the consistency analysis results.
- NBCC detects EMM master servers. If more than one master server is detected, NBCC identifies the one that is associated with the system on which NBCC is being. NBCC uses the identified EMM master server to determine which EMM media servers and for NetBackup 6.5 or greater, which EMM NDMP attach hosts are associated to that master server.

RETURN VALUES

The following exit values are returned:

0 = Consistency checks skipped (-gather)
No inconsistency detected

1 = Inconsistency detected

2 = Program error condition detected:

```
Invalid command line option
.nbcc.lock file exists
File permission problem
File open/read/write problem
Insufficient free disk space
Unable to obtain the version of NetBackup
Issue with NetBackup configuration information/detection
Issue with NetBackup catalog information/detection
```

3 = -help information displayed
-version information displayed

SEE ALSO

See [NBCCR](#) on page 437.

NBCCR

NBCCR – run the NetBackup consistency check repair (NBCCR) utility that repairs NBU database inconsistencies.

SYNOPSIS

```
NBCCR [-sra SRAfilename] [-emmpw EMMpassword] [-version] [-help]
[-volumedatabasehost volDB_host] [safe_pool_name safepoolname]
[-kbfree freespace] [-use_reg_cmd [32 | 64]]
```

On UNIX and Linux systems, the directory path to this command is `/usr/opensv/netbackup/bin/support/`

On Windows systems, the directory path to this command is `<install_path>\NetBackup\bin\support\`

DESCRIPTION

The **NBCCR** command executes the NBCCR utility that is used to apply the repair actions that are related to tape. The repair actions are contained in a Suggested Repair Actions (SRA) file. This utility executes NetBackup commands to perform these repairs. Symantec Technical Support generates the SRA file based on an analysis of data that the NBCC command collects. The **NBCCR** command should be run only at the direction of Symantec Technical Support. It should be used only to apply repairs in an SRA file generated by Symantec Technical Support. The **NBCCR** command creates a history file containing the results of each repair action attempted.

The following items can cause inconsistencies: improper use of command-line commands, attempts to restore corrupted data, or improper decommission of a media server. A full file system can also cause inconsistencies.

More information about the NBCCR utility is available:

See the Using NetBackup Utilities section of the *NetBackup Troubleshooting Guide*.

OPTIONS

`-emmpw EMMpassword`

Specifies the name of the EMM password if different than the default password.

`-help`

Outputs the extended help information and exits.

`-kbfree freespace`

Specifies the amount of free file system space that is required to run NBCCR. Only whole numbers are allowed. The default value is located in the help output.

This value overrides the default free space value of 1024000 (1024*1024).

To skip all free filesystem space checking, set this value to zero (0). Do this if you run in a non-English locale environment.

`-sra SRAfilename`

Specifies the suggested repair action (SRA) file name. The default name is the following: *master_name*.NBCCA.*SRA_timestamp*.txt. The timestamp format is *yyyymmdd_hhmmss*.

`-safe_pool_name safefilename`

Overrides the default safe pool name. The default is NBCC_SafePool)

`-version`

Prints the version of the NBCCR utility and exits.

`-volumedatabasehost volDB_host`

Only needed if the volume database host (or EMM host) is not the master server. If the volume database host is not the master, the volume database host will need to be specified here. If multiple masters use the same volume database host, it must be specified here. If there are multiple volume database hosts on one master, all tapes referenced in the SRA file must be for the same volume database host, and that volume database host must be specified on the command line.

`-use_reg_cmd [32 | 64]`

This option operates only on Windows systems.

This option enables the use of the Reg.exe utility to query the Windows registry. The version of Reg.exe that supports the /reg:32 or the /reg:64 command line parameters must be installed so that this option works correctly.

nbcertupdater

nbcertupdater - run the certificate update utility

SYNOPSIS

```
nbcertupdater {-h | -host} host_name [{-b | -broker} broker_name]
[{-p | -port} broker_port] [-v] [-d] [-nolog]
nbcertupdater {-o | -ofile} output_file [{-i | -ifile} input_file]
[{-np | -numparallel} num_parallel_hosts] [{-na | -numattempts}
attempts_per_host] [{-b | -broker} broker_name] [{-p | -port}
broker_port] [-v] [-d] [-nolog]
nbcertupdater {-listonly | -l} {-o | -ofile} output_file [-v] [-d]
[-nolog]
nbcertupdater -help
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The certificate update utility (`nbcertupdater`) provides an automated mechanism to contact a set of NetBackup hosts that can run a `setuptrust` operation with a specified authentication broker. The utility can also query the `NBU_Machines` private domain of the local authentication broker to generate the set of NetBackup hosts that can then be contacted for the `setuptrust` operation.

The utility can only be run as a local administrator on the master server. It runs in three modes:

- Process a single host. You specify a single host name on the command line. The utility contacts the host and runs `setuptrust` with the specified authentication broker.
- Process multiple hosts. You specify the host names in an input file. If an input file is unspecified, `nbcertupdater` automatically generates the list of hosts to contact from the `NBU_Machines` private domain of the local authentication broker. It spawns a child to process each host. The `-numparallel` option controls the number of hosts that are processed in parallel.
- Create the host list from the authentication broker. The utility creates the list from the `NBU_Machines` private domain of the local authentication broker and writes it to the output file. The hosts are not processed.

OPTIONS

- `-h | -host host_name`
Specifies the NetBackup host where the `setuptrust` operation is performed.
- `-b | -broker broker_name`
The broker with which trust should be set up. If a broker is not specified, trust is setup with the NetBackup master server.
- `-p | -port broker_port`
Specifies the port number of the selected broker. If this option is not specified, the default broker port is used to contact the broker.
- `-i | -ifile input_file`
Specifies the name of the input file that contain the names of NetBackup hosts to be processed. Each line in the input file maps to a host name (except for comment lines).
- `-o | -ofile output_file`
Specifies the name of the output file.
- `-np | -numparallel num_parallel_hosts`
Specifies the number of hosts to be processed in parallel. The default is 3.
- `-na | -numattempts attempts_per_host`
Specifies the number of attempts to process the host before the utility declares failure. The default is 1.
- `-l | -listonly`
Generates the list of NetBackup hosts from the local authentication broker, but does not process them.
- `-v`
Enables verbose mode. The utility prints extra informational messages on the console.
- `-d`
Enables debug mode. The utility prints debug messages on the console.
- `-nolog`
Shuts off all logging for the utility operation.
- `-help`
Prints command usage information.

OUTPUT MESSAGES

HOST_NOT_FOUND

Hostname could not be found.

VXSS_AUTH_FAIL

VxSS authentication failed trying to connect to `bpcd`. NBAC may not be properly configured.

BPCD_CONN_FAIL

Failed to connect to `bpcd` on host. The host may not have NetBackup client software installed on it.

GET_VXSS_FAIL

Failed to get USE_VXSS configuration setting for host.

COND_SUCCESS (USE_VXSS=<val>)

Conditional success (exact status unknown). The exact status of the certificate update operation on this host could not be determined. This host will not be retried. To determine whether the operation succeeded, run the following command on the host:

```
# bpnbat -ShowBrokerCerts
```

FAILED (USE_VXSS=<val>)

Failed to update the broker certificate on the host. This generic code cannot provide a more specific reason for failure. The `bpcd` connection may have broken during the processing operation.

USER_INTERRUPT

User requested termination of operation. This error will be returned if the user presses Ctrl-C to terminate the program.

SUCCESS

Host processed successfully.

EXAMPLES

Example 1 - Update a NetBackup host that does not have the authentication client libraries installed on it. NBAC is not enabled on the host.

```
# nbcertupdater -h huffman.abc.com
Logging to directory /openv/netbackup/logs/certupdater>
Processing host huffman.abc.com
Failed to update broker certificate on host with USE_VXSS=PROHIBITED
```

Example 2 - Update a NBU host that has the authentication client libraries installed on it.

```
# nbcertupdater -h huffman.abc.com
Logging to directory /openv/netbackup/logs/certupdater>
Processing host huffman.abc.com
Host processed successfully
```

Example 3 - Generate a list of machines names from the NBU_Machines private domain of the local authentication broker. This list is same as that displayed when you run the `bpnbat -ShowMachines` command.

```
# nbcertupdater -listonly -o outfile.txt
Logging to directory </usr/openv/netbackup/logs/certupdater>
Generating host list from the local AB
Writing result to file <outfile.txt>
```

Example 4 - Use an input file to specify the hosts to be updated. The first host is updated successfully. The second host does not have bpcd running on it.

```
# cat infile.txt
huffman.vxindia.com
atom.vxindia.com

# nbcertupdater -i infile.txt -o outfile.txt
Logging to directory </usr/openv/netbackup/logs/certupdater>
Reading host names from file infile.txt
Attempt 1: Processing 2 hosts
Processing host huffman.abc.com (1/2)
Processing host atom.abc.com (2/2)
Completed host huffman.abc.com (SUCCESS)
Completed host atom.abc.com (BPCD_CONN_FAIL)
Total hosts attempted: 2 (1 succeeded)
Writing result to file <outfile.txt>

# cat outfile.txt
#huffman.abc.com #SUCCESS@(02/17/10 16:58:19)
#atom.abc.com #BPCD_CONN_FAIL@(02/17/10 16:58:19)
```

nbcplogs

nbcplogs - copy all NetBackup logs to a designated destination

SYNOPSIS

```
nbcplogs destination | -f ###-###-### [-s mm/dd/yyyy-hh:mm:ss |  
mm/dd-hh:mm] [-e mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm] [-d valued |  
valueh | valuem] [--tmpdir=pathname] [--list-products]  
[--list-subproducts logproducts] [--nbsu | --no-nbsu] [--help-long]  
[--write-config]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/support/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\support\

DESCRIPTION

The `nbcplogs` command copies logs from various locations in the NetBackup system to a common area where you can more easily troubleshoot a problem. This utility lets you determine what logs are copied. To reduce the size of the copied logs, you can use the time frame option to specify a start time and an end time.

If Technical Support supplies you with a Titan ID of the form `###-###-###`, you can use the `nbcplogs --ftp ###-###-###` command to upload the last 24 hours of logs (default time period), run the `nbsu` utility, and upload its support package to Technical Support.

More information is available on the `nbcplogs` command:

See the Using Logs chapter of the *Troubleshooting Guide*.

OPTIONS

destination

Specifies the destination of the logs to be collected.

`-d` | `--duration` *valued* | *valueh* | *valuem*

Sets the duration of the log data to be collected. The time units of the duration can be in `d`[ays], `h`[ours], or `m`[in]. For example:

```
--duration 5hrs /tmp/logs
```

`-f | --ftp ###-###-###`

Enables the direct uploading of logs to customer support by using file transfer protocol (ftp). The utility bundles and compresses the logs before it uploads them. `###-###-###`, the destination of the log files, is the Titan ID that Technical Support supplies.

`--help-long`

Displays a complete set of options available for the `nbcplogs` command.

`-l | --logslog_type[.sub] [, ...]`

Limits the log types that are collected to only those specified on the command line. The `sub` option lets you specify a sub-category of a log type. If no log types are specified, all log types are copied.

`--list-products`

Lists all the possible logs that can be reported on.

`--list-subproducts log_product`

Lists all the log subproducts for the specified log product.

`--nbsu | --no-nbsu`

Enables (`--nbsu`) or disables (`--no-nbsu`) running the `nbsu` utility as part of the `nbcplogs` command operation. The `nbsu` command utility gathers a wide range of diagnostic information that is helpful when it is used with the log data that is gathered.

The default condition is that `nbsu` runs and creates a support package to send to Technical Support.

`-s | --start mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm -e | --end mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm`

Sets the start time (`-s`) or the end time (`-e`) for the collection of logs.

The `-s` option specifies a start date and time for the logs. If no corresponding `-e` option is used, the utility collects all log data from the start time to the present.

The `-e` option specifies an end date and time for the logs. If no corresponding `-s` option is used, the utility collects all log data present in the log files up to the end date.

If no start or end time is specified, the default time period is the last 24 hours.

`--tmpdir=pathname`

The FTP process requires temporary disk space to build the compressed bundle for upload.

```
--write-config
```

Allows you to view or modify nbcplogs configuration values. This option creates a nbcplogs configuration file (nbcplogs.conf), which you can then edit.

EXAMPLES

Example 1 - The following command example uploads the last 24 hours of logs to customer support by default. The 123-123-123 is the Titan ID that Technical Support supplies.

```
# nbcplogs --ftp 123-123-123
```

Example 2 - This example gathers all log data for the last 30 minutes and sends the data to customer support. The utility found no vault log entries. It prompts the user to determine if enough disk space is available for the data transfer. The utility lists each log type as its entries are copied.

```
# nbcplogs -d 30m -ftp 123-123-123
  from "Fri May 29 13:19:37 2010" to "Fri May 29 13:49:37 2010"
  ctrl+c to cancel
  logs not found : vault
  uploading to ftp.entsupport.symantec.com:/pub/support/incoming/123-123-
  Is there at least 429 MBs disk space available in /tmp? (y/N) y
  copying ...
  copying dberror : /usr/opensv/netbackup/db/error
  copying nbu      : /usr/opensv/netbackup/logs
  copying pbx      : /opt/VRTSpx/log
  copying trylogs  : /usr/opensv/netbackup/db/jobs/trylogs
  copying vxul     : /usr/opensv/logs
  copying dberror  : /usr/opensv/netbackup/db/error
```

Example 3 - Copy all volmgr logs between 1:00 and 2:00.

```
# nbcplogs --start 01:00 --end 02:00 --logs volmgr /tmp/logs
```

Example 4 - Copy the last 24 hours of nbpem logs and bpdbm logs, run the nbsu utility, and automatically sends its support package to Technical Support:

```
# nbcplogs -l nbpem,bpdbm -f 123-123-123
```

Example 5 - Copy the last 24 hours of logs and does not run the nbsu utility:

```
# nbcplogs --no-nbsu -f 123-123-123
```

Example 6 - Display the complete set of options available to use with the `nbcplogs` command:

```
# nbcplogs --help-long
```

Example 7 - List all the log directories available on your system:

```
# # nbcplogs --list-products
* products:
* db      : /usr/opensv/db/log
* dberror : /usr/opensv/netbackup/db/error
* nbu     : /usr/opensv/netbackup/logs
* pbx     : /opt/VRTSspbx/log
* puredisk:
* trylogs : /usr/opensv/netbackup/db/jobs/trylogs
* vault   : /usr/opensv/netbackup/vault/sessions
* volmgr  : /usr/opensv/volmgr/debug
* vxul    :
```

Example 8 - Display the complete set of log subproducts available for the `nbcplogs` command:

```
# nbcplogs --list-subproducts vxul* "vxul" subproducts:
* vxul.111 = /usr/opensv/logs/nbemmm aliases: 111, nbemmm, vxul.nbemmm
* vxul.116 = /usr/opensv/logs/nbpem aliases: 116, nbpem, vxul.nbpem
* vxul.117 = /usr/opensv/logs/nbjm aliases: 117, nbjm, vxul.nbjm
* vxul.118 = /usr/opensv/logs/nbrb aliases: 118, nbrb, vxul.nbrb
* vxul.119 = /usr/opensv/logs/bmrd aliases: 119, bmrd, vxul.bmrd...
```

nbdb_admin

nbdb_admin - start or stop individual databases and change default password

SYNOPSIS

```
nbdb_admin -dba new_password [-backup directory]  
nbdb_admin -start | stop [database_name]  
nbdb_admin [-vxdbsms_nb_data directory] [-vxdbsms_nb_staging directory]  
[-vxdbsms_nbdb_backup_owner y|n] [-vxdbsms_nb_server servername |  
EMMSERVER] [-auto_start NONE | NBDB | BMRDB]  
nbdb_admin -adjust_server_settings [database_name]  
nbdb_admin -list  
nbdb_admin -reorganize [database_name]  
nbdb_admin -validate [database_name] [-full]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/db/bin/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\
```

DESCRIPTION

The `nbdb_admin` command can be used to start or stop the NetBackup database or the BMR database.

The `nbdb_admin` command line utility is required to enable the customer to change the DBA and application passwords. The DBA and application passwords are encrypted and stored in the `vxdbsms.conf` file. Secure SSL is used for encryption, and keys are handled in a consistent manner with the rest of NetBackup. The passwords are encrypted with AES-128-CFB by using the NetBackup private key. The permissions on the file enable it to be read or written only by the root user on UNIX or a Windows administrator.

During installation, the default password of `nbusql` is used for the NBDB and the BMRDB databases for all DBA and application accounts. The same password is used for the NBDB and the BMRDB DBA and application accounts such as `EMM_MAIN`.

OPTIONS

`-adjust_server_settings directory`

Adjusts the settings of the given database *directory* through the Sybase utility. If no database is specified, the default is to adjust all databases.

`-auto_start NONE | NBDB | BMRDB`

These options enable an administrator that runs locally on an Authentication server to add or remove domains within the private Veritas Domain Database. These domains are not accessible from within any operating system. They are meaningful only within Symantec product Authentication and Authorization Service. Use them where a centralized naming authority (such as a PDC/AD or NIS domain) is not available.

`-dba new_password [-backup directory]`

Enables you to change the default password, `nbusql`, for the NBDB and the BMRDB databases for all DBA and application accounts.

If the `-backup` option is used, the new password is saved in the *directory* specified by *directory* with the file name `nbdbinfo.da`. Otherwise, it is saved under the default location with the same file name.

`-list`

Lists all database files.

`-reorganize database_name`

Reorganizes the given database through the Sybase utility. If no database is specified, the default is to reorganize all databases.

`-start | -stop database_name`

Starts or stops the database that is identified in the *database_name* field. You can specify the NBDB database or the BMRDB database. The *database_name* field is optional. The NBDB database is the default for this command.

Note: Before you take the database offline with the `-stop` option, stop all services that are running except SQL Anywhere.

`-validate database_name [-full]`

Validates the indexes and keys on all of the tables in the specified database. If no database name is specified, the option validates all the databases. It scans each table and checks that each row exists in the appropriate indexes. The number of rows in the table must match the number of entries in the index.

The `-full` option performs a full validation of the database or databases. It ensures that every row that is referenced in each index exists in the corresponding table. For foreign key indexes, it also ensures that the corresponding row exists in the primary table.

The validation checks do not require that all NetBackup activity be suspended. However, the checks may report any transient errors that are a result of transactions that are in progress.

`-vxdms_nb_data directory`

This command updates the `VXDBMS_NB_DATA` parameter that is stored in the `bp.conf` file on UNIX systems and in the registry on Windows systems. This parameter contains the main location of the NBDB and the BMRDB databases.

`-vxdms_nbdb_backup_owner y|n`

This command updates the `VXDMS_NBDB_BACKUP_OWNER` parameter in the `bp.conf` file on UNIX systems and in the registry on Windows systems. This command specifies if the master server owns the backup of the databases that are included in the catalog backup. The default for this parameter is yes.

`-vxdms_nb_server servername | EMMSERVER`

Changes the database server name to the given *servername* or `EMMSERVER` from `bp.conf` file.

`-vxdms_nb_staging directory`

Changes the staging directory from the default to the specified *directory*. This option saves the information in the `vxdms.conf` file.

nbdb_backup

`nbdb_backup` - run the program that is used to make a backup of the databases in a directory

SYNOPSIS

```
nbdb_backup [-dbn database_name] [-offline | -online]
destination_directory [-tlog_only] [-truncate_tlog]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/db/bin/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\
```

DESCRIPTION

The `nbdb_backup` enables the customer to make either an online backup or offline backup of the SQL Anywhere files to a file system directory. Use this command to perform maintenance operations and to make a copy of a database.

OPTIONS

`-dbn database_name`

Sets the database that is identified by *database_name* to be backed up. The possible databases are NBDB and BMRDB. The default is to back up both databases if they are installed on the server.

`-offline | -online`

Enables either an offline or an online backup of the SQL Anywhere database files.

- Online backup - the database is up and in operation during the backup.
- Offline backup - shuts down the database.

`destination_directory`

Identifies the directory where the backup is stored.

`-tlog_only`

For an online backup, this option generates only the database transaction log backup along with the configuration files.

`-truncate_tlog`

For an online backup, this option truncates the database transaction log after the backup completes.

nbdb_move

`nbdb_move` - move location of the NBDB database files after installation

SYNOPSIS

```
nbdb_move -data data_directory [-index index_directory] [-tlog  
log_directory] [-mlog log_directory] [-config_only] [-owner EMM |  
DBM | DARS]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/db/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

`nbdb_move` moves the NBDB and the BMRDB database files from the default directory locations to customer-specified directories. This action separates data from indexes and transaction logs to improve performance. This command also moves database data files and transaction files to the following default location:

On UNIX and Linux systems: `/usr/opensv/db/data`.

On Windows systems: `install_path\NetBackupDB\data`.

OPTIONS

`-config_only`

Updates the configuration files with the directory locations specified. The database files are not moved. Use this option in a recovery operation when the database files were already relocated manually and need their configuration settings to be saved.

`-data data_directory`

Moves the main database files to the customer-specified directories that *data_directory* designates.

`-index index_directory`

Changes the directory of the index database files.

`-mlog log_directory`

Creates a mirrored transaction log and puts it in a designated directory location. If a mirrored log already exists, this command can be used to move it to a different location.

`-owner EMM | DBM | DARS]`

Moves the database data, index, or log files for a specified data space.

`-tlog log_directory`

Changes the transaction log directory.

nbdb_ping

`nbdb_ping` - display status of NetBackup database (NBDB) or BMR database (BMRDB).

SYNOPSIS

```
nbdb_ping [-q] [-dbn database_name]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/db/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `nbdb_ping` command is used to check and display the status of the NetBackup database (NBDB) or the BMR database (BMRDB). Enter the command with no options to display the status of NBDB.

OPTIONS

`-dbn database_name`

Displays the status of the specified BMR database.

`-q`

Puts the command in quiet mode. It does not make any standard output.

nbdb_restore

`nbdb_restore` - recover the database that is backed up to a directory using `nbdb_backup`

SYNOPSIS

`nbdb_restore` -recover *source_directory*

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/db/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `nbdb_restore` command does a restore and recovery from a backup to a directory using `nbdb_backup`. The recommended method to protect the SQL Anywhere NBDB and BMRDB databases is through the Catalog Backup interfaces.

OPTIONS

-recover *source_directory*

The location of the backup.

nbdb_unload

nbdb_unload - unload NetBackup databases (NBDB) or BMR (BMRDB)

SYNOPSIS

```
nbdb_unload [-dbn database_name] [-t tablelist] [-s destination  
directory
```

```
nbdb_unload [-dbn database_name] -rebuild [-verbose]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/db/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

The `nbdb_unload` command unloads the specified database. By default the NBDB database is unloaded. The other value for `-dbn` includes, BMRDB for the Bare Metal Restore database.

Note: The Enterprise Media Manager (EMM) Database is considered a component of the NBDB database. In the future other components will be added to the NBDB such as IRM and POLICY.

This command creates `.dat` files, one for each table in the database or in the table list. Each `.dat` file contains comma-separated lines, one for each row in the table. A `reload.sql` file is also generated. This file contains the SQL statements that are required to reload the database. For example:

```
LOAD TABLE "BmrDb.BMR_Configuration" FROM
```

```
UNIX and Linux systems: /temp/data/345.dat
```

```
Windows systems: c:\temp\data\345.dat
```

To transfer the destination directory contents to a support machine and use it to create a copy of the customer's database, run the `reload.sql` file.

OPTIONS

```
-dbn database_name
```

Specifies the database that is to be unloaded.

`-rebuild`

Rebuilds the NetBackup database (the default NBDB).

`-s`

Unloads the schema only - no data is unloaded.

`-t tablelist`

Specifies a comma-separated list of tables to unload instead of all the tables in the database.

`-verbose`

Generates more detailed information to the output.

`destination directory`

The directory where a user wants the dump of the data and schema to go.

EXAMPLES

Example 1 - Unload the NBDB database (including all of EMM), data and schema:

UNIX and Linux systems: # `nbdb_unload /tmp/nbdb_dump`

Windows systems: # `nbdb_unload C:\temp\nbdb_dump`

Example 2 - Unload only the NBDB schema:

UNIX and Linux systems: # `nbdb_unload -s /tmp/nbdb_dump`

Windows systems: # `nbdb_unload -s C:\temp\nbdb_dump`

Example 3 - Unload only the EMM_STU table (by using fully qualified table names):

UNIX and Linux systems: # `nbdb_unload -t EMM_MAIN.EMM_STU /tmp/stu`

Windows systems: # `nbdb_unload -t EMM_MAIN.EMM_STU C:\temp\stu`

Example 4 - Unload the BMR database:

UNIX and Linux systems: # `nbdb_unload -dbn BMRDB /tmp/bmr_dump`

Windows systems: # `nbdb_unload -dbn BMRDB C:\temp\bmr_dump`

nbdbms_start_server

nbdbms_start_server - start and stop database server

SYNOPSIS

```
/usr/opensv/db/bin/nbdbms_start_server  
/usr/opensv/db/bin/nbdbms_start_server -stop [-f]  
/usr/opensv/db/bin/nbdbms_start_server -stat
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

Sybase ASA runs as a daemon on UNIX that starts or stops by using a script. If you initiate the program without any argument, the server starts.

OPTIONS

-stop

Causes the server to shut down.

-stat

Returns a status that indicates if the server is up or down. A zero (0) indicates that the server is active (up).

-f

Causes a forced shutdown of the server irrespective of active connections. This option is only applicable when used with the -stop option.

nbdbms_start_stop

nbdbms_start_stop – start and stop NetBackup database on the server

SYNOPSIS

```
/usr/opensv/netbackup/bin/nbdbms_start_stop [start | stop]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

The `nbdbms_start_stop` command starts and stops the Sybase ASA daemon.

OPTIONS

`stop`

Causes the server to shut down.

`start`

Starts the server.

nbdc

nbdc - add, modify, or list NetBackup data classifications

SYNOPSIS

```
nbdc -add -n name -r rank [-v] [-M master_server] [-d description]
```

```
nbdc -L | -l [-v] [-M master_server]
```

```
nbdc -modify -dc class [-v] [-M master_server] [-n name] [-d  
description] [-r rank]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `nbdc` command names data classifications and sets their rank. Data classifications are the labels that the user can attach to backup images. They allow NetBackup to treat different kinds of data differently. Only storage lifecycle policies can use data classifications.

The `nbdc` command can do one of the following:

- Add (`-add`) a new data classification. The new level requires a name and a rank, and optionally, a description and a master server name if multiple master servers are present.
- List (`-L` or `-l`) the data classifications.
- Modify (`-modify`) the name, rank, or description of a specified data classification.

OPTIONS

`-d description`

Specifies the new description for the designated data classification. This description is commentary only.

`-dc class`

Specifies the data classification ID (GUID) to be modified.

- l
Lists the data classifications. The output contains only information. The fields do not have names. A line appears for each level with the fields that are space delimited.
- L
Lists the data classifications. The field name identifies the output fields. A line is output for each level and is formatted to print within the field headings.
- M *master_server*
Specifies a master server. The default is the local server.
- n *name*
Identifies the new name for the specified data classification. Default names are Platinum, Gold, Silver, and Bronze.
- r *rank*
Identifies the new rank for the specified data classification ID. The rank is the method by which NetBackup determines the importance of a data classification in relation to other data classifications.
- v
Selects the verbose mode for logging.

EXAMPLES

Example 1 - List all data classifications. Only two levels (ranks) are shown.

```
# nbdc -L  
  
Rank: 4  
Name: Bronze  
Description: "lowest rank"  
Classification ID: B1F664D41DD111B2ACFB99708C0940D1  
  
Rank: 1  
Name: Platinum  
Description: "highest rank"  
Classification ID: B4C999D41DD111B2FFFB99704C6660D4
```

Example 2 - Change the description of Rank 4 to "really the lowest rank":

```
nbdc -modify -sl B1F664D41DD111B2ACFB99708C0940D1 -d "really the  
lowest rank"
```

SEE ALSO

See [nbstl](#) on page 548.

See [nbstlutil](#) on page 555.

nbdecommission

`nbdecommission` - decommission an old server

SYNOPSIS

```
nbdecommission -list_ref -oldserver hostname [-reason "string"]  
nbdecommission -oldserver hostname [-newserver hostname] [-reason  
"string"]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>NetBackup\bin\`

DESCRIPTION

The `nbdecommission` utility helps the user to view all the references that an old server has and provides help through the decommissioning process. The `-list_ref -oldserver hostname` option displays all that is associated with the old server, which allows users to break the associations on their own. This option does not decommission the server.

The `-oldserver hostname [-newserver hostname]` option provides a step-by-step guidance to decommission the old server. You can run the command on the master server or any server that is not decommissioned. The decommissioning process is clean and removes old media server entries in the EMM DB and `bp.conf` file which can slow down backup operations. The command does not assume that the old server is up and responsive.

OPTIONS

`-list_ref -oldserver hostname`

Displays the items that are associated with the old server. You can use this option to break the associations on your own.

`-oldserver hostname [-newserver hostname]`

Initiates a step-by-step guidance in decommissioning the old server. The command can be run on the master server or any server that is not decommissioned. It does not assume that the old server is up and responsive.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The

string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

nbdelete

`nbdelete` - remove deleted fragments from disk volumes

SYNOPSIS

```
nbdelete -allvolumes [-priority number] [-force] [-importedsnap  
-unimportedsnap] [-backup_id <bid> -copy_number <cnum>]
```

```
nbdelete -list [-backup_id bid -copy_number cnum]
```

```
nbdelete -dt disk_type -media_id name [-bpdm_media_server name]  
[-media_server name] [-storage_server name] [-priority number]  
[-force]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/openv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `nbdelete` command removes all deleted fragments from the disk volumes that are specified on the command line. The `-allvolumes` option removes the fragments from all volumes that contain deleted fragments. The `-dt`, `-media_id`, `-media_server`, and `-storage_server` options specify an individual volume where deleted fragments should be removed.

OPTIONS

`-allvolumes`

Queries the image list in the EMM database to obtain the list of volumes with deleted fragments. It removes the fragments from those volumes and deletes eligible imported snaps, unimported snaps, and tar images in that order.

`-allvolumes` calls `bpdm` on master server to delete imported snaps. It also queries the storage servers with unimported snapshots but does not direct `bpdm` to delete them.

`-backup_id bid`

Limits the deletion or the listing of deletable images to the specified backup ID.

`-bpdm_media_server name`

Starts up `bpdm` on the specified media server. Use if a media server has a much faster network connection to the disk volume's storage server for the delete operations.

`-bpdm_media_server name`

Starts up `bpdm` on the specified media server. Use if a media server has a much faster network connection to the disk volume's storage server for the delete operations.

`-copy_number cnum`

Limits the images to be deleted or listed as deletable to the specified snapshot copy number.

`-dt disk_type`

Specifies the disk type where the deleted fragments should be removed. The following are the valid values for *disk_type*:

0 - All

1 - BasicDisk

2 - NearStore

3 - SnapVault

6 - DiskPool

`-force`

Removes the database entries whether the disk deletion is successful or not. NetBackup removes image copies at catalog cleanup time and after the disk fragments have been removed. If a problem occurs when you try to delete the fragments, the database entries are retained for the deletion to be retried later. Deletion can fail if the following occurs: disk volume is offline, corrupted, or inaccessible; a hardware error or network error; or someone has already manually removed the fragments.

`-list`

Lists imported and unimported snapshots eligible for deletion. The list may be limited to the image with the specified backup ID and the specified copy number.

`-listname`

Specifies the name that represents the media ID of the volume whose deleted fragments are to be removed.

`-media_server name`

Specifies the name that represents the media server for the volume whose deleted fragments are to be removed.

`-priority number`

Specifies a new priority for the job that overrides the default job priority.

`-storage_server name`

Specifies the name that represents the storage server of the volume whose deleted fragments are to be removed.

nbdeployutil

nbdeployutil – deployment utility that gathers and analyzes master server information regarding clients and capacity

SYNOPSIS

```
nbdeployutil --gather [--bpimagelist=options] [--capacity] [--client  
hostname1, [hostname2, hostname#] | --clientlist=filename]  
[--hoursago=number] [--log=filename] [--master=hostname] [--nolog]  
[--output=directory] [--runtimestats] [-start date [-end date]]  
[--traditional]
```

```
nbdeployutil --report [--capacity] [--day-boundary=time] [dir1 dir2  
dir# | --dirsfile=filename | --parentdir=directory] [--log=filename]  
[--nolog] [--runtimestats] [--traditional]
```

```
nbdeployutil --version
```

```
nbdeployutil --format=csv dir1 [dir2 dir3]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The **nbdeployutil** command is a utility that gathers and analyzes deployment information from the master server. The utility performs a deployment analysis according to one of two NetBackup licensing models, either Traditional Licensing or Capacity Licensing. A Traditional Licensing deployment analysis counts the number of clients and servers then compares this information against licensed options. Capacity Licensing deployment analysis calculates how much source data is protected.

The command is run in two steps. Data is gathered in the first step and analyzed in the second.

The utility generates a log file named `nbdeployutil-gather-timestamp.log` during the gathering operation. The utility generates a log file named `nbdeployutil-report-timestamp.log` during the analysis and the report generating operation. By default the log files are created in the directory where the gathered data resides.

OPERATIONS

--format=csv

Creates a comma-separated file from the gathered `bpimagelist` file. The csv file is easier to read than the `bpimagelist` output.

--gather

Collects data for analysis with the `report` option. If the `capacity` or `traditional` parameter is used, only data for that specific license model is collected. If neither `capacity` nor `traditional` is specified, `gather` collects data for both license models.

--report

Produces a license report based on the data that is collected with the `gather` option. Specify the directory or list of directories for the utility to use for the report. If the `capacity` or `traditional` parameter is used, only data for that specific license model is reported. If neither `capacity` nor `traditional` is specified, the report shows data for both license models.

--version

Returns the version of the command. This option is used to identify the latest NetBackup product version the command is designed to run against. The version string also indicates special versions of the utility, such as engineering binaries. This option is useful if utility was manually copied to a pre-7.1 master server.

OPTIONS

--bpimagelist

Use to pass specific options to `bpimagelist` command during the `gather` part of the process. See the *Symantec NetBackup Commands* guide for more information about the `bpimagelist` command.

--capacity

Used in conjunction with `gather` or `report` to specify the license model. Use `capacity` to report on deployment according to NetBackup's per terabyte capacity licensing model.

--day-boundary

Moves the start of the report window for creating reports. The default report window starts at midnight and runs to 11:59:59 P.M. Specify the *time* value as *hh:mm* in 24 hour notation, where 6:00 A.M. is 06:00 and 6:00 P.M. is 18:00.

--client or --clientlist

Collects data or reports on data for a specified client or list of clients only. When using `client`, separate multiple clients with a comma. To use the `clientlist` parameter, list the clients in the `filename` on separate lines.

--dirsfile

A file containing a list of directories which the `report` parameter uses to generate a report. This parameter is an alternative to listing all the files after the `report` parameter. You can also use the `parentdir` parameter to list a parent directory for the `report` parameter to use.

--end

Specifies the end date for a restricted date range for the collection period. This parameter is used only in conjunction with the `start` parameter. The format for this parameter is "MM/DD/YYYY hh:mm:ss". Please be aware the double quotation marks around the date time value are required.

--hoursago

Used to change the default value for the image gather time interval. The value is specified in hours. The default value is 720 hours (30 days).

--log

Use this option to force the log output to go to a specific log file. By default, the log output is written to a log file within the directory where the gathered data and report is stored.

--master

Gather capacity licensing data for the specified master server. This parameter is only used in conjunction with the `gather` parameter. For the local host to gather data from a remote server, the name of the local host must appear in the server list of the remote server.

The parameter only supports remotely gathering capacity licensing information. Remotely gathering traditional licensing data is not supported at this time.

--nolog

Disable the creation of the debug log file.

--output

Saves the results in the indicated output directory. If the operation is a `gather`, the output directory holds gathered data. If the operation is a `report`, the report and log file are put in the output directory instead of co-located within the gathered data in the specified input directory. If the output option is not specified, the output is placed in the following directory:

- **UNIX:** `/usr/opensv/var/global/reports/
YYYYMMDD_hhmmss_masterserver`
- **Windows:** `install_path\
VERITAS\netbackup\var\global\reports\YYYYMMDD_hhmmss_masterserver`

--parentdir

Used to specify the top level in a directory tree containing many directories with the gathered licensing data that the `report` parameter should use to generate a report. You can also use the `dirsfile` parameter to specify a file that contains a list of directories.

--runtimestats

Displays runtime statistics for the utility. The statistics include memory and CPU usage.

Example UNIX or Linux output:

```
stats mem 40.1 M, cpu 27.0% after splitting t/fixture/  
nbdeployutil_sidon/bpimagelist_sidon.out  
stats mem 40.1 M, cpu 28.0% after parsing records from t/fixture/  
nbdeployutil_sidon/tmp/policy_db_arc_tab_2gig_nt_client_totemballmb7.out  
stats mem 40.6 M, cpu 50.0% after calculating for UNKNOWN-1 in  
t/fixture/nbdeployutil_sidon/ stats mem 40.6 M, cpu 51.0% after  
main report loop took 1 sec
```

--start

Specifies the start date for a restricted date range for the collection period. The format for this parameter is "`MM/DD/YYYY hh:mm:ss`". Please be aware the double quotation marks around the date time value are required.

--traditional

Used in conjunction with `gather` or `report` to specify the license model. Use `traditional` to report on deployment according to NetBackup's traditional per server licensing model.

--verbose

Outputs detailed progress information of the utility to the screen. That has no impact on the information in the debug log file. The contents of the log file are always verbose.

PREREQUISITES

The following are the prerequisites for the `nbdeployutil` utility:

- The master server daemons or services must be running in the environment to gather the data.
- Confirm there is sufficient disk space on the master server running the gather command. Gathering capacity licensing data collects `bpimagelist` output for the prior 30 days. The size of the output is a function of the number of images in the catalog for that period. The default time period can be moved or shrunk. The shorter the time range analyzed results in less accurate or incomplete figures.
- The `nbdeployutil` is designed for use with NetBackup version 6.5.x and greater and version 7.x and greater.
- Microsoft Excel is required to view the report. The software does not have to be installed on the master server.

EXAMPLES

Example 1 - Create a deployment analysis report for both NetBackup's capacity licensing model and traditional license model. The directory paths shown are for a Windows system, but this example applies to a UNIX or Linux system as well.

```
# nbdeployutil --gather
NetBackup Deployment Utility, version 7.1.0000.0000
Gathering license deployment information...
  Discovered master server marybl2g1
  Output for marybl2g1 at: D:\Program Files\VERITAS\netbackup\
  var\global\reports\20101029_170534_marybl2g1
Gather DONE
Execution time: 1 min
To create a report for this master server, run the following:
  nbdeployutil.exe --report "D:\Program Files\VERITAS\netbackup\
  var\global\reports\20101029_170534_marybl2g1"

D:\>nbdeployutil.exe --report "D:\Program Files\VERITAS\netbackup\
var\global\reports\20101029_170534_marybl2g1"
NetBackup Deployment Utility, version 7.1.0000.0000
Analyzing license deployment for master marybl2g1 ...
  Report created at: D:\Program Files\VERITAS\netbackup\var\global\
  reports\20101029_170534_marybl2g1\report-20101029_170705.xls
Analysis DONE
Execution time: 27 secs
```

Example 2 - Targeted deployment capacity analysis. The command gathers data for a subset of clients for a timeframe different than the default. The directory

paths shown are for a Windows system, but this example applies to a UNIX or Linux system as well.

```
D:\># nbdeployutil.exe --gather --output pickedclient --start "11/01/10
06:00:00" --end "11/02/10 01:00:00" --clients marybl2g1,marybl7g1
--verbose
NetBackup Deployment Utility, version 7.1.0000.0000
Gathering license deployment information...
run: bpgetconfig
    Discovered master server marybl2g1
run: bpimagelist -M marybl2g1 -d "11/01/10 06:00:00" -e "11/02/10
01:00:00" -l -client marybl2g1
run: bpimagelist -M marybl2g1 -d "11/01/10 06:00:00" -e "11/02/10
01:00:00" -l -client marybl7g1
    Output for marybl2g1 at: pickedclient\20101102_155246_marybl2g1
Gather DONE
Execution time: 4 secs
To create a report for this master server, run the following:
    nbdeployutil.exe --report "pickedclient\20101102_155246_marybl2g1"

D:\># nbdeployutil.exe --report pickedclient\20101102_154010_marybl2g1
--start "11/01/10 06:00:00" --end "11/02/10 01:00:00"
--clients marybl2g1,marybl7g1 --verbose
NetBackup Deployment Utility, version 7.1.0000.0000
Analyzing license deployment ...
    Master marybl2g1
    Report created at: pickedclient\20101102_154010_marybl2g1\
    report-20101102_155414.xls
Analysis DONE
Execution time: 2 secs
```

nbdevconfig

nbdevconfig - preview, import, create, or inventory disk pools

SYNOPSIS

```
nbdevconfig -changedp [-noverbose] -stype server_lifecycle_type -dp
disk_pool_name [-add_storage_servers storage_server...] |
[-del_storage_servers storage_server...] [-hwm high_watermark_percent]
[-lwm low_watermark_percent] [-max_io_streams n] [-comment comment]
[-setattribute attribute] [-clearattribute attribute] [-M
master_server] [-reason "string"]

nbdevconfig -changestate [-noverbose] -stype server_type -dp
disk_pool_name [-dv disk_volume_name] -state [UP | DOWN | RESET] [-M
master_server] [-reason "string"]

nbdevconfig -createdp [-noverbose] -dp disk_pool_name -stype
server_type -storage_servers storage_server... [-hwm
high_watermark_percent] [-lwm low_watermark_percent] [-comment
comment] [-dvlist filename] [-M master_server]

nbdevconfig -deletedp [-noverbose] stype service_type -dp
disk_pool_name [-M master_server] [-reason "string"]

nbdevconfig -getconfig stype service_type -storage_server
storage_server [-l | -U] [-configlist filename]

nbdevconfig -setconfig -stype service_type -storage_server
storage_server [-configlist filename] [-reason "reason"]

nbdevconfig -importenclr [-noverbose] -enclosure enclosure_name
-storage_servers storage_server... [-hwm high_watermark_percent]
[-lwm low_watermark_percent] [-comment comment] [-M master_server]

nbdevconfig -inventorydp [-preview | -noverbose] -stype server_type
-dp disk_pool_name [-media_server media_server] [-M master_server]

nbdevconfig -mergedps [-noverbose] -stype service_type -primarydp
disk_pool_name_1 -secondarydp disk_pool_name_2 [-M master_server]
[-reason "string"]

nbdevconfig -previewenclr [-l|-U] -enclosure enclosure_name |
-storage_server storage_server... [-M master_server]

nbdevconfig -previewdv -storage_server storage_server -stype
storage_server_type [-media_server media_server] [-dp disk_pool_name]
[-dvlist file_name] [-M master_server]

nbdevconfig -help operation
```

```
nbdevconfig -creatests [-noverbose] -storage_server storage_server  
-stype server_type -media_server media_server [-st storage_type]  
[-setattribute attribute] [-reason "string"]  
nbdevconfig -updatests [-noverbose] -storage_server storage_server  
-stype server_type -media_server media_server [-st storage_type]  
[-reason "string"]  
nbdevconfig -changests [-noverbose] -storage_server storage_server  
-stype server_type [-setattribute attribute] [-clearattribute  
attribute] [-reason "string"]  
nbdevconfig -deletests [-noverbose] -storage_server storage_server  
-stype server_type [-reason "string"]  
nbdevconfig -deletedv [-noverbose] -dp disk_pool_name -stype  
server_type -dv disk_volume_name [-M master_server] [-reason "string"]  
nbdevconfig -setSharedDiskSPR 0 | 1  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

Use the `nbdevconfig` command as a command line interface or a menu interface to configure and support disk pool operations.

`nbdevconfig` performs the following disk pool operations:

- Previews enclosures (disk arrays) available for disk pool creation
- Imports enclosures
- Previews and deletes disk volumes
- Creates and deletes disk pools from an enclosure or from an explicit list of disk volumes
- Merges the disk pools
- Inventories disk pools to discover new storage (new volumes, resized volumes, or new LUNs)
- Deletes a disk pool from NetBackup and the storage server
- Modifies the disk pool properties
- Changes the state of a disk pool or a disk volume
- Creates and delete storage servers

- Allows SCSI Persistent Reserve (SPR) or LUN operation
- Sets and clears storage server attributes
- Sets the maximum number of I/O streams (jobs) allowed in each volume of a disk pool

The `vmupdate` command detects whether new tapes have been added to or removed from a robotic library. In the same way, the `inventory` and the `preview` options of `nbdevconfig` detect if the storage administrator has changed the composition of the disk pool. An `inventory` detects if new volumes were added, existing volumes were resized (added more space), or volumes were removed. The `inventory` operation can also accept new space. (For example, it updates the NBU database with the existence of new disk volumes or configures new volumes from the new space.)

OPTIONS

The following are the `nbdevconfig` command operations.

`-changedp`

Changes the indicated properties of the disk pool. Specify the disk pool name option (`-dp`) and the storage server type (`-stype`) to identify the disk pool uniquely.

`-changestate`

Changes the state of the disk pool or disk volume. If `-dv` is specified, then `-changestate` changes the specified disk volume of the disk pool. Otherwise, it changes the state of the disk pool itself. The value for the state can be UP, DOWN, or RESET.

`-createdp`

Creates a disk pool from the specified list of disk volumes. Additional properties like High Water Mark and comments can be specified.

`-creatests`

Creates a storage server.

`-deletedp`

Deletes the specified disk pool from the NetBackup device database. Expire and delete all images before you run this option.

`-deletedv`

Deletes the specified disk volume from the specified disk pool. No backup image fragments can exist on the volume. No backup jobs can be active on the volume. The disk volume and disk pool must be DOWN.

`-deletests`

Deletes the specified storage server.

`-getconfig`

Retrieves the default configuration parameters for the disk pool attributes.

The following options are associated with the `-getconfig` command:

`-configlist filename`

Captures the configuration parameter information and sends it to a designated file (filename).

`-l | -U`

Determines how the listing of configuration parameters are displayed. `-U` (user mode) generates a user-readable, formatted listing. The `-l` option produces the listing in raw output mode with all parameters in a single line.

`-stype server_type`

Specifies a string that identifies the storage server type. Possible values are AdvancedDisk, PureDisk, and OpenStorage (*vendorname*).

`-storage_server storage_server`

Specifies the storage server that contains the disk pool whose configuration parameters you want.

`-help operation`

Specifies an operation (`-changestate`, `-deletedp`, `-inventorydp`, ...) for which you want usage information.

`-importenclr`

Creates a disk pool from the specified enclosure. You can also specify additional properties like High Water Mark and comments.

`-inventorydp`

Discovers new or changed storage in a disk pool and accept these changes. Storage changes include new volumes, change of volume size, or new LUNs. Use the `-preview` option if you only want to view the details of the changes to the disk pool without accepting them.

`-max_io_streams n`

Limits the number of jobs that are allowed for each volume in the disk pool to the specified number *n*. This number is the sum of the jobs that read backup images and the jobs that write backup images. When the limit is reached, NetBackup chooses another available volume for write operations. If none is available, NetBackup queues jobs until a volume becomes available. Factors

that affect the optimal number of streams include disk speed, CPU speed, and the amount of memory.

This parameter is not supported for BasicDisk. NetBackup does not limit the number of streams for BasicDisk storage units.

`-mergedps`

Merge the specified primary and secondary disk pools. `Disk_pool_name_2` merges into `"disk_pool_name_1"` leaving only `"disk_pool_name_1."` Merge the specified primary and secondary disk pools.

`-previewdv`

Previews inventory changes to be made, but does not perform the inventory update.

`-previewenclr`

Lists the details of all enclosures (disk arrays) that any disk pool uses or may use.

`-reason string`

Indicates the reason why you are performing this command action. The reason string that you enter is captured and appears in the audit report. It can be no more than 512 characters. It cannot begin with a dash character (-), and cannot contain a single quotation mark (!).

`-setconfig`

Sets the configuration parameters for the disk pool. These attributes can be set by using this command option:

The following options are associated with the `-getconfig` command:

`-configlist filename`

Sends the configuration parameter information in the designated file (*filename*) to the appropriate disk pool.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (!).

`-stype server_type`

Specifies a string that identifies the storage server type. Possible values are AdvancedDisk, PureDisk, and OpenStorage (*vendorname*).

`-storage_server storage_server`

Specifies the storage server that contains the disk pool whose configuration parameters you have set.

`-setSharedDiskSPR 0 | 1`

Configures SPR (SCSI Persistent Reserve) or LUN masking. Zero (0) enables LUN masking; 1 enables SPR. (SharedDisk applies to NetBackup 6.5 media servers only.)

`-updatedv`

The following is a description of each of the `nbdevconfig` suboptions. Multiple options may use some of these suboptions (see the Synopsi).

`-clearattribute attribute`

Removes an attribute from the storage server for restore or duplication operations. It is used only with the `-changests` and `-changedp` options. You can specify more than one `-clearattribute` attribute on the command line. The following are the attributes:

- `PrefRestore`. The storage server is preferred for the read side of restore operations.
- `ReqRestore`. The storage server is required for the read side of restore operations.
- `ReqDuplicate`. The storage server is required for the read side of duplication operations.

`-comment comment`

Adds a comment for the disk pool. Quotation marks (" ") are required if the comment contains any spaces.

`-dp disk_pool_name`

The name of the disk pool that `nbdevconfig` previews, inventories, or creates.

`-dv disk_volume_name`

The name of the disk volume.

`-dvlist filename`

The file name that contains a list of the disk volumes.

`-enclosure enclosure_name`

The unique name of the enclosure. When it is used with the `previewenclr` option, it displays details about the enclosure. This option runs successfully only if the vendor CLI is installed on the master server and its name in the disk array's host map.

When it is used with the `importenclr` option, it creates the disk pool from the specified enclosure.

`-hwm high_watermark_percent`

The percentage of used capacity at which the storage (disk volume) is considered full. No new jobs can be assigned to the volume, and staging expiration operations can be triggered.

`-l`

Sets the list type to short. This option produces parsable output with all fields on one line with no headers. The first field indicates the version of the output as an aid to the script operation.

`-lwm low_watermark_percent`

The percentage of used capacity to which staging and expiration operations drain each volume in the disk pool upon reaching the high water mark.

`-M master_server`

The name of the master server.

`-media_server media_server`

The media server that executes the operation.

`-noverbose`

Suppresses all `stdout` messages, including successful confirmation output such as "Disk pool `disk_pool_name` was successfully inventoried."

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-setattribute attribute`

Applies an attribute to the storage server or data pool for the read side of restore or duplication operations. It is used only with the `-changests` and `changedp` options. The attributes help you manage the restore traffic and duplication traffic. You can specify more than one `-setattribute attribute` on the command line. The following are the attributes:

- **PrefRestore.** The storage server or data pool is preferred for the read side of restore operations. More than one storage server can have the PrefRestore attribute.

The storage servers and data pools that are marked as PrefRestore are considered for use first. If none are available, any unmarked storage server is considered for use.

Normal NetBackup load balancing occurs among all storage servers marked PrefRestore.

- **ReqRestore.** The storage server or data pool is required for the read side of restore operations. More than one storage server or data pool can have the ReqRestore attribute.

If a ReqRestore server is not available, NetBackup considers PrefRestore servers for use. If none are available, jobs queue until a ReqRestore or PrefRestore is available.

If you configure ReqRestore servers but not PrefRestore servers, unmarked storage servers are never considered for restore jobs. Jobs are queued until a ReqRestore storage server is available to execute the job.

Normal NetBackup rules for job retry apply.

Normal NetBackup load balancing occurs for all storage servers marked ReqRestore. Load balancing does not occur between the ReqRestore and PrefRestore storage servers.

- **ReqRestore.** The storage server is required for the read side of duplication operations. More than one storage server can have the ReqDuplicate attribute.

If any storage server is marked as ReqDuplicate, only storage servers that are marked as ReqDuplicate are considered for use. If a ReqDuplicate server is unavailable, jobs queue until a ReqDuplicate server is available to execute the job. Normal NetBackup rules for job retry apply.

ReqRestore also applies to storage server allocation for synthetic backup operations.

`-st storage_type`

The type of storage being used:

1 -- Formatted disk (default) OR 2 -- Raw disk

4 -- Direct attached OR 8 -- Network attached (default)

The two values are added together. For example a *storage_type* of 10 indicates a raw disk (2) that is network attached (8).

`-state UP | DOWN | RESET`

Selects the state of the disk pool or disk volume. Specify UP to up the disk pool or disk volume and DOWN to down the disk pool or disk volume.

The RESET option does the following:

- Sets the internal state to UP (both disk volume and disk pool)

- Sets `committed_space` to ZERO (disk volume only)
- Sets the precommitted space to ZERO (disk volume only)

`-storage_server storage_server`

A single storage server. Interpretation differs depending upon one of the following options that are used with it:

- `previewdv`: `-storage_server` restricts the output to arrays that are connected to the specified servers. All of the hosts must be connected to all storage (LUNs) within the disk volume.
- `creatests`: `-storage_server` identifies the host name of the storage server.

`-storage_servers storage_servers...`

The list of storage server names for creating a disk pool. Spaces, and not commas, must separate the items in this list.

`-stype server_type`

The string that identifies the storage server type.

`-U`

Sets the list type to user readable. This option produces a listing with more fields and one attribute per line.

EXAMPLES

Example 1 - Preview all SharedDisk enclosures that the storage servers see and display in short mode. Note that SharedDisk operates on NetBackup 6.5 media servers only.

```
# nbdevconfig -previewencldr -l -hosts daloa -M daloa
V6.5 imported_dg 0 1.20 1.20 3 daloa.min.veritas.com
```

Example 2 - Preview all SharedDisk enclosures that the storage servers see and display in user readable mode. Note that SharedDisk operates on NetBackup 6.5 media servers only.

```
# nbdevconfig -previewencldr -U -storage_servers daloa -M daloa
Preview of Enclosure imported_dp as Disk pool
Disk Pool Name      : imported_dp
Disk Pool Id       : imported_dp
Disk Type          : SharedDisk
Availability       : Free
Raw Size (GB)     : 1.20
Usable Size (GB)  : 1.20
```

```
Num Volumes      : 3
Storage Server   : daloa.min.veritas.com
```

Example 3 - Delete a disk pool.

```
# nbdevconfig -deletedp -dp Disk-Pool-2
failed to delete disk pool
```

...[user expires all images on the disk group]...

```
$ nbdevconfig -deletedp -dp Disk-Pool-2
Disk pool Disk-Pool-2 has been deleted successfully
```

Example 4 - Mark a disk pool as DOWN.

```
# nbdevconfig -changestate -stype AdvancedDisk -dp diskpool_alpha
-state DOWN
```

Example 5 - Mark a disk volume as UP.

```
# nbdevconfig -changestate -stype AdvancedDisk -dp diskpool_alpha -dv
alpha_voll -state UP
```

Example 6 - Inventory a disk group.

```
# nbdevconfig -inventorydp -preview -stype AdvancedDisk -dp
Disk-Pool-2
Old Raw Size (GB): 97.85
New Raw Size (GB): 103.45
```

```
Old Formatted Size (GB): 97.80
New Formatted Size (GB): 103.40
```

```
Old Host List: willow,Apple,dunamo
New Host List: Dellco,carrot,Apple,dynamo
```

Affected Storage Units

```
SSO-STU-7 - willow [...] would be removed from media server list
SSO-STU-9 - willow [...] would be removed from media server list, \
switched to "any available" media server list.
```

Affected Storage Units

```
SSO-STU-7 -willow [...] was removed from media server list
```

```
SSO-STU-9 -willow [...] was removed from media server list,  
switched to "any available" media server list.
```

\

nbdevquery

nbdevquery - display NetBackup disk media status

SYNOPSIS

```
nbdevquery -listdp -stype server_type [-dp disk_pool_name] [-M master_server] [-l | -U | -D]
```

```
nbdevquery -liststs [-stype server_type] [-storage_server storage_server] [-l | -U | -D]
```

```
nbdevquery -listdv -stype server_type [-dp disk_pool_name [-dv disk_volume_name]] [-M master_server] [-l | -U | -D]
```

```
nbdevquery -listmediaid id... [-l | -U]
```

```
nbdevquery -listglobals
```

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The nbdevquery command line utility is the disk equivalent of bpmcdialist for tape. The following are the three operations that nbdevquery performs:

- -listdp lists all disk pools.
- -liststs lists all storage servers in the system.
- -listdv displays status for disk volumes of imported disk pools. It includes such things as whether the volume is online or offline and the number of current readers (or writers) to the volume.

When used with the -D option, the -listdv command returns a large set of data including the following values that NetBackup uses to determine the available free space within the disk pool:

total_capacity : xxxxxxxx -- The total size of the disk as derived from the file system.

free_space : xxxxxxxx -- The amount of free space on the disk as derived from the file system.

potential_free_space : xxxxxxxx -- The total size of all fragments on the disk that have been duplicated as part of a storage lifecycle policy and are eligible for expiration. The potential_free_space value is computed after duplication and expiration sessions. This information is applicable only when capacity managed retention is used for a storage destination.

`committed_space : xxxxxxxx`-- The amount of data that NetBackup estimates as being written to the disk, based on all in-progress backups.

`precommitted_space : xxxxxxxx`-- A helper value for `committed_space`. This value is decreased as a backup job proceeds and the `total_capacity` and `free_space` information is updated.

NetBackup uses `free_space`, `potential_free_space`, and `committed_space` to determine how much space is available on a disk. It uses the following formula:
available space = `free_space` + `potential_free_space` - `committed_space`

- `-listmediaid` lists all disk volumes that have been given a disk media ID.
- `-listglobals` lists the global disk attributes.

OPTIONS

`-D`

Sets the list type to dump debug data. This option dumps information without further processing. The output format and displayed fields are subject to change without notification.

`-dp` *disk_pool_name*

Specifies the name of the disk pool to be queried. This pool is the data storage area for this storage unit.

`-dv` *disk_volume*

Displays the status for only the specified disk volume. For NearStore, the input value is the volume path. For BasicDisk, the input value is the path. In all other cases, the input value is the volume name.

`-l`

Sets the list type to short. This option produces parsable output with all fields on one line, no headers. The first field indicates the version of the output as an aid to the script operation. Date and time values appear in UNIX long format; status values appear in integer form.

`-listdp`

Lists all imported disk pools in the NetBackup database. For an OpenStorage disk, `-listdp` lists all the disk pools that have been configured.

`-listdv`

Lists the status for all disk volumes of imported disk pools and returns a list of all disk volumes in the NetBackup database. See Example 3.

`-listglobals`

Lists NetBackup Disk Service Manager global disk attributes. If SPR is enabled, the SCSI Persistent Reservation setting is set to one (1). If LUN masking is enabled, the output shows zero (0) rather than 1.

`-listmediaid id...`

Lists all disk volumes that have been given the specified disk media IDs.

`-liststs`

Lists all servers that host storage. These include appliances such as OpenStorage, SAN-attached storage such as SharedDisk (NetBackup 6.5 media servers only), BasicDisk, and Network-attached storage (NAS devices) such as NetApp.

`-storage_server storage_server`

The host name of the storage server. For NearStore, this name is the hostname of the NearStore system. For BasicDisk, the name of the media server. In all other cases, this option is the name given to the storage server when it was created.

`-stype server_type`

Specifies the string that identifies the storage server type.

`-U`

Lists the configuration information about the specified disk pool, storage server, or disk storage (see Example 1). Some of the items cannot be changed.

EXAMPLES

Example 1

```
# nbdevquery -liststs -stype AdvancedDisk -U
Storage Server      : <machine_name>
Storage Server Type : AdvancedDisk
Storage Type       : Formatted Disk, Direct Attached
State              : UP
Flag                : OpenStorage
Flag                : AdminUp
Flag                : InternalUp
Flag                : SpanImages
Flag                : LifeCycle
Flag                : CapacityMgmt
Flag                : FragmentImages
Flag                : Cpr
```

```
Flag : RandomWrites
Flag : FT-Transfer
```

Example 2 - List all disk pools in the system. Note that SharedDisk operates on NetBackup 6.5 media servers only.

```
# nbdevquery -stype SharedDisk -dp disk-pool-1
V6.5 Disk-Pool-1 0 97456 97480 10 80 90 server1,server2,server3
```

Example 3 - List all disk pool information in user format.

```
nbdevquery -listdv -stype AdvancedDisk -U
Disk Pool Name : djs_bd
Disk Type : AdvancedDisk
Disk Volume Name : Internal_16
Disk Media ID : @aaaab
Total Capacity (GB) : 68.21
Free Space (GB) : 55.93
Use% : 17
Status : UP
Flag : OkOnRoot
Flag : ReadOnWrite
Flag : AdminUp
Flag : InternalUp
Num Read Mounts : 0
Num Write Mounts : 1
Cur Read Streams : 8
Cur Write Streams : 6
```

Example 4 - Do a disk drive dump of the disk pool sim_dp1 that SharedDisk uses. Note that SharedDisk operates on NetBackup 6.5 media servers only.

```
# nbdevquery -listdp -dp sim_dp1 -stype SharedDisk -D
Disk Drive Dump
name : <sim_dgl>
id : <sim_dgl>
server_type : <SharedDisk>
master_server : <daloa.min.veritas.com>
access_media_server : <>
disk_storage_type : 6
total_capacity : 1286602752
used_space : 0
sts_state : 0
availability : 2
connectivity : 0
```

```
high_watermark      : 98
low_watermark       : 80
num_diskvolumes     : 3
num_disks           : 0

num_stservers       : 2
system_tag          : <Imported from STS>
user_tag            : <>
Storage Server [0]
  name : <daloa.min.veritas.com>
  id   : <>
  server_type : <SharedDisk>
  storage_type : 6
  access_media_serv.: <>
Storage Server [1]
  name : <blackjack.min.veritas.com>
  id   : <>
  server_type : <SharedDisk>
  storage_type : 6
  access_media_serv.: <>
```

SEE ALSO

See [nbemmcmd](#) on page 494.

nbdna

nbdna – the utility that analyzes the NetBackup domain and its configuration

SYNOPSIS

```
nbdna [-phase=<0|1|2>] [-verbose] [-sfo] [-server | -lookup]
[-odir=override_output_directory] [-tmp=override_tmp_directory]
[-dump] [-f=listfile.txt] [-overwritelst] [-version]
[-imfile=output_file]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/support`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\support`

DESCRIPTION

The NetBackup Domain Network Analyzer (`nbdna`) command utility analyzes the NetBackup domain and its configuration for network issues, performance, and behavior. It addresses hostname lookup and connectivity between NetBackup hosts and their role within the NetBackup domain.

`nbdna` does the following:

- Discovers and maps the NetBackup domain
- Extracts the hostname memberships by querying the configuration
- Evaluates hostname lookup and socket connectivity to these hostnames to validate their network relationship status according to their domain configuration

`nbdna` can be run on a NetBackup master server, media server, or client. It creates and identifies a zip archive containing all generated reports. You can return the zip archive to Symantec upon request.

OPTIONS

`-dump`

Does not run the test, but dumps server, client, and lookup test list to the specified file.

`-f=listfile.txt`

Reads the hostnames from the specified ASCII text file and adds them to the test lists. The format of the text file is the following:

```
SERVER hostname
CLIENT hostname-b
LOOKUP hostname-c
```

Lines beginning with SERVER are imported to the server test list.

Lines beginning with CLIENT are imported to the client test list.

Lines beginning with LOOKUP are imported to the lookup-only test list.

`-imfile=output_file`

Reads hostnames from a file that contains the output from either the `bpimagelist -l` command or the `bpimedia -l` command.

`-lookup`

Runs the name lookup test only. This option cannot be run with the `-server` option.

`-odir=override_output_directory`

Overrides the output directory with the specified directory.

The default directory is the following:

- For UNIX:

```
/usr/openv/netbackup/bin/support/output/nbdna/YYYYMMDD.HHMMSS/
```

- For Windows:

```
<install_path>\NetBackup\bin\support\output\nbdna\YYYYMMDD.HHMMSS
```

If the NetBackup path cannot be found, the default is changed to the same directory as the `nbdna` binary.

`-overwritelst`

Overwrites all test lists with the list file.

`-phase=pn`

Specifies the phase number (*pn*) of the test to be run.

The possible values of *pn* are the following:

- 0 - Phase 0 runs the name lookup test and the socket connection test. Phase 0 is the default mode.
- 1 - Phase 1 tests include phase 0 tests plus the basic NetBackup service test for the SERVER list.
- 2 - Phase 2 tests include phase 0 tests plus the basic NetBackup service test for the SERVER list and the CLIENT list.

`-server`

Runs the server test only. This option cannot be run with the `-lookup` option.

`-sfo`
 Produces script friendly reports.

`-tmp=override_tmp_directory`
 Overrides the temporary directory. The default condition is the system temp directory.

`-verbose`
 Displays progress to the standard out (on-screen). The same information is captured to the progress-trace log regardless of this switch. You do not need to capture verbose output to a file.

`-version`
 Displays the version information then exits the utility.

FILES

nbdna creates up to five files:

```
ANONYMOUS.NBDNA.YYYYMMDD.HHMMSS.dna
hostname.NBDNA.YYYYMMDD.HHMMSS.zip archive file
hostname.NBDNA.failure-report.YYYYMMDD.HHMMSS.txt
hostname.NBDNA.failure-report.YYYYMMDD.HHMMSS.html
hostname.NBDNA.failure-errorlog.YYYYMMDD.HHMMSS.log.
```

The last three files that are listed are generated only if there are errors.

EXAMPLES

Example 1 - In this UNIX example, nbdna runs with report files written to an alternate directory:

```
# nbdna -odir=/user/home/winter/
```

Example 2 - Run nbdna with verbose output. It imports a hostname list file (hostnames.txt) that overwrites all the existing test lists:

```
# nbdna -verbose -f=hostnames.txt -overwritelists
```

The hostname file format is as follows:

```
SERVER dellpe2400
CLIENT 10.12.249.20
LOOKUP 10.82.108.136
```

nbsu, nbcplugs

See [nbsu](#) on page 563.

See [nbcplogs](#) on page 443.

nbemm

`nbemm` – run the NetBackup EMM daemon to manage volumes, volume pools, barcode rules, and devices

SYNOPSIS

nbemm [-console] [-terminate]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The Enterprise Media Manager daemon or service manages volumes, volume pools, barcode rules, and devices. This daemon performs media, drive, drive path, and storage unit selection.

Note: The `nbemm` daemon or service must be active to change the volume configuration, device configuration, storage unit configuration, and for any tape mount activity.

To start `nbemm`, enter `nbemm`.

To stop `nbemm`, enter `nbemm -terminate`.

OPTIONS

`-console`

This option enables you to start NetBackup in console mode.

`-terminate`

This option enables you to stop the `nbemm` binary.

SEE ALSO

See [nbemmcmd](#) on page 494.

nbemmcmd

nbemmcmd – update and view information in the EMM database

SYNOPSIS

```

nbemmcmd [-addhost] [-changesetting] [-deletehost] [-errorsdb]
[-getemmserver] [-help] [-listhosts] [-listmedia] [-listsettings]
[-machinealias] [-renamehost] [-servercontrol] [-setemmserver]
[-updatehost]
nbemmcmd -addhost [-activenodename string] [-brief] [-clustertype
string] [-displayname string] [-machinedescription string]
-machinename string -machinetype api | app_cluster | cluster | master
| media | ndmp [-masterserver string] [-netbackupversion
level [major_level [minor_level]]] [-operatingsystem hpux | linux |
rs6000 | solaris | windows] [-scanability unsigned_integer]
nbemmcmd -changesetting -machinename string
[-ALLOW_MULTIPLE_RETENTIONS_PER_MEDIA 0|1|no|yes] [-AUDIT DISABLED
| ENABLED] [-AUDIT_RETENTION_PERIOD number_of_days]
[-COMMON_SERVER_FOR_DUP default | preferred | required]
[-DISABLE_AUTOMATIC_HOST_NAME_ADD 0|1|no|yes]
[-DISABLE_BACKUPS_SPANNING_DISK 0|1|no|yes]
[-DISABLE_DISK_STU_JOB_THROTTLING 0|1|no|yes]
[-DISABLE_STANDALONE_DRIVE_EXTENSIONS 0|1|no|yes]
[-DISALLOW_NONNDMP_ON_NDMP_DRIVE 0|1|no|yes] [-DO_NOT_EJECT_STANDALONE
0|1|no|yes] [-DONT_USE_SLAVE 0|1|no|yes] [-DRIVE_ERROR_THRESHOLD
unsigned_integer] [-DRIVE_NAME_SEED 0|1|no|yes] [-emname string]
[-emmport unsigned_integer] [-MAX_REALLOC_TRIES unsigned_integer]
[-MEDIA_ERROR_THRESHOLD unsigned_integer] [-MEDIA_REQUEST_DELAY
unsigned_integer] [-MPMS_DISABLE_EVENTS 0|1|no|yes]
[-MPMS_DISABLE_RANK unsigned_integer] [-MUST_USE_LOCAL_DRIVE
0|1|no|yes] [-NBUFS_DESTINATION_DSU string] [-NBUFS_DUP_TSU_TO_DSU
0|1|no|yes] [-NBUFS_RETENTION_LEVEL unsigned_integer]
[-NON_ROBOTIC_MEDIA_ID_PREFIX string] [-PREFER_NDMP_PATH_FOR_RESTORE
0|1|no|yes] [-RETURN_UNASSIGNED_MEDIA_TO_SCRATCH_POOL 0|1|no|yes]
[-SCSI_PROTECTION NONE | SPR | SR] [-SHAREDISK_MOUNT_POINT string]
[-TIME_WINDOW unsigned_integer] [-UNRESTRICTED_SHARING 0|1|no|yes]
[-VALIDATE_HOST_NAME 0|1|no|yes] [-VAULT_CLEAR_MEDIA_DESC 0|1|no|yes]

```

```
nbemmcmd -deletehost [-brief] -machinename string -machinetype api
| app_cluster | cluster | master | media | ndmp | master | media |
ndmp-mediaid string

nbemmcmd -errorsdb [-brief] [-prune [-days no_of_days] [-hours
no_of_hours] [-minutes no_of_minutes]]

nbemmcmd -getemmserver [-masterserver string] [-timeout
unsigned_integer]

nbemmcmd -listhosts [-brief] [-verbose] [-parsable]
[-list_snap_vault_filers -machinename string]
[-list_snap_vault_media_servers -masterserver string] [-list_sts_hosts
-machinename string] [-list_sts_media_servers -masterserver string]
[-list_app_clusters -masterserver string] [-servers_in_emm_cluster
-clustername string] [-servers_in_app_cluster -clustername string]
[-nbserver [-masterserver string]] [-display_server -machinename
string -machinetype string] [-netbackupversion
level[.major_level[minor_level]]]

nbemmcmd -listmedia [-allrecords] [-mediaid string] [-mediatype
unsigned_integer] [-poolname string] [-robotnumber unsigned_integer]
[-vaultcontainer string]

nbemmcmd -listsettings -machinename string [-brief] [-emmname string]
[-emmport unsigned_integer]

nbemmcmd -machinealias [-addalias -alias string -machinename string]
[-deletealias -alias string] [-deleteallaliases -machinename string]
[-getaliases -machinename string] -machinetype api | app_cluster |
cluster | master | media | ndmp

nbemmcmd -releasecache -machinename string [-brief] [-emmname string]
[-emmport unsigned_integer]

nbemmcmd -renamehost [-brief] -machinename string -machinetype api
| app_cluster | cluster | master | media | ndmp -newmachinename string

nbemmcmd -servercontrol [-brief] [-resume] [-suspend]

nbemmcmd -setemmserver [-brief] -emmservername string [-masterserver
string] -newemmservername string [-timeout unsigned_integer]

nbemmcmd -updatehost [-activenodename string]
[-add_server_to_app_cluster] [-brief] [-clustername string]
[-delete_server_from_app_cluster] [-displayname string]
[-machinedescription string] -machinename string [-machinestateop
clr_admin_pause | clr_admin_pause_and_set_active | clr_disk_active
| clr_ltid_restart | clr_master_server_connectivity | clr_tape_active
| reset_all | set_admin_pause | set_disk_active |
set_master_server_connectivity | set_tape_active] [-machinetype pi
```

```
| app_cluster | cluster | master | media | ndmp] [-masterserver
string] [-netbackupversion level[.major_level[minor_level]]]
[-operatingsystem hpux | linux | rs6000 | solaris | windows]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

The `nbemmcmd` command enables users to update a limited set of EMM database information. In addition, this command enables you to manage host entries, configuration options, and other miscellaneous items in the EMM database.

OPTIONS

The following commands contain a variety of options that enable you to manage the EMM database. The names of the options are purposely long to provide the user with a better understanding of how the options are to be used. Because of the option name length, you need only type the first letter or letters of the command that make it a unique option. For example, to use the `-changesetting` option, type `-c` because no other command option starts with the letter `c`.

`-addhost`

This option adds the specified host to the EMM database. The following entries can be adjusted by using this command option:

`-activenodename string`

Identifies the active node in a cluster.

`-brief`

Makes the output of the command less verbose.

`-clustername string`

Identifies the cluster to which this machine belongs.

`-displayname string`

Sets the display name of the machine.

`-machinedescription string`

Describes the machine or system being used.

`-machinename string`

Specifies the name of the machine to be updated.

`-machinetype api | app_cluster | cluster | master | media | ndmp`
Defines how the machine is used.

`-masterserver string`
Defines the host master server in a particular domain.

`-netbackupversion level[.major_level[minor_level]]`
Specifies the version that the added host is running. The *level* variable has a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. No spaces are allowed between the *major_level* and *minor_level* variables.

For example, enter the following information to specify NetBackup 6.0:

```
-netbackupversion 6.0 or -netbackupversion 6
```

`-operatingsystem hpux | linux | rs6000 | solaris | windows`
Adds a host with a designated operating system.

`-scanability unsigned_integer`
This option applies only to NetBackup Enterprise Servers that use the Shared Storage Option (SSO) feature.
A scan ability factor can range from zero to 9, with a default value of 5. This factor allows the assignment of scan hosts to be prioritized if a drive's scan host changes. Scan hosts with higher scan ability factors are chosen first.

Caution: A drive is unavailable for use until a scan host can be assigned to it. If all hosts that register for a particular drive use `scan_factor = 0`, the drive remains unusable until a host with a non-zero `scan_factor` registers for the drive. If all hosts with a non-zero `scan_factor` have the drive DOWN, then again the drive becomes unavailable.

The decision to use a `scan_factor` of zero for a server reduces the level of resiliency in your SSO configuration. Be aware of the servers that can be a scan host for a drive. If a drive loses a scan host, it makes the drive unavailable to any server.

`-changesetting -machinename string`
Changes the configuration setting for a specified host and adds the settings that did not previously exist.

Change these configuration options by using the `-changesetting` command with the option name followed by the enable designator ("1" or "yes") or the

disable designator ("0" or "no"). For example, the following command disables the ability of EMM to add a host name automatically:

```
# nbemmcmd -changesetting -DISABLE_AUTOMATIC_HOST_NAME_ADD no
```

```
-ALLOW_MULTIPLE_RETENTIONS_PER_MEDIA 0 | 1 | no | yes
```

Allows NetBackup to mix retention levels on media. The default condition is that each volume can contain backups of only a single retention level.

```
-AUDIT [DISABLED | ENABLED]
```

Enables and disables NetBackup auditing. An audit trail is a record of user-initiated actions in a NetBackup environment. Auditing gathers and records the information to help answer who changed what and when they changed it. The default condition is audit enabled.

```
-AUDIT_RETENTION_PERIOD number_of_days
```

Specifies the number of days that user actions are to be retained for the audit report. If no retention period is indicated, the default audit retention period is 90 days. A value of 0 (zero) indicates that the records are never purged.

```
-COMMON_SERVER_FOR_DUP default | preferred | required
```

Determines how NetBackup finds the desired media server(s) to duplicate the data.

The media server used to read the image is the 'read media server'. The media server used to write the image is the 'write media server'. By default, when the source image is on a tape device, the read media server is the one that writes the backup image. Also, when the source image is on a disk pool with multiple media servers, any of those media servers may be used as the read media server. The choice for the write media server is limited to those that have access to the storage unit or storage unit group specified as the destination of the duplication.

The following are the possible settings of this option:

- **Default.** NetBackup does not perform an exhaustive search for possible common servers (same read and write media server). If the common media servers are busy or unavailable, NetBackup uses a different write media server than the read media server. Use this option when you don't want an exhaustive search to impact the performance of the Resource Broker. This scenario can occur when a large job queue with duplication jobs wait for resources to become available.
- **Preferred.** Look for a common media server to use. If one or more common media servers are found, but their resources (e.g., DSUs or

tape drives and tapes) are busy, run the duplication job anyway by using two separate media servers (sending images over the network).

- Required. NetBackup makes an exhaustive search to find a common server. If the common media servers are busy, NetBackup queues the resource request and waits for the resources to become available. If no common servers are in the NetBackup domain, or if a common server exists but is down, NetBackup runs the job with two separate media servers, sending the images over the network.

`-DISABLE_AUTOMATIC_HOST_NAME_ADD 0|1|no|yes`

Disables the ability of EMM to add a host name automatically if it appears to be valid. An example of an invalid host name is a name that duplicates another host.

`-DISABLE_BACKUPS_SPANNING_DISK 0|1|no|yes`

Disables the ability of a backup operation to disk to continue when a file system full condition occurs on a disk storage unit volume. It disables by using image fragments on multiple storage unit volumes.

`-DISABLE_DISK_STU_JOB_THROTTLING 0|1|no|yes`

Disables the disk storage unit job throttle action that occurs when disk storage units approach their high-water mark. Disk storage unit throttling limits the number of jobs that are started simultaneously to approach the high-water mark more accurately. Default: Throttle disk storage units that approach their high-water mark.

`-DISABLE_STANDALONE_DRIVE_EXTENSIONS 0|1|no|yes`

Disables non-robotic drive operations. During a backup, NetBackup does not automatically try to use whatever labeled or unlabeled media it finds in a non-robotic drive. Default condition is that stand-alone drive extensions are enabled.

`-DISALLOW_NONNDMP_ON_NDMP_DRIVE 0|1|no|yes`

The MDS logic on the EMM server reads this option. NetBackup tries to use an available drive that is based on the type of request as follows:

For a non-NDMP request of any kind, NetBackup tries to find an available non-NDMP drive. If a non-NDMP drive is not available and an NDMP drive is available, the slower NDMP drive is used. Non-NDMP requests include all type of requests apart from storage unit related requests (backups and write side of duplicates) and NDMP image restores.

`-DO_NOT_EJECT_STANDALONE 0|1|no|yes`

If this entry is enabled, tapes in standalone drives are not ejected when a backup has completed on that host. (Tapes are ejected if end-of-media

is reached during a backup.) Use when you want to keep a stand-alone drive ready after successful backups are performed.

`-DONT_USE_SLAVE 0|1|no|yes`

Deselects the use of drive name rules to assign names to drives automatically.

`-DRIVE_ERROR_THRESHOLD unsigned_integer`

Changes the threshold or number of drive errors that can occur before NetBackup changes the drive state to DOWN. Default: 2.

`-DRIVE_NAME_SEED 0|1|no|yes`

Selects the use of drive name rules to assign names to drives automatically.

`-emname string`

Specifies the name of the EMM database server. This server contains the database that stores the media and device configuration information.

`-emport unsigned_integer`

Specifies the EMM port.

`-machinename string`

Names the machine whose settings are changed.

`-MAX_REALLOC_TRIES unsigned_integer`

Specifies the maximum number of tries that NetBackup attempts to reallocate the media for future backups.

`-MEDIA_ERROR_THRESHOLD unsigned_integer`

Changes the threshold or number of media errors that can occur before the media is frozen. Default: 2.

`-MEDIA_REQUEST_DELAY unsigned_integer`

Specifies the number of seconds that NetBackup waits for a drive to become ready. Applies only to non-robotic drives. Default: 0 seconds. For example, assume that the delay is 150 seconds:

`MEDIA_REQUEST_DELAY = 150`

Add this information to the `bp.conf` file on NetBackup servers or enter a value for Media Request Delay in the Media host properties.

`-MPMS_DISABLE_EVENTS 0|1|no|yes, -MPMS_DISABLE_RANK 0|1|no|yes,`

`-MUST_USE_LOCAL_DRIVE 0|1|no|yes`

If the client is also a master server and this option is active, backups for this client must occur on a local drive. If the client is not a master server, this entry has no effect.

Add this option to the `bp.conf` file on master servers. Or check the **Must Use Local Drive** setting in the **General Server** host properties dialog box.

`-NBUFS_DESTINATION_DSU` *string*, `-NBUFS_DUP_TSU_TO_DSU` 0|1|no|yes,
`-NBUFS_RETENTION_LEVEL` *unsigned_integer*,
`-NON_ROBOTIC_MEDIA_ID_PREFIX` *string*

Specifies the media ID prefix that is used for creating non-robotic media. It applies to the host that the `-machinename` option specifies. The media ID prefix is an alphanumeric string of characters from one to three characters in length.

`-PREFER_NDMP_PATH_FOR_RESTORE` 0|1|no|yes,
`-RETURN_UNASSIGNED_MEDIA_TO_SCRATCH_POOL` 0|1|no|yes

This EMM global option applies to every host that uses the EMM server. It is not a host option.

YES: The Media Manager automatically returns expired and unassigned media (originally from the same scratch pool) to the scratch volume pool.

NO: Disables the automatic behavior of returning media to the scratch pool. Use one of the Media Manager administration interfaces to move media.

`-SCSI_PROTECTION` NONE | SPR | SR

Allows exclusive access protection for tape drives. With access protection, other host bus adaptors cannot issue commands to control the drives during the reservation. The three possible settings for this option are:

NONE - No protection

SPR - SCSI persistent reserve

SR - SPC-2 SCSI reserve (default condition)

`-TIME_WINDOW` *unsigned_integer*

Enables you to set a value that is equal to the amount of time in which errors can be tracked. You can use this value with an error threshold (for example, `media_error_threshold`) to monitor the number of media errors that occur within the time window. The default setting is 12 hours.

`-UNRESTRICTED_SHARING` 0|1|no|yes

Enables unrestricted media sharing for all media servers.

`-VALIDATE_HOST_NAME` 0|1|no|yes

Enables host name character validation according to NetBackup standard. If this option is disabled, you can use a name like `"_host1"`, which does not follow the standard.

`-VAULT_CLEAR_MEDIA_DESC 0|1|no|yes`

This option is an EMM global option that applies to every host that uses the EMM server. It is not a host option. When NetBackup media is returned from the off-site vault during a typical tape rotation, it is expired and is ready for reuse by new backups. To avoid confusion, it may be helpful to clear the old media description information when an expired tape is returned to the robot. If this entry is specified, the media description field is cleared when other Vault information is cleared from the Media Manager volume database.

`-deletehost`

Deletes an EMM machine record by using the required machine name and machine type.

`-brief`

Generates a less verbose output of the command.

`-machinename string`

Removes the specified host from the EMM database.

`-Machinetype api | app_cluster | cluster | master | media | ndmp`

Identifies by type the machine to be removed.

`-errorsdb`

`-brief`

Generates a less verbose output of the command.

`-prune [-days no_of_days] [-hours no_of_hours] [-minutes no_of_minutes]`

Removes the entries from the error database. The optional days, hours, and minutes arguments determine which database entries to delete. It removes any entries older than the specified time.

`-getemmserver`

Displays the information on all the hosts in a particular EMM domain. Use this command to ensure a level of consistency in a newly installed domain or modified domain.

`-brief`

Generates a less verbose output of the command.

`-masterserver string`

Specifies a name of a master server for an EMM domain. If you omit this option when you use this command, the current machine is assumed.

`-timeout unsigned integer`

Specifies a temporary timeout value in seconds to be used during the duration of this command.

`-help`

Displays usage information for the specified command by entering the following:

`nbemmcmd -help command`

`-listhosts`

This option dumps the table structure for each known host.

`-display_server -machinename string -machinetype string`

Displays only the specified machine by the machine name and machine type.

`-list_app_clusters -masterserver string`

Lists all of the application clusters of the specified master server.

`-list_snap_vault_filers -machinename string`

Lists all of the SnapVault filers of the specified machine name See the `-machinename` option description that follows.

`-list_snap_vault_media_servers -masterserver string`

Lists all of the SnapVault media servers of the specified master server.

`-list_sts_hosts -machinename string`

Lists all OpenStorage hosts connected to the specified machine name.

`-list_sts_media_servers -masterserver string`

Lists all OpenStorage media servers that are connected to the specified master server.

`-machinename api | app_cluster | cluster | master | media | ndmp`

Defines the type of machine to list.

`-nbservers -masterserver string`

Displays only the media servers and master servers. The default for `-listhosts` is to display all servers.

`-netbackupversion level[.major_level[minor_level]]`

Specifies the machine version. The level variable has a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. There should be no spaces between *major_level* and *minor_level*.

For example, enter the following information to specify NetBackup 7.0:

`-netbackupversion 7.0` or `-netbackupversion 7`

- `-servers_in_emm_cluster -clustername string`
Lists all servers in the specified cluster.
- `-server_in_app_cluster -clustername string`
Lists all of the application cluster servers of the specified cluster.
- `-brief`
Makes the output of the command less verbose.
- `-parsable`
Makes the output of the command parsable.
- `-verbose`
Controls how host information is displayed. Multiple lines of output are printed, one for each parameter of a host.
- `-listmedia`
 - `-allrecords`
Displays all media records.
 - `-mediaid string`
Specifies the media ID of the EMM media record.
 - `-mediatype unsigned integer`
Queries the volumes by media type.
Valid media types for NetBackup Enterprise Server are:
4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean.
Valid media types for a NetBackup server are:
4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean.
 - `-poolname string`
Queries the volumes by pool number, an index into the volume pool. Use `vmpool -listall` to determine the index for a given pool name.
 - `-robotnumber unsigned integer`
Queries the volumes by robot number. A robot number is a unique, logical identification number for the robot where the volume is located.
 - `-vaultcontainer string`
Lists the volumes that are stored in the container. The *string* variable is the `vault_container_id`, a string of up to 29 alphanumeric characters.

`-listsettings`

`-machinename string`

Specifies which machine to list settings for.

`-brief`

Generates a less verbose output of the command.

`-emmname string`

Specifies the host name of the pertinent EMM server. If `-emmname` is not specified, the default name is located in the `bp.conf` file.

`-emmpport unsigned_integer`

Specifies the port number of the EMM server to where calls are made. If `-emmpport` is not specified, the default port is specified in the `bp.conf` file.

`-machinealias`

The following parameters are used to maintain the alias list for a particular machine. Use them to view current aliases, add new aliases, or delete current aliases for an identified machine.

`-addalias -alias alias -machinename name -machinetype type`

Adds an alias name to a machine. Identify the machine name that is to receive the alias as well as the machine type.

For example, to create a media server with the alias name blue, use the following command:

```
machinealias -machinename 10.80.91.83 -machinetype media
-addalias -alias blue
```

`-deletealias -alias name -machinetype type`

Deletes an alias name from the database. This operation requires that you identify the alias to be deleted by using the `-alias string` command and machine type with this option.

`-deleteallaliases -alias name -machinetype type`

Deletes all aliases for a particular machine. To perform this operation you must identify the machine name and the machine type.

`-getaliases`

Retrieves all aliases for a particular machine. To perform this operation you must identify the machine name and the machine type.

`-alias string`

Specifies the string that identifies the alias name of a machine.

`-machinename string`

Specifies the name of a machine.

`-Machinetype api | app_cluster | cluster | master | media | ndmp`

Defines what the machine is used as.

`-releasecache`

Release cache memory that the EMM server has used.

`-brief`

Generates a less verbose output of the command.

`-emmname string`

Specifies the host name of the pertinent EMM server. If `-emmname` is not specified, the default name is located in the `bp.conf` file.

`-emmport unsigned_integer`

Specifies the port number of the EMM server to where calls are made. If `-emmport` is not specified, the default port is specified in the `bp.conf` file.

`-renamehost`

This command, with the required machine name and new machine name options, renames the current machine name to a new machine name.

`-machinename string`

Defines the current machine name.

`-newmachinename string`

Defines the new machine name.

`-servercontrol`

This command suspends and resumes control of a specified server. You can perform database maintenance without the corruption of existing data because a job began to run during this time.

`-resume`

Resumes the control of a specified server.

`-suspend`

Suspends the control of a specified server.

`-setemmserver`

This command changes the EMM server name for certain hosts in the domain whose name matches the old EMM server name. This command has the following options:

`-emmservername string`

Specifies the EMM server name to be changed.

`-newemmservername string`

Specifies the new, or replacement, value for the EMM server.

`-masterserver string`

Specifies a name of a master server for an EMM domain. If you omit this option when you use this command, the current machine is assumed.

`-timeout unsigned integer`

Specifies a temporary timeout value in seconds to use for the duration of this command.

`-updatehost -machinename string`

This command, when used with the following options, enables you to change a machine record that was specified by using the required `-machinename` option.

`-add_server_to_app_cluster`

This option designates that the machine should be added to the application cluster that is specified in the `-clustername` option.

`-activenodename string`

Identifies the active node in a cluster.

`-clustername string`

Identifies a cluster to which this machine belongs.

`-delete_server_from_app_cluster`

Designates that the machine should be removed from the application cluster that is specified in the `-clustername` option.

`-displayname string`

Displays the assigned name of a machine that is equivalent to the numbered identifier for that machine.

`-machinename string`

Specifies the machine name to update.

`-machinestateop clr_admin_pause | clr_admin_pause_and_set_active
| clr_disk_active | clr_ltid_restart |
clr_master_server_connectivity | clr_tape_active | reset_all |
set_admin_pause | set_disk_active | set_master_server_connectivity
| set_tape_active`

Sets or clears the specified machine state.

`-Machinetype` *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*
 Defines what the machine is used as.

`-masterserver` *string*
 Defines the host's master server in the domain.

`-netbackupversion` *level*[.*major_level*[*minor_level*]]
 Adds a host and specifies the version it is running. The *level* variable as a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. There should be no spaces between the *major_level* and *minor_level* variables.

For example, enter the following to specify NetBackup 7.0:

`-netbackupversion 7.0`

`-operatingsystem` *hpux* | *linux* | *rs6000* | *solaris* | *windows*

This option enables you to update the operating system of the machine.

EXAMPLES

Example 1

```
# nbemmcmd -getemmserver
These hosts were found in this domain: throttle, upwords
Checking with host: throttle...
Checking with host: upwords...
Server Type   Host Version           Host Name             EMM Server
MEDIA        UNKNOWN RELEASE (0)   throttle             throttle
MASTER       6.0Alpha              upwords              upwords
```

One or more hosts had mismatched EMM Servers.
 Run-time failure: The consistency check either failed or was incomplete. Command did not complete successfully.

Example 2

```
# nbemmcmd -setemmserver -emmservername throttle -newemm upwords
These hosts were found in this domain: throttle, upwords
Checking with host: throttle...
Checking with host: upwords...
Server Type   Host Version           Host Name             EMM Server
MEDIA        UNKNOWN RELEASE (0)   throttle             throttle
EMM server name was changed.
MASTER       6.0Alpha              upwords              upwords
One media hosts had EMM Server name changed. Command was completed successfully.
```

Example 3

```
orbiteruml # ./nbemmcmd -listsettings -machinename orbiteruml  
NBEMMCMD, Version:7.0
```

The following configuration settings were found:

```
ALLOW_MULTIPLE_RETENTIONS_PER_MEDIA="no"  
DISABLE_DISK_STU_JOB_THROTTLING="no"  
DISABLE_STANDALONE_DRIVE_EXTENSIONS="no"  
MEDIA_REQUEST_DELAY="0"  
MUST_USE_LOCAL_DRIVE="no"  
NON_ROBOTIC_MEDIA_ID_PREFIX="A"  
MAX_REALLOC_TRIES="1000"  
DISABLE_BACKUPS_SPANNING_DISK="no"  
DISALLOW_NONNDMP_ON_NDMP_DRIVE="no"  
DO_NOT_EJECT_STANDALONE="no"  
PREFER_NDMP_PATH_FOR_RESTORE="yes"  
DONT_USE_SLAVE="no"  
DRIVE_ERROR_THRESHOLD="2"  
MEDIA_ERROR_THRESHOLD="2"  
TIME_WINDOW="12"  
SCSI_PROTECTION="SR"  
NBUFS_DUP_TSU_TO_DSU="no"  
NBUFS_DESTINATION_DSU="NONE"  
NBUFS_RETENTION_LEVEL="0"  
MPMS_DISABLE_RANK="0"  
MPMS_DISABLE_EVENTS="no"  
UNRESTRICTED_SHARING="no"  
FATPIPE_USAGE_PREFERENCE="Preferred"  
FATPIPE_WAIT_PERIOD="15"  
FATPIPE_RESTORE_WAIT_PERIOD="5"  
FT_MAX_CLIENT_PORTS_PER_SERVER="2"  
FT_MAX_CLIENTS_PER_PORT="2"  
SHAREDDISK_MOUNT_POINT="/nbushareddisk"  
RETURN_UNASSIGNED_MEDIA_TO_SCRATCH_POOL="yes"  
VAULT_CLEAR_MEDIA_DESC="no"  
SCSI_PERSISTENT_RESERVE="0"  
Command completed successfully.
```

nbexecute

`nbexecute` - execute the LiveUpdate policy

SYNOPSIS

```
nbexecute -LiveUpdate nbmtrans.exe path [arguments] -policy  
policy_name [-schedule schedule_name] -client client_name | all  
[-retryable] [-noretries]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The NetBackup master server initiates the NetBackup LiveUpdate policy. The `nbexecute` command submits the request to PEM.

OPTIONS

`nbmtrans.exe path arguments`

Specifies the path arguments and command arguments for the `nbmtrans.exe` command.

`-policy`

Specifies the policy for the LiveUpdate job to be run.

`-schedule`

Specifies the job schedule for the LiveUpdate job to be run.

`-client client_name | all`

Specifies a client on which NetBackup runs a job policy. If no client is specified, NetBackup launches a LiveUpdate job for each client in the list.

`-retryable`

Specifies that NetBackup resubmits a failed job.

`-noretries`

Specifies that NetBackup does not try to retry job submission if the job fails.

EXAMPLE

The following Windows example runs LiveUpdate_policy on the foo3 client:

```
nbexecute.exe -LiveUpdate nbmtrans.exe "C:\Program Files\VERITAS\  
NetBackup\bin\bmtrans.exe" -policy LiveUpdate_policy -client foo3
```

nbfirescan

nbfirescan - scan for SCSI disk devices and print out report

SYNOPSIS

nbfirescan

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\

DESCRIPTION

The Frozen Image Rescan (**nbfirescan**) utility scans for SCSI disk devices and prints what it finds. It is available on all media servers and is used to triage import problems.

Only authorized users can run this command.

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

EXAMPLE

The following applies to Windows systems only; it is a sample output from the local host SCSI bus scan:

```
C:\Program Files\Common Files\Symantec\VxFI\4\Bin>nbfirescan.exe

nbfirescan v4.4.1 - Copyright (c) 2005-2010 Symantec Corp.
Rescanning
devices.....Complete.
Device count: 48
DevicePath          Vendor   Product ID          EnclosureId
DeviceId            [Ctl, Bus, Tgt, Lun]
-----
\\.\PHYSICALDRIVE0 SEAGATE ST336607LW          -
\\.\PHYSICALDRIVE1 SEAGATE ST336607LW          -
\\.\PHYSICALDRIVE2 COMPAQ  HSV111 (C)COMPAQ    5000-1FE1-5004-5660
6005-08B4-0010-120F-0000-7000-0956-0000 [00,04,00,01]
\\.\PHYSICALDRIVE3 COMPAQ  HSV111 (C)COMPAQ    5000-1FE1-5004-5660
6005-08B4-0010-4E39-0000-4000-0010-0000 [00,04,00,02]
```

nbftadm

`nbftadm` – start menu interface for managing the Fibre Transport (FT)

SYNOPSIS

```
/usr/opensv/netbackup/bin/nbftadm
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

`nbftadm` has a menu interface that an administrator can use to configure and manage the fiber transport between NetBackup media servers and SAN clients. `nbftadm` requires administrator privileges. This interface can be used from any character-based terminal (or terminal emulation window) for which the administrator has a `termcap` or a `terminfo` definition.

See the *NetBackup Administrator's Guide* and the `nbftadm` online Help for detailed operating instructions.

FILES

```
/usr/opensv/netbackup/help/nbftadm/*  
/usr/opensv/netbackup/logs/admin/*  
/usr/opensv/netbackup/bin/initbprd  
/usr/opensv/netbackup/bp.conf
```

SEE ALSO

See [bprd](#) on page 314.

nbftconfig

nbftconfig - configure the attributes that are associated with Fibre Transport (FT) servers and SAN clients

SYNOPSIS

```

nbftconfig [-addclient] [-deleteclient] [-changeclient]
[-rescanclient] [-listclients] [-addserver] [-deleteserver]
[-changeserver] [-listservers] [-listactive] [-setconfig] [-getconfig]
[-verbose] [-help]
nbftconfig [-[ac]addclient -C client_name [-M master_server] [-ftpref
preferred | always | never] [-ftwait minutes] [-ftrwait minutes]
nbftconfig [-[dc]deleteclient -C client_name
nbftconfig [-[cc]changeclient -C client_name {-ftpref preferred |
always | never] [-ftwait minutes] [-ftrwait minutes] | -np
number_of_ports]
nbftconfig [-[rc]rescanclient client_name
nbftconfig [-[lc]listclients [-verbose] [-C client_name | -Me
media_server | -M master_server]
nbftconfig [-[as]addserver -Me media_server [-M master_server] [-l
connection_limit] [-state active | disabled]
nbftconfig [-[ds]deleteserver -Me media_server
nbftconfig [-[cs]changeserver -Me media_server [-l connection_limit]
[-state active | disabled]
nbftconfig [-[ls]listservers [-Me media_server | -M master_server]
[-verbose]
nbftconfig [-[la]listactive [-C client_name | -Me media_server]
[-verbose]
nbftconfig [-[lt]listtargets [-Me media_server] [-verbose]
nbftconfig -setconfig [-M master_server] {-ftpref preferred | always
| never [-ftwait minutes] [-ftrwait minutes] | -np number_of_ports
[-ncp number_of_clients_per_target_port]
nbftconfig -getconfig [-M master_server] [-verbose]
nbftconfig -option -help

```

On UNIX and Linux systems, the directory path to this command is
/usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

`nbftconfig` is a NetBackup utility that modifies the attributes that are associated with the Fibre Transport (FT) server. It also creates the SAN client entities in the EMM database.

The following operations are available by using the `nbftconfig` command:

- Add a new SAN client and its attributes to the EMM database.
- Modify an existing SAN client record.
- Delete a SAN client.
- Add a new FT server.
- Modify the attributes of an existing FT server record.
- List SAN clients that are defined within the database.
- List FT servers that are defined within the database.
- List by all active Fibre Channel connections.
- List the target port configuration information for FT media servers.

OPTIONS

`-addclient`

Adds the specified SAN client to the EMM database. SAN clients are normally automatically discovered when the SAN client code is installed on the client. However, if the notification from the client to the EMM server is lost, use this command to manually add the client. The following attributes can be set by using this command option:

`-C client_name`

Specifies the name of the SAN client that is to be added to the database.

`-M master_server`

Specifies the master server that is associated with the designated client. If this option is omitted, the local client's master server is used.

`-ftpref preferred | always | never`

Determines if the Fibre Channel connections to the media server are preferred, must always be used, or should never be used. If preferences are not provided, master server defaults are used. This value is set by default according to the global defined for the EMM server.

`-ftwait minutes`

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is valid only when the `ftpref` type is set to `preferred`.

`-ftrwait minutes`

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is only valid when the `ftpref` type is set to `preferred`.

`-np number_of_ports`

Defines the maximum number of client ports that can be simultaneously used on a single media server. If the maximum number of client ports is set to 0, then all ports are used. The default number of client ports is 2.

`-deleteclient`

Deletes the specified client from the EMM database. The following attribute may be included with this option.

`-C client_name`

Specifies the name of the SAN client that is to be deleted from the database.

`-changeclient`

Changes the options that are associated with a specific SAN. The following attributes can be set by using this command option:

`-C client_name`

Specifies the name of the SAN client that is to be added to the database.

`-ftpref preferred | always | never`

Determines if the Fibre Channel connections to the media server are preferred, must always be used, or should never be used. If preferences are not provided, master server defaults are used. This value is set by default according to the global defined for the EMM server.

`-ftwait minutes`

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is valid only when the `ftpref` type is set to `preferred`.

`-ftrwait minutes`

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is only valid when the `ftpref` type is set to `preferred`.

`-rescanclient`

This operation scans the client for new FT devices. The following attributes can be set by using this command option:

`-C client_name`

Specifies the name of the SAN client to scan.

`-listclients`

Displays the list of SAN clients and attributes that are associated with the clients. By default all SAN clients are listed with a subset of attributes. The information output by the `listclients` operation depends on whether all clients are listed or the attributes associated with a specific SAN client.

The following attributes can be set by using this command option:

`-C client_name`

Specifies the name of the SAN client whose information you want listed. If this attribute is omitted, `listclients` lists the information for all clients that are attached to the designated media server or master server.

`-Me media_server`

Specifies the name of the FT server for whose attached clients you want the information listed.

`-M master_server`

Specifies the master server that is associated with the FT servers. If this option is omitted, all FT servers are returned.

`-verbose`

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed (including all clients by master or media server), the information appears for multi-client, verbose mode output.

The following information appears in verbose mode for the client record:

SAN client name

Version – Client NBU software version

State -SAN client state

Master server name

Number of FT servers to which the SAN client can connect

Usage preferences (see `addclient`)

Usage preference wait period (See `addclient`)

If a specific SAN client is included in the `listclients` command, then the information is displayed for that client (single client output):

The following information appears in verbose mode for the client device records:

SAN client device state

Media server name

Media server state

Media server HBA port number on which a device was discovered

Media server HBA port mode

LUN – The LUN that is associated with the HBA Port

The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format. Client records start with the letter "c" and device records start with the letter "d".

`-addserver`

Adds a Fibre Transport server to the EMM database. This operation may not be needed because FT servers are normally added automatically. It is included to allow the manual deletion of an FT server; it does not delete the server from the media servers database. To change server parameters, `-addserver` restarts the FT server daemon and causes FSM to reinsert the server as if it were a newly created server.

The following attributes can be set by using this command option:

`-Me media_server`

Specifies the name of the FT server to be added.

`-M master_server`

Specifies the master server that is associated with the designated media server.

`-l connection_limit`

The maximum number of connections that the FT server supports. This number is the total for the server and not per LUN or HBA. If this option is omitted, the FT server's default connection limit is used.

`-state [active | disabled]`

Identifies the assigned state of the FT server. The possible values are Active and Disabled.

`-deleteserver`

Deletes the specified client from the EMM database. The following attribute can be set by using this command option:

`-Mmedia_server`

Specifies the name of the FT server to be deleted. There should be a confirmation step in the CLI operation to ensure that the customer is aware of the consequences of an FT server deletion. If you delete the server, the FT server daemon terminates. If the FT server is added back, it may be necessary to reboot the client to rediscover the FT server.

`-changeserver`

Changes the attributes that are associated with an FT server. The following attributes can be set by using this command option:

`-Mmedia_server`

Specifies the name of the FT server to be changed.

`-Mmaster_server`

Specifies the master server that is associated with the designated media server.

`-lconnection_limit`

Specifies the maximum number of connections that the FT server supports. This number is the total for the server and not per LUN or HBA. If this option is omitted, the FT server's default connection limit is used.

`-state [active | disabled]`

Identifies the assigned state of the FT server. The possible values are Active and Disabled.

`-listservers`

This operation is used to display the list of FT servers and attributes that are associated with the servers. By default all FT servers are listed:

The following options are associated with the `listservers` command:

`-Mmedia_server`

Specifies the name of the media server whose attached FT servers are to be listed.

`-Mmaster_server`

Specifies the name of the master server whose attached FT servers are to be listed.

`-verbose`

Specifies a detailed output for the server information.

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed (including all clients by master or media server), the information appears for multi-client, verbose mode output.

The following output information appears in verbose mode for the server record:

SAN client name

FT Server name

Version – Server NBU software version

State -FT Server state

Connection limit

If a specific SAN client is included in the `listclients` command, then the information is displayed for that client (single client output):

The following output information appears in verbose mode for the client device records:

FT Server HBA port

FT Server HBA port mode

FT Server device state

Associated LUN

FT Connections – number of active FT Connections on the specific HBA/LUN

The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format. Media server records start with the letter "d" and device records start with the letter "d". Each HBA port number on each server gets a separate line entry in the output.

`-listtargets`

This operation is used to display the list of specifics on all the target ports on FT media servers. By default all FT servers are listed.

The following options are associated with the `listtargets` command:

`-Me media_server`

Specifies the name of the media server whose target port configurations are to be listed. If no media server is specified, the target port information is listed for all FT media servers.

`-verbose`

Specifies a detailed output for the server information.

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed, the information appears for multi-client, verbose mode output. The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format.

EXAMPLE 2 shows the use of the `nbftconfig -listtargets -verbose` command and the output data categories.

`-getconfig`

Retrieves the default configuration parameters for the FT server and SAN client attributes.

The following options are associated with the `-getconfig` command:

`-M master_server`

Specifies the master server that is associated with the FT server. If this option is omitted, the local machine's master server is used.

`-verbose`

Specifies a detailed output for the configuration information.

`-setconfig`

Sets the configuration parameters for the FT server and SAN client attributes. These attributes can be set by using this command option:

`-ftpref preferred | always | never`

Determines if the Fibre Channel connections to the media server are preferred, must always be used, or should never be used. This value is set by default according to the global defined for the EMM server.

Usage of `-ftpref` and `-np` or `-ncp` is mutually exclusive.

`-ftwait minutes`

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is required only when the `ftpref` type is set to preferred.

`-ftrwait minutes`

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is required only when the `ftpref` type is set to preferred.

`-ncp number_of_clients_per_target_port`

Specifies the maximum number of clients per target port that are allowed on any FT media server.

`-np number_of_ports`

Specifies the number of initiator ports on a client that can be used with one FT media server.

`-listactive`

Lists the active FT connections. At a minimum, the following information should be obtainable from this command for each FT connection:

SAN Client Name

Client HBA Number

FT Server Name

Server HBA number

FT Channel - Number of the FT Channel

LUN

Direction

Job Number

The following options are associated with the `listactive` command:

`-C client_name`

Specifies the name of the SAN client whose active FT connections you want listed. If this attribute and the media server attribute are omitted, `-listactive` lists the information for the local machine's master server.

`-Me media_server`

Specifies the name of the FT server from whose attached clients you want the FT connections listed.

`-verbose`

Specifies a detailed output for the FT connection information.

EXAMPLES

Example 1 - List FT configuration values for master server `wendigo` in verbose mode. These values are set in the `nbftconfig -getconfig` command.

```
# nbftconfig -getconfig -verbose
Master Server      : wendigo.min.veritas.com
Client Ports/Server: 2
Clients/Target port: 2
FT Preference      : preferred
Backup Wait Time   : 15
Restore Wait Time  : 5
```

Example 2 - Show how the `-listtargets` option lists the configuration specifics for all the target ports on FT media server `wendigo` in verbose mode.

```
# nbftconfig -listtargets -verbose
FT Server Name : wendigo.min.veritas.com
FT Server HBA Port : 1
FT Server Port WWN : 21:00:00:E0:8B:8F:CC:79
FT Server Port Mode : PTP
FT Server Port Model : QLA234x Series FC Hba
FT Server Port Vendor: Qlogic
FT Server Device State : active
Associated LUN : 0
Active Connections on LUN: 0
FT Server Device State : active
Associated LUN : 1
Active Connections on LUN: 0
FT Server HBA Port : 0
FT Server Port WWN : 21:01:00:E0:8B:AF:CC:79
FT Server Port Mode : DISCONNECTED
FT Server Port Model : QLA234x Series FC Hba
FT Server Port Vendor: Qlogic
FT Server Device State : active
Associated LUN : 0
Active Connections on LUN: 0
FT Server Device State : active
Associated LUN : 1
Active Connections on LUN: 0
```

nbhba

nbhba - run the utility to modify an HBA cards device ID

SYNOPSIS

```
/usr/opensv/netbackup/bin/nbhba -modify -wwn string [ -wwn <wwn string>
... ] -mode target | initiator
/usr/opensv/netbackup/bin/nbhba -l | -L
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

nbhba enables an administrator to set the mode of the HBA cards in the system. The HBA cards can respond as either target mode or initiator mode devices. To change the mode of the HBA card for use with the SAN Client, change the device ID of the QLogic card. The device ID changes from its standard designation to a special designation that allows only the target mode driver to be loaded.

OPTIONS

-l, -L

-l lists the drivers of all HBA cards that are installed in the system. -L also lists information about the cards. The following information appears for each HBA port:

- Linux systems only: The first line of data lists the number of ports recognized, the number of target mode ports, and the mode of the driver (e.g., nbhba installed).
- HBA index - a relative number of the HBA card in the system. This number is valid until the system is rebooted.
- Device ID - the device ID as read from the card.
- World Wide Name - the world wide name that is read from the card.
- Model Name - the physical slot in which the card is installed in the system.
- Port - the port on the HBA card. Possible values are 0 or 1.
- Mode - the mode of the card, target, or initiator.

-modify

Modifies the mode of the HBA card. Specify the HBA card to be changed through the World Wide Name (wwn).

The mode of the card can be target or initiator. Target mode is used as the terminus for a SAN Client. Initiator mode connects the media server disk resources. Optionally, the administrator can input the specific QLogic device ID for either the target mode or initiator mode driver.

`-wwn string`

Specifies the World Wide Name of the HBA card. These required selection criteria are used to specify which card and port to mark.

`-mode target | initiator`

Sets the mode of the specified HBA card. Target mode uses the HBA as the target for a SAN Client. Do not set an existing card to initiator mode unless it had been previously set to target mode.

EXAMPLES

Example 1 - Set the HBA port with worldwide name "123456789ABCDEF0" to target mode:

```
# nbhba -modify -wwn 123456789ABCDEF0 -mode target
```

Example 2 - List information on all HBA cards installed on a Linux system (see the first line of the output). Note that Card #2 uses both ports.

```
nbhba -L
```

```
4 ports recognized; 3 target mode ports; mode : driver in nbhba mode
```

```
Card #1
```

```
HBA Index #1
```

```
Device ID = 2312
```

```
World Wide Name = 21:00:00:E0:8B:8F:E6:45
```

```
Model Name = "QLA2340 "
```

```
Port = 0
```

```
Mode = initiator (designated for other use)(100)
```

```
Card #2
```

```
HBA Index #2
```

```
Device ID = 2312
```

```
World Wide Name = 21:00:00:E0:8B:9A:22:3D
```

```
Model Name = "QLA2342 "
```

```
Port = 0
```

```
Mode = target (designated for FT Server)(8101) HBA Index #3
```

```
Device ID = 2312
```

```
World Wide Name = 21:01:00:E0:8B:BA:22:3D
```

```
Model Name = "QLA2342 "
```

```
Port = 1  
Mode = target (designated for FT Server) (8101)
```

```
Card #3
```

```
HBA Index #4  
Device ID = 2422  
World Wide Name = 21:00:00:E0:8B:9B:28:89  
Model Name = "QLA2460 "  
Port = 0  
Mode = target (designated for FT Server) (8133)
```

Example 3 - This example is the short list type (-l) counterpart of Example 2 (long list type -L). It lists only the drivers of all the HBA cards that are installed on the system. Note that the first line of the output (4 ports recognized...) displays only on a Linux system.

```
# nbhba -l  
4 ports recognized; 3 target mode ports; mode : driver in nbhba mode  
  
1 2312 21:00:00:E0:8B:8F:E6:45 "QLA2340 " 0 0 100  
2 2312 21:00:00:E0:8B:9A:22:3D "QLA2342 " 0 1 8101  
3 2312 21:01:00:E0:8B:BA:22:3D "QLA2342 " 1 1 8101  
4 2422 21:00:00:E0:8B:9B:28:89 "QLA2460 " 0 1 8133
```

nbjm

nbjm - run NetBackup Job Manager to submit jobs and acquire resources to start jobs

SYNOPSIS

nbjm [-console] [-terminate]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

The NetBackup Job Manager binary (**nbjm**) service starts when NetBackup is started, and it remains active. The primary function of this binary is to accept the jobs that **nbpem** submitted, acquire the resources to run them, and then start the job. This service then waits for the completion of a job and sends a signal to **nbpem** when a job completes. This service also handles all IRM communications to **bpjobjd** for Activity Monitor information, external resource requests, and it writes to the progress log.

OPTIONS

-console

This option enables you to start NetBackup in console mode.

-terminate

This option accepts an option parameter, which is the number of seconds to wait for jobs to finish before it terminates. The default is 60 seconds. If you enter a value of 0, **nbjm** waits until all jobs complete before it terminates. If a limit is placed on the termination, after that limit is reached, **nbjm** terminates without waiting for the completion of jobs.

SEE ALSO

See [nbpem](#) on page 532.

See [nbrb](#) on page 538.

nbkmsutil

nbkmsutil – run the NetBackup Key Management Service utility

SYNOPSIS

```

nbkmsutil [-createkey] [-createkg] [-deletekey] [-deletkg]
[-gethmkid] [-getkpkid] [-ksstats] [-listkeys] [-listkgs] [-modifyhmk]
[-modifykey] [-modifykg] [-modifykpk] [-quiescedb] [-recoverkey]
[-unquiescedb]

```

```

nbkmsutil -createkey [ -nopphrase ] -kgname key_group_name -keyname
key_name [ -activate ] [ -desc description ]

```

```

nbkmsutil -createkg -kgname key_group_name [ -cipher type ] [ -desc
description ]

```

```

nbkmsutil -deletekey -keyname key_name -kgname key_group_name

```

```

nbkmsutil -deletkg -kgname key_group_name

```

```

nbkmsutil -gethmkid

```

```

nbkmsutil -getkpkid

```

```

nbkmsutil -ksstats [-noverbose]

```

```

nbkmsutil -listkeys key_group_name [ -keyname key_name | -activekey
] [ -verbose ]

```

```

nbkmsutil -listkgs [ -kgname key_group_name | -cipher type | -emptykgs
| -noactive ] [ -verbose ]

```

```

nbkmsutil -modifyhmk [ -nopphrase ]

```

```

nbkmsutil -modifykey -keyname key_name -kgname key_group_name [ -state
new_state | -activate ] [ -name new_keyname ] [ -desc new_description
]

```

```

nbkmsutil -modifykg -kgname key_group_name [ -name new_key_group_name
] [ -desc new_description ]

```

```

nbkmsutil -modifykpk [ -nopphrase ]

```

```

nbkmsutil -quiescedb

```

```

nbkmsutil -recoverkey -keyname key_name -kgname key_group_name -tag
key_tag [-desc description]

```

```

nbkmsutil -unquiescedb

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\admincmd\

DESCRIPTION

The `nbkmsutil` command performs the following operations:

<code>-createkey</code>	Create a new key. The default state of the new key is Prelive.
<code>-createkg</code>	Create a new key group. The default cipher of the new key group is AES_256.
<code>-deletekey</code>	Delete a key. Only keys in Prelive and Terminated states can be deleted.
<code>-deletekg</code>	Delete a key group. Only empty key groups can be deleted.
<code>-gethmkid</code>	Return the current HMK ID.
<code>-getkpkid</code>	Returns the current KPK ID.
<code>-ksstats</code>	Returns the keystore statistics. The statistics consist of the number of key groups, the total number of keys, and the outstanding quiesce calls.
<code>-listkeys</code>	Get the details of keys.
<code>-listkgs</code>	Get the details of the key groups. If no option is specified, retrieve the details of all the key groups.
<code>-modifyhmk</code>	Modify the host master key (HMK). HMK is used to encrypt the keystore. To modify the HMK, provide an optional seed (passphrase) and an HMK ID which can remind the user of the specified passphrase. The passphrase and the HMK ID are both read interactively.
<code>-modifykey</code>	Modify key attributes.
<code>-modifykg</code>	Modify key group attributes.
<code>-modifykpk</code>	Modify the key protection key (KPK). KPK is used to encrypt KMS keys. KPK is per keystore. To modify the KPK, provide an optional seed (passphrase) and a KPK ID which can remind the user of the specified passphrase. The passphrase and the KPK ID are both read interactively.
<code>-quiescedb</code>	Sends a quiesce request to KMS. If the command succeeds, the current outstanding quiesce count is returned (as multiple backup jobs might quiesce the KMS DB to back it up)

<code>-recoverkey</code>	Restore could fail if a key used in encrypting the backup data is lost. Such Keys can be recovered (re-created) with the knowledge of the original Key's attributes (tag and passphrase).
<code>-unquiescedb</code>	Sends an unquiesce request to KMS. If the command succeeds, the current outstanding quiesce count is returned. A count of zero (0) means that the KMS database is completely unquiesced.

OPTIONS

The `nbkmsutil` command uses the following options:

<code>-activate</code>	Sets the state of the specified key to active. The default state is prelive.
<code>-activekey</code>	Retrieves the details of a specific key group's active key.
<code>-cipher</code>	The type of cipher that the key group supports. All keys that belong to a key group support the same cipher type. Supported cipher types are BLOW, AES_128, AES_192, and AES_256 (default cipher).
<code>-emptykgs</code>	Retrieves the details of all the key groups with zero keys in it.
<code>-keyname</code>	<i>key_name</i> specifies the name of a key. This name should be unique within a key group. The key group name and key name uniquely identify a key in the keystore .
<code>-kgname</code>	<i>key_group_name</i> specifies the name of a key group. Within a keystore , a key group is uniquely identified by its name.
<code>-name</code>	Specifies the new name of the key group when used with <code>-modifykg</code> or the new name of the key when used with <code>-modifykey</code> . The new key group name must not conflict with other names in the keystore .
<code>-noactive</code>	Retrieves the details of all the key groups in which there are no active keys.
<code>-nopphrase</code>	Disables the utility function that prompts you for a pass phrase. Instead, the utility creates the key. The default condition is the use of the pass phrase to create a key with a seed. A lengthy seed and a strong seed results in a strong key.

<code>-noverbose</code>	Disables verbosity. The default condition is verbosity, which prints the details in readable format.
<code>-state</code>	<p><i>new_state</i> specifies the new state of the Key. Possible states are Prelive, Active, Inactive, Deprecated, and Terminated.</p> <p>Key states can be changed only in the following ways:</p> <ul style="list-style-type: none">■ Prelive to Active■ Transition between Active and Inactive■ Transition between Inactive and Deprecated■ Transition between Deprecated and Terminated
<code>-tag</code>	<p><i>key_tag</i> specifies a random unique identifier that is created for the key record that the utility creates. The <code>listkey</code> option can display this tag. If you need to recover (recreate) the key record, you need to use the original tag value, hence the <code>-tag</code> option for these recovery options.</p>

nbpem

nbpem – run NetBackup Policy Execution Manager to schedule and submit the jobs that are due

SYNOPSIS

nbpem [-console] [-terminate]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The NetBackup Policy Execution Manager (**nbpem**) is a service that starts when NetBackup is started and remains active until NetBackup stops.

The **nbpem** command determines which jobs are due based on defined policies and the previous backup images. **nbpem** creates Policy/Client tasks and determines when jobs are due to run. If a policy is modified or if an image expires, it is notified and the appropriate Policy/Client tasks are updated.

In addition, **nbpem** does the following:

- Determines a policy's priority that is based on how overdue the job is.
- Ensures that the policies are scheduled within the windows in which they are supposed to run.
- Cancels the policies that are queued, late, or outside the parameters of the scheduled window.
- Handles any policy changes and then updates the policies that are due to run.
- Initiates more attempts if a particular job stops part way through the backup.

OPTIONS

`-console`

Enables you to start NetBackup in console mode.

`-terminate`

Enables you to stop the NetBackup policy execution manager.

SEE ALSO

See [nbjm](#) on page 527.

See [nbrb](#) on page 538.

See [nbpemreq](#) on page 534.

nbpemreq

nbpemreq - run NetBackup Policy Execution Manager (PEM) Requisition to schedule the jobs that are due and capture PEM information

SYNOPSIS

```

nbpemreq -due -date mm/dd/yyyy HH:MM:SS [-client_filter client...][-policy_filter policy...]
nbpemreq -due -dateu unixtime [-unixtime] [-client_filter client...][-policy_filter policy...]
nbpemreq -jobs [screen] [-depth value] [all | job_id...]
nbpemreq -M servername...
nbpemreq -persisted [screen] [-depth value]
nbpemreq -policies [screen] [-depth value] [policy...]
nbpemreq -predict -date mm/dd/yyyy HH:MM:SS [-unixtime]
[-client_filter client...] [-policy_filter policy...]
nbpemreq -predict -dateu unixtime [-unixtime] [-client_filter client...][-policy_filter policy...]
nbpemreq -predict_all -date mm/dd/yyyy HH:MM:SS [-client_filter client...][-policy_filter policy...]
nbpemreq -predict_all -dateu unixtime [-client_filter client...][-policy_filter policy...]
nbpemreq -resume_scheduling
nbpemreq -subsystems [screen] depth [list | all | subsystem_id...]
nbpemreq -suspend_scheduling
nbpemreq -updatepolicies

```

On UNIX and Linux systems, the directory path to this command is `/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is `<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The NetBackup Policy Execution Manager Requisition (**nbpemreq**) determines which jobs are due in the near future. It also reads in all entered policy updates that are in a pending state. Finally, **nbpemreq** gathers the pertinent **nbpem** information that is placed in the **nbpem** log file and optionally displayed to `stdout`.

This command can also instruct **nbpem** to process policy updates immediately.

When the `nbpemreq` command runs, `nbpem` is affected, which slows down policy processing. Because the `nbpemreq` output may change from release to release, Symantec does not recommend using `nbpemreq` in scripts.

OPERATIONS

`-due`

Provides data about the clients or policies that are scheduled to run by the time specified. The data that is displayed is based on the current time and a future date. Time is indicated by `mm/dd/yyyy HH:MM:SS` or by a UNIX timestamp.

`-jobs`

Provides `nbpem` information about the state of current jobs and jobs that have run in the previous 30 minutes. `nbpem` manages all running jobs and keeps history on each job for 30 minutes after the job completes.

`-M servername...`

Allows `nbpemreq` to be executed on one or more master servers. The command is executed on each master sequentially in the order that is listed on the command line. When `-M` is not specified, the default value is the local host.

`-persisted`

Provides internal information about the contents of the `nbpem` persistence database file, which contains information about the jobs that are currently running. If `nbpem` is interrupted, NetBackup knows which jobs to run when `nbpem` restarts.

`-policies`

Provides `nbpem` internal data about the specified policies that includes static data from the policy definition and dynamic information about job scheduling.

`-predict | -predict_all`

Helps determine when a policy is to be run. The displayed information is based on the current time and a future date. Time is indicated by `mm/dd/yyyy HH:MM:SS` or by a UNIX timestamp.

This option also helps determine why a policy has not run. The difference between the options is the output format and the amount of data presented. It shows the backups that are eligible to run, but it does not indicate which jobs are to run at a specific time. It checks for an open window for the backup, but does not reflect any exclude dates that might be set for the schedule.

`-resume_scheduling`

Resumes the `nbpemreq` the scheduling activity that a `-suspend_scheduling` option has interrupted.

`-subsystems`

Provides `nbpem` internal information about the internal subsystem operations. The amount of information that is presented for each subsystem depends on the specified depth. Each subsystem contains varying layers of information.

`-suspend_scheduling`

Suspends the `nbpemreq` scheduling activity. You can use this option to suspend scheduled backups.

`-updatepolicies`

Instructs `nbpem` to reread the existing policy configuration. Normally, `nbpem` checks for changes based on the policy update interval that is part of the Global Attributes host properties. The default is 10 minutes. After you run this command, the prompt is simply returned.

OPTIONS

`all | job_id...`

Lists all jobs or the job that `job_id` specifies.

`-client_filter client...`

Filters on the name of a specific client or clients.

`depth [list | all | subsystem_id...]`

Specifies the level of detail to be produced for the various output options. Depth is an integer value starting at zero (least amount of output) and goes up (more output). The maximum depth value and the specific content of each depth level varies from output option to output option. The information differs from the information that is presented by using the `-subsystems` option.

`depth value`

Displays all 36 subsystems, or the specified subsystems. Separate the subsystems with spaces, not commas. For example:

```
# nbpemreq depth 3 8 12
```

`-policy_filter policy...`

Filters on the name of a specific policy or policies.

`screen`

Sends the output to `stdout`. Command output is always directed to the log files even if the `screen` option is not used. A maximum of 1 MB of data can be written to `stdout`.

`-unixtime`

Specifies the number of seconds elapsed since midnight Coordinated Universal Time (UTC) of January 1, 1970, not counting leap seconds.

SEE ALSO

See [nbpem](#) on page 532.

nbrb

`nbrb` – run NetBackup Resource Broker

SYNOPSIS

nbrb [-console] [-terminate]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The NetBackup Resource Broker binary (`nbrb`) is a service that starts when NetBackup starts and remains active. This service makes the allocations for such things as storage units, tape drives, and client reservations. This service works closely with the EMM to obtain physical and logical the resources that a job requires to run. Physical resources can be storage units, tape drives, and media IDs. Logical resources can be named resources, max jobs per client, max jobs per policy, and multiplexed groups as resources that `nbjm` uses.

OPTIONS

`-console`

Enables you to start NetBackup in console mode.

`-terminate`

Enables you to stop the `nbrb`.

SEE ALSO

See [nbjm](#) on page 527.

See [nbpem](#) on page 532.

nbrbutil

nbrbutil - configures the NetBackup Resource Broker (nbrb)

SYNOPSIS

```
nbrbutil [-cancel GUID] [-changePriority requestID]
[-changePriorityClass requestID] [-changesettings name=value
[,name=value],...] [-deleteSetting settingname] [-disablePerfMon]
[-dump] [-dumptables -f filename] [-enablePerfMon] [-listActiveJobs]
[-listActiveDriveJobs] [-listActiveMediaJobs] [-listActivePoolJobs]
[-listActiveStuJobs] [-listOrphanedDrives] [-listOrphanedMedia]
[-listOrphanedPipes] [-listOrphanedStus] [-listSettings] [-release
GUID] [-resetAll] [-releaseAllocHolds] [-releaseDrive drive]
[-releaseMDS ID] [-releaseMedia mediaID] [-releaseOrphanedDrive
drivekey] [-releaseOrphanedMedia mediakey] [-releaseOrphanedPipes]
[-releaseOrphanedStu name] [-resetMediaServer mediaserver]
[-reportInconsistentAllocations] [-resume] [-setDriveGroupUnjoinable]
[-setMediaGroupUnjoinable] [-suspend] [-syncAllocations]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

The NetBackup Resource Broker utility sets up the following Resource Broker functionality:

- List the allocations that the Resource Broker has handed out.
- Release an allocation.
- View the list of orphaned resources.
- Display the jobs that use a particular resource (drive, media, storage unit)
- Cancel a request that has not been allocated.
- Set the Resource Broker tuning parameters.
- Suspend and resume the process.

OPTIONS

`-cancel GUID`

 Cancels the allocation request within the given identifier.

`-changePriority requestID -priority priority`

 Changes the request priority.

`-changePriorityClass requestID -priorityClass priorityClass`

 Changes the request priority class.

`-changesettings name=value [,name=value]...`

 Adds or changes the `nbrb` configuration settings.

The following describes all the `-changesettings` parameters:

- **RB_DO_INTERMITTENT_UNLOADS** - When this parameter is set to true (default), `nbrb` initiates unloads of the drives that have exceeded the media unload delay. Drives become available more quickly to jobs that require different media servers or different media than the job that last used the drive. However, the loaded media or drive pair may not be available for jobs with less priority in the prioritized evaluation queue that can use the drive or media without unload.
- **RB_ENABLE_OPTIMIZATION** - When this parameter
- **RB_RESPECT_REQUEST_PRIORITY** - Possible values for this parameter are true or false.
When **RB_RESPECT_REQUEST_PRIORITY** is set to false (default), `nbrb` continues to evaluate jobs in the prioritized job queue. As a result, a job is likely to reuse a drive more quickly after the drive has been released. However, some lower priority jobs may receive drives before higher priority jobs. .
When the parameter is set to true, `nbrb` restarts its evaluation queue at the top of the prioritized job queue after resources have been released.
- **RB_BREAK_EVAL_ON_DEMAND** - When a high priority request appears (for example, a tape span request, or a request for a synthetic or a duplication job), `nbrb` immediately interrupts the evaluation cycle. `nbrb` releases and unloads drives, if required before the evaluation cycle begins again.
If the **RB_BREAK_EVAL_ON_DEMAND** parameter is set to true (default), interruptions of high priority jobs are not allowed and the evaluation cycle continues.
- **RB_MAX_HIGH_PRIORITY_QUEUE_SIZE** - Spanning requests and additional resources for an active duplication job are put in a special queue for priority processing. The **RB_MAX_HIGH_PRIORITY_QUEUE_SIZE**

parameter sets the maximum number of requests that NetBackup allows in that queue. (Default: 100 requests.)

- **RB_RELEASE_PERIOD** - This parameter indicates the interval that NetBackup waits before it releases a resource. (Default: 180 seconds.)
- **RB_CLEANUP_OBSOLETE_DBINFO** - This parameter indicates the number of seconds that can elapse between the cleanup of obsolete information in the nbrb database. (Default: 60 seconds.)
- **RB_MPX_GROUP_UNLOAD_DELAY** - This parameter indicates the number of seconds that nbrb waits for a new job to appear before a tape is unloaded. (Default: 10 seconds.)
This setting can help avoid unnecessary reloading of tapes and applies to all backup jobs. During user backups, nbrb uses the maximum value of **RB_MPX_GROUP_UNLOAD_DELAY** and the Media mount timeout host property setting when nbrb unmounts the tape.
- **RB_RETRY_DELAY_AFTER_EMM_ERR** - This parameter indicates how long NetBackup waits after an EMM error before it tries again. The error must be one where a retry is possible. For example, if a media server is down. (Default: 60 seconds.)
- **RB_REEVAL_PENDING** - This parameter indicates the number of seconds that can elapse between evaluations of the pending request queue. For example, a pending request queue can include, jobs awaiting resources. (Default: 60 seconds.)
- **RB_REEVAL_PERIOD** - This parameter indicates the time between evaluations if an outstanding request is not satisfied, and if no other requests or resources have been released. (Default: Five minutes must pass before the initial request is reevaluated.)

`-deleteSetting settingname`

Deletes an `nbrb` configuration setting identified by *settingname*.

`-disablePerfMon`

Disables the performance monitoring.

`-dump`

Dumps all `nbrb` allocation and request lists.

`-dumptables -f filename`

Enables the Resource Broker (`nbrb`) to log its internal state in the specified file name.

`-enablePerfMon`

Enables the performance monitoring.

- `-listActiveJobs`
Lists all the active jobs.
- `-listActiveDriveJobs`
Lists all the active jobs for a drive.
- `-listActiveMediaJobs`
Lists all the active jobs for a media ID (disk or tape).
- `-listActivePoolJobs`
Lists all the active jobs for a volume pool.
- `-listActiveStuJobs`
Lists all the active jobs for a storage unit or a storage unit group.
- `-listOrphanedDrives`
Lists the drives that are reserved in EMM but have no corresponding allocation in the Resource Broker.
- `-listOrphanedMedia`
Lists the media that is reserved in EMM but has no corresponding allocation in the Resource Broker.
- `-listOrphanedPipes`
Lists the orphaned Fibre transport pipes.
- `-listOrphanedStus`
Lists the storage units that are reserved in EMM but have no corresponding allocation in the Resource Broker.
- `-listSettings`
Lists the NBRB configuration settings.
- `-release GUID`
Releases the allocation with the given identifier.
- `-resetAll`
Resets all nbrb allocations, requests, and persisted states.
- `-releaseAllocHolds`
Releases allocation holds caused by allocation errors for drives and media.
- `-releaseDrive drive`
Releases all allocations for the specified drive.
- `-releaseMDS ID`
Releases the EMM and MDS allocations allocated by the MDS with the specified identifier.

- `-releaseMedia mediaID`
Releases all allocations for the specified volume.
- `-releaseOrphanedDrive drivekey`
Releases drives that are reserved in EMM but have no corresponding allocation in the Resource Broker.
- `-releaseOrphanedMedia mediakey`
Releases media that are reserved in EMM but have no corresponding allocation in the Resource Broker.
- `-releaseOrphanedPipes`
Releases the orphaned fibre transport pipes.
- `-releaseOrphanedStu name`
Releases the storage units that are reserved in EMM but have no corresponding allocation in the Resource Broker.
- `-resetMediaServer mediaserver`
Resets all `nbrb` EMM and MDS allocations related to `ltid` on the media server.
- `-reportInconsistentAllocations`
Reports inconsistent allocation between the Resource Broker and MDS.
- `-resume`
Resumes the Resource Broker (`nbrb`) processing.
- `-setDriveGroupUnjoinable`
Disables the future job from joining the group for this drive.
- `-setMediaGroupUnjoinable`
Disables the future job from joining the group for this media.
- `-suspend`
Suspends the Resource Broker (`nbrb`) processing.
- `-syncAllocations`
Synchs up any allocation difference between the Resource Broker and MDS.

SEE ALSO

See [nbjm](#) on page 527.

See [nbpem](#) on page 532.

nbregopsc

`nbregopsc - register OpsCenter`

SYNOPSIS

`nbregopsc -add | -addopscenter | -addnb OpsCenter_server_name]`

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The NetBackup installation procedure asks if you want to register an existing OpsCenter with NetBackup. You need to enter the full pathname to execute the OpsCenter server name as a command line option. The `nbregopsc -add` command first adds the OpsCenter server name to `bp.conf` (CONFIG registry entry on Windows) with a new entry `OPS_CENTER_SERVER_NAME = Opscenter_server_name`. Later, the NetBackup master server name is registered with the OpsCenter server. This command can be run after the NetBackup installation to register OpsCenter and NetBackup servers with each other.

You can use the `-addopscenter` option to register OpsCenter with NetBackup without registering NetBackup with OpsCenter. You can also use the `-addnb` option to register NetBackup with OpsCenter without registering OpsCenter with NetBackup.

The command does not allow multiple `OPS_CENTER_SERVER_NAME` entries in `bp.conf` (or the registry), because NetBackup is limited in its ability to monitor multiple OpsCenter servers. If you run this command with a different name, the new name overwrites the existing entry of `OPS_CENTER_SERVER_NAME`.

In an OpsCenter cluster setup, the virtual server name is added to `bp.conf` (or the registry).

OPTIONS

`-add Opscenter_server_name`

Registers NetBackup with the specified OpsCenter server and registers the OpsCenter server with NetBackup.

`-addopscenter Opscenter_server_name`

Registers the OpsCenter server with NetBackup.

```
-addnb Opscenter_server_name
```

Registers NetBackup with the specified OpsCenter server.

nbreplicate

nbreplicate - initiate replication on a storage server

SYNOPSIS

```
nbreplicate -backupid backup_id -Bidfile file_name -cn copy_number  
-rcn replicate_copy_number -slp_name policy_type [-altreadhost  
hostname] [-priority number] [-v]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `nbreplicate` command allows a copy of a backup to be created.

This command can be run only on the master server.

Use `nbreplicate` to create up to 10 copies of unexpired backups.

OPTIONS

`-altreadhost hostname`

Specify an alternate host from which to read the media. The default condition is that `bpreplicate` reads the source media from the host that performed the backup.

`-backupid backup_id`

Specifies the backup ID of a single backup to replicate or for which you can change the primary copy.

`-Bidfile file_name`

file_name specifies a file that contains a list of backup IDs to be duplicated. List one backup ID per line in the file. If this parameter is specified, other selection criteria are ignored.

Also, *file_name* is removed during the execution of that command line interface (CLI) because the NetBackup GUIs commonly use this parameter. They expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option; however, it removes the file.

- `-cn copy_number`
Determines the copy number to duplicate. Valid values are 1 through 10. The default is 1.
- `-primary` means to search or duplicate the primary copy.
- `-priority number`
Sets a backup policy to run at a lesser or a higher priority than disk staging duplication.
- `-rcn replicate_copy_number`
Specifies the copy number of the duplication-to-remote-master copy. Valid values are 1 through 100. The copy number is usually the source copy plus 101.
- `-primary` means to search or duplicate the primary copy.
- `-slp_name policy_name`
Specifies the storage lifecycle policy name of the duplicated file.
- `-v`
Selects the verbose mode. When you specify the debug logs or progress logs, it includes more information.

EXAMPLES

Example 1 - List backups with a copy number of 1. They were backed up by the policy that is named `stdpol`, and created between July 1, 2009, and August 1, 2009.

```
# nbreplicate
```

Example 2 - Create a duplicate copy of the backup IDs in file name `plum`. It duplicates copy 1 to copy 5 on storage unit `Tape_stu` of pool `NBU`.

```
# nbreplicate -Bidfile plum dstunit Tape_stu -dp NBU -cn 1 -dcn 5
```

FILES

UNIX and Linux systems:

```
/usr/openv/netbackup/logs/admin/*  
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\  
install_path\NetBackup\logs\admin\*
```

nbstl

nbstl - add, delete, modify, or list NetBackup storage lifecycle policies

SYNOPSIS

```

nbstl storage_lifecycle_name [-add | -modify | -modify_current |
-modify_version] [-dc class] [-dp duplication_priority] [-version
version_number]
[-uf used_for1 [,used_for2,..used_forn]]
[-source source1 [,source2,..sourcecn]]
[-residence storage_unit1 | __NA__ [,storage_unit2 |
__NA__ ,..storage_unitn | __NA__]]
[-pool volume_pool1 | __NA__ [,volume_pool2 | __NA__ ,..volume_pooln
| __NA__]]
[-server_group host1 | __NA__ [,host2 | __NA__ ,..hostn | __NA__]]
[-managed m1 [,m2,..mn]]
[-rl retention_level1 [,retention_level2,..retention_leveln]]
[-as alt_read_server1 | __NA__ [,alt_read_server2 |
__NA__ ,..alt_read_servern | __NA__]]
[-mpx preserve_mpx1 | __NA__ [,preserve_mpx2 | __NA__ ,..preserve_mpxn
| __NA__]] [-v] [-M master_server]
[-destpri priority1 [,priority2,..priorityn]]
nbstl storage_lifecycle_name -delete [-v] [-M master_server]
nbstl [storage_lifecycle_name] -L | -l | -b [-v] [-M master_server]
[-all_versions] [-version version_number]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The nbstl command can do the following:

- -add adds a new storage lifecycle.
- -delete deletes an existing storage lifecycle.
- -modify modifies an existing storage lifecycle.
- -L or -l lists one or all storage lifecycles. -b lists the storage lifecycle policy names and their version numbers.

The `nbstl` command creates, modifies, or deletes all of the destinations at the same time and does not support adding or modifying single destinations. To change properties of one destination, all of the existing destinations must be accounted for as well as the destination to be updated.

Many of the options that need to be entered for a destination may not be applicable (NA). In that case, enter the value as `__NA__` (double underscores before and after NA). The following options accept `__NA__` as a value:

- `-residence`
- `-pool`
- `-server_group`
- `-as` (alternate read server)
- `-mpx`

OPTIONS

`-all_versions`

Displays all versions of the specified storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified.

`-b`

Displays the name and version number of the specified storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified.

`-dc class`

Specifies the numeric data classification that is associated with this service.

`-delete`

Deletes the specified storage lifecycle policy.

`-dp duplication_priority`

Specifies the duplication job priority that is associated with this Storage Service.

storage_lifecycle_name

Identifies the name of the storage lifecycle policy to be created, modified, deleted, or displayed.

`-l`

Displays the condensed output of the specified storage lifecycle policy, or all storage lifecycle policies if *storage_lifecycle_name* is not specified. The output contains only data for the storage lifecycle. It does not identify the name.

-L

Displays the long output of the specified storage lifecycle, or all storage lifecycles if *storage_lifecycle_name* is not specified. It identifies the output by name.

-M *master_server*

Specifies the NBU master server. The default is the local server.

-modify

Modifies the specified storage lifecycle policy. This option creates a new version of the storage lifecycle policy. You can modify information such as pool volume or retention level.

-modify_current

Modifies the current version of the storage lifecycle policy instead of creating a new policy. This option cannot be used with the `-dc`, `-uf`, `-source`, or `-managed` options.

-modify_version

Modifies the selected version (*nn*) of the storage lifecycle policy instead of creating a new policy. This option cannot be used with the `-dc`, `-uf`, `-source`, or `-managed` options.

-v

Selects the verbose mode for logging.

-version *nn*

Displays only the specified version number (*nn*) of the storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified.

The following destination options must all specify the same number of parameters, one for each destination of the storage service. The resulting number of destinations equals the number of parameters. The parameters are separated by commas with no blank spaces between them.

-destpri *priority1* [*,priority2,...priorityn*]

Specifies the job priority for each storage lifecycle policy destination index. This option can be used only for import destinations. All other destinations must be set to 0.

-managed *m*,...

The capacity-managed flag for each destination. The possible values are the following:

- 0 - Disable capacity management.
- 1 - Enable capacity management.

- 2 - Expire After duplication. Used if the destination has been configured as a source for other duplication(s). This value suggests that the copy from that destination should be expired and removed from the storage once the duplications are done. This selection cannot be used if the destination is not a source to any other duplications.
- 3 - Remote (imported) expiration date.

```
-mpx preserve_mpx1 | __NA__[,preserve_mpx2 | __NA__,...preserve_mpxn | __NA__]
```

Sets the preserve multiplexing flag for duplication copies. This option is not allowed for backup or snapshot copies. Settings in the policy host and storage unit properties determine the backup copies multiplexed state. The flag is only relevant for tape copies. The option is `-mpx` followed by a set of commas that are separated by the following values:

- F or f - Do not preserve multiplexing for the copy
- T or t - Preserve multiplexing for the copy, if possible.
- __NA__ - Not applicable

```
-pool volume_pool1 | __NA__[,volume_pool2 | __NA__,...volume_pooln | __NA__]
```

Specifies the volume pool for each destination. Volume pools do not apply to disk copies.

```
-residence storage_unit1 | __NA__[,storage_unit2 | __NA__,...storage_unitn | __NA__]
```

The storage unit that is to be used for each destination. Storage units do not apply to snapshot destinations (`-uf` option set to 2) or duplication to remote master (`-uf` option set to 3).

```
-rl retention_level1 [,retention_level,...retention_level]
```

The retention level (0-24) applied to each destination.

```
-servergroup host1 | __NA__[,host2 | __NA__,...hostn | __NA__]
```

Specifies the server group.

```
-as alt_read_server1 | __NA__[,alt_read_server2 | __NA__,...alt_read_servern | __NA__]
```

The alternate read server for each destination. Alternate read servers apply only to duplication destinations.

```
-source source1[,source2,...sourcenn]
```

Configures a hierarchy of duplications for the `-add` and `-modify` operations of storage lifecycle.

Accepted values for `-source` are the following:

- Backup and snapshot destinations - value must be 0. Backup and snapshot copies do not require a "source".
- Duplication destinations - the serial number of the destination from the list of destinations to be used as the source copy. (A snapshot copy cannot be used as the source for a duplication.) Duplication destinations that do not use any specific source (that is, they use the primary copy as the source), must be set to 0.

`-uf used_for1 [used_for2,...used_forn]`

Specifies when each destination is used. Use one of the following values:

- 0 - backup
- 1 - duplication
- 2 - snapshot
- 3 - duplication to remote master
- 4 - import

EXAMPLES

Example 1 - List information on lifecycle1:

```
# nbstl lifecycle1 -L
                                Name: lifecycle1
                                Data Classification: Gold
                                Duplication job priority: 0
                                State: active
Destination 1                    Use for: backup
                                Storage Unit: adv_dsul
                                Volume Pool: (none specified)
                                Server Group: (none specified)
                                Retention Type: Fixed
                                Retention Period: 1 (2 hours)
                                Alternate Read Server: (none specified)
                                Preserve Multiplexing: false
                                State: inactive
                                Source: (client)
```

The storage unit named `adv_dsul` is inactive. Values for "State" in the `-L` display are either active or inactive.

Example 2 - Create a lifecycle named `HDLifecycle1`. This lifecycle has a data classification of Gold. It contains the following four destinations:

- A backup destination (-uf value is 0) with storage unit AdvDisk1 which does not require any source (-source value is 0).
- A backup destination using storage unit DataDomain1.
- A duplication destination (-uf value is 1) with storage unit DataDomain2 that uses destination at serial number 1 (i.e. the backup destination with storage unit DataDomain1) as a source (-source value is 1).
- A duplication destination with storage unit cooperstown-tape1 that uses the destination at serial number 2 (i.e. the duplication destination with storage unit DataDomain2) as the source (-source value is 2).

```
# nbstl HDLifecycle1 -add -dc Gold -uf 0,0,1,1,1 -residence AdvDisk1,
DadaDomain1,DataDomain2,cooperstown-tape1 -source 0,0,1,2
```

Example 3 - Create a lifecycle that does snapshot with backup to disk and then duplication to tape. The disk storage unit is DskSTU and the tape storage unit is TpSTU.

```
# nbstl LCPolicy -dc Gold -uf 0,1,2 -residence DskStU,TpSTU, __NA__
-pool NetBackup,DLP_Pool1, __NA__ -managed 0,0,0 -rel 6,12,1
```

Data retention is defined as follows:

- Snapshot images are retained for one week.
- Backup images on disk are retained for six (6) months.
- Tape images are retained for five (5) years.
- The user has defined retention level 12 to be five (5) years.

Example 4 - Change the retention level for existing version 4 of the lifecycle:

```
# nbstl LCPolicy -modify_version -version 4 -rl 4,6,7,7
```

The storage lifecycle policy must have four destinations previously defined.

Example 5 - List the condensed contents of version 2 of LCPolicy:

```
# nbstl LCPolicy -l -version 2
```

Example 6 - Change the fields in the current version of the storage lifecycle policy SLP8:

```
# nbstl SLP8 -modify_current -pool Pool1,Pool2,Pool3 -as __NA__,
AltReadServer2, __NA__ -mpx F,F,T
```

SEE ALSO

See [nbd](#) on page 459.

See [nbstlutil](#) on page 555.

nbstlutil

nbstlutil – run the NetBackup storage lifecycle policies utility

SYNOPSIS

```

nbstlutil active | inactive [-wait | -force] [[-lifecycle name
[-destination name] | -backupid value]
nbstlutil cancel [-wait | -force] [[-lifecycle name [-destination
name] [-version number] [-nowarn]] | -backupid value]
nbstlutil diskpaceinfo [-stype name]
nbstlutil list [-l | -U | -b] [-rt I | IC | ICF] [-lifecycle name
[-version number] [-destination name] | -lifecycle_only | -backupid
value] [-client name] [-mediaid value] [-mediaserver name]
[-storageserver name] [-image_state value] | -copy_state value |
-frag_state value | -image_incomplete | -image_inactive |
-copy_incomplete | -copy_inactive] [-copy_type value]
nbstlutil pendimplist
nbstlutil repllist [-l] [-U] [-sincetime timeval]
nbstlutil report [-lifecycle name [-version number]] [-client name]
[-mediaid value] [-mediaserver name] [-storageserver name]
nbstlutil stlilist [-l] [-U] [[[-lifecycle name] [-destination name]]
| -backupid value] [-client name] [-mediaid value] [-mediaserver
name] [-storageserver name] [-image_state value | -image_incomplete
| -image_inactive] [-copy_type value]
On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/
On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

```

DESCRIPTION

The **nbstlutil** command provides a way for users to intervene in storage lifecycle operations. The following are the utility functions:

active

Activates the lifecycle operations on selected image copies.

cancel

Cancels a list of image copies as selected by the **-lifecycle** option or the **-destination** option. Cancelling a storage lifecycle policy cancels all the pending copies for it. Cancelling a specific destination cancels all the pending

copies that are bound for the named destination regardless of lifecycle policy. Any new work that shows up afterwards is processed normally.

`diskspaceinfo`

Reports on the space that are used by all disk volumes or only the disk volumes that the specified type uses.

`inactive`

Deactivates future lifecycle operations on selected image copies, but retains the image information so that processing can resume.

`list`

Shows the contents of an image list (EMM database). The tables can be listed that hold the information about the images that lifecycles process. This option is primarily a debugging tool, but support may use the information to troubleshoot problems.

Note: When you upgrade to NetBackup 7.1, only the first backup copy is marked as copy type 0 (backup). All other copies in the storage lifecycle policy are marked as copy type 1 (duplicate).

`pendimplist`

Shows the status for pending replication copies.

`report`

Shows a rollup of incomplete copies of lifecycle managed images.

`repllist`

Shows the status for completed replication copies.

`stlilist`

Shows the status for incomplete copies of lifecycle managed images.

OPTIONS

`-b`

Lists the storage lifecycle policy names and their version numbers.

`-backupid value`

Selects a specific image that is specified by *value*.

`-client name`

Restricts the listing of images for storage lifecycle operations to only those on the client that is specified by *name*.

`-copy_inactive value`

Selects the images for which one or more copies are marked as inactive in the EMM database. This option is used primarily for debugging.

`-copy_incomplete value`

Selects the images for which one or more copies are not marked as duplication complete in the EMM database. This option is used for debugging.

`-copy_state value`

Selects the images with the specified copy state in the EMM database. This option is used primarily for debugging. Valid values for copy state are as follows:

- 1 - NOT_STARTED
- 2 - IN_PROCESS
- 3 - COMPLETE
- 9 - NOT_STARTED | INACTIVE
- 10 - IN_PROCESS | INACTIVE

`-copy_type value`

Selects a copy type filter for the list commands (`list` and `stlilist`). Valid values are the following:

- 0 - Backup
- 1 - Duplication
- 2 - Snapshot
- 3 - Duplication to remote master (replica)
- 4 - Import

`-destination name`

Selects the images that are scheduled to be duplicated to the storage unit or storage unit group that is specified by *name*.

`-force`

Forcefully cancels the pending lifecycle operations at a specified destination.

`-frag_state value`

Selects the images with the specified fragment state in the EMM database. This option is used for debugging. Valid values for *frag* state are as follows:

- 1 - ACTIVE
- 2 - TO_BE_DELETED

- 3 - ELIGIBLE_FOR_EXPIRATION

`-image_inactive value`

Selects the images that are marked as inactive in the EMM database. This option is used for debugging.

`-image_incomplete value`

Selects the images that are not marked as lifecycle complete in the EMM database. This option is used for debugging.

`-image_state value`

Selects the images with the specified image state in the EMM database. This option is used primarily for debugging. The valid values for image state are as follows:

- 1 - NOT_STARTED
- 2 - IN_PROCESS
- 3 - COMPLETE
- 9 - NOT_STARTED | INACTIVE
- 10 - IN_PROCESS | INACTIVE

`-l`

Produces a condensed parsable output of the listing.

`-lifecycle name`

Selects the images that the specified lifecycle has created.

`-mediaid value`

Restricts the listing of images for storage lifecycle operations to only those on the media ID that *value* specifies.

`-mediaserver name`

Restricts the listing of images for storage lifecycle operations to only those on the media that *name* specifies.

`-nowarn`

Skips the interactive warning message.

`-rt I | IC | ICF`

Selects the record types to be listed. The possible values are:

- I - list only image records.
- IC - list image and copy records.
- ICF - list image, copy, and fragment records.

- `-sincetime timeval`
Shows the status of completed replication copies from the specified *timeval* to the present. This option is used with the `repllist` function.
- `-state value`
Selects a state field that *value* specifies in the EMM database. This option is used primarily for debugging.
- `-storageserver name`
Restricts the listing of images for storage lifecycle operations to only those on the storage server that *name* specifies.
- `-stype name`
Specifies the disk space type to be reported on. Variable *name* can be AdvancedDisk, SharedDisk, NearStore, PureDisk, or a vendor-supplied OpenStorage name.
- `-U`
Produces user-readable output of the listing.
- `-version number`
Selects the storage lifecycle policy with the specified version.
- `-wait`
Waits to cancel the pending lifecycle operations at a specified destination.

EXAMPLE

EXAMPLE 1

The following command displays the information about a lifecycle in-process image.

```
# nbstlutil -list -backupid dollhouse_1287744229 -U
Image:
Master Server           : dollhouse
Backup ID               : dollhouse_1287744229
Client                  : dollhouse
Backup Time             : 1287744229 (Fri Oct 22 16:13:49 2010)
Policy                  : pol-slp-2bkup-70-level
Client Type             : 13
Schedule Type           : 0
Storage Lifecycle Policy : slp-pol-2backup-70-level
Storage Lifecycle State : 3 (COMPLETE)
Time In Process         : 1287744327 (Fri Oct 22 16:15:27 2010)
Data Classification ID  : 85AA96DF9781453289A41745DD240A48 (Platinum)
```

Version Number : 0
OriginMasterServer : (none specified)
OriginMasterServerID : 00000000-0000-0000-0000-000000000000
Import From Replica Time : 0 (Thu Jan 01 05:30:00 1970)
Required Expiration Date : 0 (Thu Jan 01 05:30:00 1970)
Created Date Time : 1287744297 (Fri Oct 22 16:14:57 2010)

Copy:

Master Server : dollhouse
Backup ID : dollhouse_1287744229
Copy Number : 1
Copy Type : 0
Expire Time : 1288953829 (Fri Nov 05 16:13:49 2010)
Expire LC Time : 1288953829 (Fri Nov 05 16:13:49 2010)
Try To Keep Time : 1288953829 (Fri Nov 05 16:13:49 2010)
Residence : PDDE-Stu
Copy State : 3 (COMPLETE)
Job ID : 0
Retention Type : 0 (FIXED)
MPX State : 0 (FALSE)
Source : 0
Destination ID : *NONE*
Last Retry Time : 0

Fragment:

Master Server : dollhouse
Backup ID : dollhouse_1287744229
Copy Number : 1
Fragment Number : 1
Resume Count : 0
Media ID : @aaaaad
Media Server : dollhouse
Storage Server : (none specified)
Media Type : 0 (DISK)
Media Sub-Type : 6 (STSDYNAMIC)
Fragment State : 1 (ACTIVE)
Fragment Size : 5120
Delete Header : 1
Fragment ID : @aaaaad

Copy:

Master Server : dollhouse
Backup ID : dollhouse_1287744229

```

Copy Number      : 2
Copy Type       : 1
Expire Time     : 1288953829 (Fri Nov 05 16:13:49 2010)
Expire LC Time  : 1288953829 (Fri Nov 05 16:13:49 2010)
Try To Keep Time : 1288953829 (Fri Nov 05 16:13:49 2010)
Residence       : adv-dsk-stu
Copy State      : 3 (COMPLETE)
Job ID          : 0
Retention Type  : 0 (FIXED)
MPX State       : 0 (FALSE)
Source          : 0
Destination ID  : *NONE*
Last Retry Time : 0

```

```

Fragment:
  Master Server   : dollhouse
  Backup ID       : dollhouse_1287744229
  Copy Number     : 2
  Fragment Number : 1
  Resume Count    : 0
  Media ID        : @aaaab
  Media Server    : dollhouse
  Storage Server  : (none specified)
  Media Type      : 0 (DISK)
  Media Sub-Type  : 6 (STSDYNAMIC)
  Fragment State  : 1 (ACTIVE)
  Fragment Size   : 5120
  Delete Header   : 1
  Fragment ID     : @aaaab

```

The output displays "(none specified)" for blank fields.

EXAMPLE 2

The following command displays the information for a lifecycle incomplete image.

```

# nbstlutil list -l
V7.0 I abc.min.veritas.com abc_1225727 abc 1225727 Pol_SLPTest1 0 0 SLP_Test1 2 \
1225727 *NULL*
V7.0 C abc.min.veritas.com abc_1225727 1 2147483 1225735 AdvDisk1 3 0 0 0 0
V7.0 F abc.min.veritas.com abc_1225727 1 1 0 @ab abc.min.veritas.com *NULL* 0 6 1 \
32768 1 @ab
V7.0 C abc.min.veritas.com abc_1225727 2 2147483 1225735 AdvDisk2 3 0 0 0 0

```

EXAMPLE 3

The following command displays the information for an incomplete lifecycle image.

```
# nbstlutil stlilist -U
Image abc_1225727928 for Lifecycle SLP_Test1 is IN_PROCESS
  Copy to abc-tape1 is IN_PROCESS
  Copy to AdvDisk3 is NOT_STARTED
```

EXAMPLE 4

The following command displays the information for an incomplete lifecycle image.

```
# nbstlutil stlilist -l
V6.5 I abc_1225727928 SLP_Test1 2
V6.5 C abc-tape1 2
V6.5 C AdvDisk3 1
```

nbsu

nbsu - run the NetBackup Support Utility

SYNOPSIS

```
nbsu [-c] [-d diag] [-debug] [-ftp ###-###-###] [-ftp_host host]  
[-ftp_incoming destination] [-ftp_pass password] [-ftp_user user]  
[-g diag_group] [-h] [-H] [-i] [-l] [-L] [-mm_e ###] [-nbu_down]  
[-nbu_e ###] [-no_nbu] [-nozip] [-r NBU_host_role] [-s diag_group]  
[-t] [-use_reg_cmd [32 | 64]] [-v] [-xml]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/support/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\support\`

DESCRIPTION

The `nbsu` command is a Symantec utility that gathers a wide range of diagnostic information. By default, `nbsu` gathers the appropriate diagnostic information that is based on the operating system and NetBackup environment. Several command line options enable the diagnostic information that is gathered to be customized as desired.

If necessary, create a bundled support package. `nbsu` creates the following `nbsu` and output directories:

- `/usr/opensv/netbackup/bin/support/nbsu`
- `/usr/opensv/netbackup/bin/support/output/nbsu`

PREREQUISITES

The following items are needed before you can use the `nbsu` command:

- `nbsu` is designed for use with NetBackup version 3.4 and greater.
- If you use the `-no_nbu` command line option, `nbsu` can be run without NetBackup installed.
- For `nbsu` to create a support package (if required), the path to the `tar` and `gzip` programs must be included in the `$PATH` (UNIX) environment variable. If `gzip` is not available, the utility uses the `compress` program, if available.
- To run NetBackup or media manager diagnostics, the appropriate services or daemons must be running in the master server and media server environments.

- Use the `-nbu_down` option to select only diagnostics that do not use any NetBackup or media manager commands.

PROGRAM USAGE

Consider the following items when you program using the `nbsu` command:

- With no command line options, `nbsu` selects all appropriate diagnostics to run and gather information.
- To view a list of the diagnostic commands that `nbsu` selects, run `nbsu` with the `-l` command line option.
- Use the appropriate command line options for the following items:
 - Individual diagnostic commands
 - Groups of related diagnostic commands
 - Configuration or troubleshooting related diagnostic commands
 - NetBackup or Media Manager exit status-related diagnostic commands
- To omit individual diagnostic commands or groups of related diagnostic commands, use the `-s` command line option.

OPTIONS

`-c`

Runs only NBU configuration-related commands or procedures. This option is the default condition.

`-d diag`

Runs only the diagnostic command or procedure listed. For a list of diagnostic commands or procedures, run `nbsu` with the `-l` command line option. Multiple `-d` options may appear in the list. For example:

UNIX and Linux systems: `-d OS_general -d OS_env`

Windows systems: `-d OS_general -d OS_set`

`-debug`

Runs `nbsu` in debug mode. Debug mode places additional program information into the file.

`-ftp ###-###-###`

Performs an FTP on the support package bundled to Technical Support for analysis. Include the support case number in the specified format for identification purposes.

This option cannot be used with the `-ftp_host`, `-ftp_incoming`, or `-nozip` command line options.

`-ftp_host host`

Specifies the host to use with the FTP operation. This option must be used with `-ftp_incoming`, `-ftp_pass`, and `-ftp_user` command line options to designate the destination host for the FTP support bundle. It cannot be used with the `-ftp` or `-nozip` options.

`-ftp_incoming destination`

Specifies an incoming destination to use with the FTP operation. This option must be used with `-ftp_host`, `-ftp_pass`, and `-ftp_user` command line options to designation location for the FTP support bundle. It cannot be used with the `-ftp` or `-nozip` options.

`-ftp_pass password`

Specifies the password to use for the FTP operation. This option must be used with the `-ftp` or `-ftp_host` option. It cannot be used with the `-nozip` option

`-ftp_user user`

Specifies the username to use for the FTP operation. This option must be used with the `-ftp` or `-ftp_host` option. It cannot be used with the `-nozip` option

This option cannot be used with the `-ftp_host`, `-ftp_incoming`, or `-nozip` command line options.

`-g group_name`

Runs only the diagnostic commands or procedures that are related to the group name. Diagnostic groups are "OS", "DEV", "NET", "NBU", and "MM". Multiple `-g` options may be listed. For example:

```
-g OS -g DEV
```

`-h`

Displays the terse `nbsu` command-line help information.

`-H`

Displays the full `nbsu` command-line help information.

`-i`

Interactive mode. Used to log on as a NetBackup security administrator.

`-l`

Lists the diagnostic commands to be selected to run. Use with other command line options to display the appropriate diagnostic commands or procedures.

`-L`

Lists all of the `nbsu` 1.0 diagnostics and commands. Can be used to output a detailed report of each diagnostic to STDOUT. Includes the selection criteria and commands to be executed.

`-mm_e ###`

Runs only the diagnostic commands or procedures that are related to the Media Manager exit status. Multiple `-mm_e` options may be listed. For example:

```
-mm_e 12 -mm_e 20
```

`-nbu_down`

Runs only the diagnostic commands or procedures that do not make use of NetBackup or Media Manager commands. This command line option selects DEV, NET, and OS diagnostics and a subset of NBU and MM diagnostics.

`-nbu_e ###`

Runs only the diagnostic commands or procedures that are related to the NetBackup exit status. Multiple `-nbu_e` options may be listed. For example:

```
-nbu_e 25 -nbu_e 41
```

`-no_nbu`

Runs only DEV, NET, and OS related diagnostics.

`-nozip`

Specifies that the output files are not to be compressed.

`-r host_role`

Runs only the diagnostic commands or procedures that are related to the NetBackup host role. The following are the accepted host role parameter abbreviations:

`ma` = Master server

`me` = Media server

`d_me` = Disk media server

`t_me` = Tape media server

`cl` = Client

`emm` = EMM server

`gdm` = Global Domain Manager

`rah` = Remote Administration Host

Multiple `-r` options may be listed. For example:

`-r ma -r cl`

`-s name`
Skips the diagnostic command, procedure, or group listed. For a list of diagnostic commands or procedures, run `nbsu` with the `-l` command line option. Diagnostic groups are OS, DEV, NET, NBU, and MM. Multiple `-s` options may be listed. For example:

`-s OS_general -s DEV`

`-t`
Runs only the diagnostic commands or procedures that are related to the NetBackup troubleshooting.

`-use_reg_cmd [32 | 64]`
This option operates only on Windows systems.
This option enables the use of the Reg.exe utility to query the Windows registry. The version of Reg.exe that supports the `/reg:32` or the `/reg:64` command line parameters must be installed so that this option works correctly.

`-v`
Outputs the internal version of `nbsu`.

`-xml`
Outputs all `nbsu` output into a single XML formatted file.

EXAMPLES

Example 1 - List the diagnostics to be selected to run on a NetBackup node:

```
# nbsu -l
```

Example 2 - Select an individual diagnostic command to run; do not compress the resulting support bundle:

```
# nbsu -d NBU_version -nozip
```

Example 3 - Select the network group of diagnostics to run, but skip the `NET_etc_hosts` diagnostic:

```
# nbsu -g NET -s NET_etc_hosts
```

Example 4 - Select the diagnostics that are associated with the NetBackup exit status code 41:

```
# nbsu -nbu_e 41
```

Example 5 - List the diagnostics that would be selected to run for the network diagnostic groups and operating system diagnostic groups on a NetBackup node:

```
# nbsu -l -g NET -g OS
```

Example 6 - Select an individual diagnostic command to run and to not zip the resulting support bundle:

```
# ./nbsu -d NBU_version -nozip
```

Example 7 - Select the network and operating system groups of diagnostics to run, but skip the NET_dd diagnostic:

```
# nbsu -g NET -s NET_dd -g OS
```

Example 8 - Select the diagnostics that are associated with the NetBackup exit status codes 21, 25, and 41:

```
# .nbsu -nbu_e 21 -nbu_e 25 -nbu_e 41
```

nbsvrgrp

nbsvrgrp - manage server groups

SYNOPSIS

```

nbsvrgrp -add -grpname name [-M master_name] -server
s1:t1:s2:t2:s3:t3...sN:tN -grptype MediaSharing | NOM |
AltServerRestore [-grpstate ACTIVE | INACTIVE] -description text
nbsvrgrp -update -grpname name [-M master_name] [-addsvr
s1:t1:s2:t2:s3:t3...sN:tN] [-remsvr s1:t1:s2:t2:s3:t3...sN:tN]
[-grptype MediaSharing | NOM | AltServerRestore] [-grpstate ACTIVE
| INACTIVE] [-description text]
nbsvrgrp -delete -grpname name [-M master_name]
nbsvrgrp -list [-M master_name] [-grptype MediaSharing | NOM |
AltServerRestore] [-grpname name] [-grpstate ACTIVE | INACTIVE]
[-summary | -verbose | -noverbose]
nbsvrgrp -list_machine_membership [-M master_name] -m machine_name
[-t machine_type] [-summary | -verbose | -noverbose]

```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\admincmd\

DESCRIPTION

The **nbsvrgrp** command adds, changes, deletes, or lists server groups.

Any authorized user can run **nbsvrgrp**.

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

OPTIONS

-add

Adds a new server group.

-addsvr s1:t1:s2:t2:s3:t3...sN:tN

Specifies a list of server or server-type pairs to be added to a server group. Examples of server types are *master*, *media*, and *ndmp*.

-change

Changes an existing server group.

-delete

Deletes a server group. This operation fails if it is a Media Sharing Group and media is assigned to the group.

-description *text*

Describes the server group. Use double quote marks if the description contains any spaces.

-grpname *name*

Specifies the human readable name that is given to a server group. This name is case sensitive. It may only contain the characters a-z, A-Z, 0-9, plus(+), minus(-), underscore(_), and period(.

-grptype *type*

Specifies the group type that is used to designate the purpose of a server group. The current list of group types is *MediaSharing*, *NOM*, and *AltServerRead*.

-grpstate ACTIVE | INACTIVE

Sets or changes the state of a server group. Allowable states are *ACTIVE* and *INACTIVE*.

-list [-summary | -verbose | -noverbose]

Lists the information about all server groups. The *-summary* option specifies a brief format for the server group information. The *-verbose* option specifies a detailed format for the server group information. The *-noverbose* option specifies a parsable format for the server group information.

-list_machine_membership [-summary | -verbose | -noverbose]

Lists the server groups in which a named machine has membership. The *-summary* option specifies a brief format for the server group information. The *-verbose* option specifies a detailed format for the server group information. The *-noverbose* option specifies a parsable format for the server group information.

-m *machine_name*

Machine name to use with the *-list_machine_membership* option.

-remsvr s1:t1:s2:t2:s3:t3...sN:tN

Specifies a list of server or server-type pairs to be removed from a server group. Examples of server types are *master*, *media*, and *ndmp*.

```
-server s1:t1:s2:t2:s3:t3...sN:tN
```

Specifies a list of server (s1, s2,...) and server type (t1, t2,...) pairs to be configured in the server group. Examples of server types are *master*, *media*, and *ndmp*.

```
-t machine_type
```

The machine type that corresponds to the machine that is named in the `-m` option. Examples include *master*, *media server*, and *ndmp*.

NOTES

`nbsvrgrp` provides only limited validation of the option parameters.

EXAMPLES

Example 1 - Add a new media sharing server group that is called *MyServerGroup*, with media servers *larry* and *moe*, and `ndmp` filer *myfiler*:

```
# nbsvrgrp -add -grpname MyServerGroup -server  
larry:media:moe:media:myfiler:ndmp -grptype MediaSharing -grpstate  
ACTIVE -description "my description with spaces"
```

Example 2 - List all server groups that are configured:

```
# nbsvrgrp -list -summary
```

restoretrace

`restoretrace` - consolidate debug logs for a restore job

SYNOPSIS

```
restoretrace [-master_server name] [-job_id number] [-client_name  
name] [-start_time hh:mm:ss] [-end_time hh:mm:ss] mmdyy [mmdyy ...]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/admincmd/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\admincmd\`

DESCRIPTION

The `restoretrace` utility consolidates the debug logs for the specified restore jobs. It copies to standard output the debug log lines relevant to the specified restore jobs. The messages sort by time. The utility tries to compensate for time zone changes and clock drift between remote servers and clients. The output is formatted to easily sort or group by timestamp, program name, server, or function for the following: `bprd` on the master server, `bpbrm` and `bptm-bpdm` on the media server, and `tar` on the client. For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and for `bpcd` on all servers and clients in addition to already identified processes.

You must have administrator privileges to run this command.

OPTIONS

`-master_server name`

Name of the master server. Default is the local host name.

`-job_id number`

Job ID number of the restore job to analyze.

`-client_name name`

Client name of the jobs to analyze.

`-start_time hh:mm:ss`

Earliest timestamp to start analyzing the logs.

`-end_time hh:mm:ss`

Latest timestamp to finish analyzing the logs.

mmddyy [*mmddyy...*]

One or more day stamps that identify the log file names (log.mmddyy for UNIX and Linux, and mmddyy.log for Windows) that are analyzed.

NOTES

Media Manager logs are not analyzed.

EXAMPLE

UNIX and Linux systems:

```
/usr/opensv/netbackup/bin/admincmd/restoretrace -job_id 234  
081302 log.234
```

Windows systems:

```
C:\Program Files\VERITAS\NetBackup\bin\admincmd\restoretrace  
client peony install_path C:\Program Files\VERITAS 071502  
log.peony
```

When you initiate the utility, it consolidates debug logs for all the restore jobs for the client *peony* on 071502. Use the *start_time/end_time* arguments to limit the window for the jobs are to be evaluated.

t14d

t14d – Tape library 4MM (TL4) daemon (UNIX and Linux) or process (Windows)

SYNOPSIS

t14d [-v]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

t14d interfaces with Media Manager to mount and unmount tapes in a tape library 4MM (TL4) robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. ltid starts t14d if the Media and Device Management of the Administration Console shows drives in the robot. Stopping ltid stops t14d.

UNIX and Linux systems: You can stop or start t14d independently of ltid by using `/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the t14d process ID. Then enter the following commands:

```
kill t14d_pid  
/usr/opensv/volmgr/bin/t14d [-v] &
```

t14d communicates with the robotics through a SCSI interface. When the connection is established (the path for robotics can be opened), t14d puts the TL4 robot in the UP state. It then can mount and unmount tapes. If the robotics are inaccessible, t14d changes the robot to the DOWN state. In this state, t14d is still running and returns the robot to the UP state if it is able to make a connection.

Before you access any tapes, must define the following information: the media ID and slot number information for 4-mm tapes in a robot in the Enterprise Media Manager Database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

On UNIX and Linux systems, the Internet service port number for t14d must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services.

To override the services file, create the `/usr/opensv/volmgr/database/ports/t14d` file with a single line that contains the service port number for `t14d`.

On Windows systems, the Internet service port number for `t14d` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the file `install_path\Volmgr\database\ports\t14d` with a single line that contains the service port number for `t14d`.

The default service port number is 13713.

You must have administrator privileges to execute this command.

OPTIONS

`-v` This option applies only to UNIX and Linux systems. It logs debug information using `syslogd`. If you start `ltid` with `-v`, `t14d` also starts with `-v`.

ERRORS

UNIX and Linux systems:

`t14d` returns an error message if a copy of `t14d` is in operation.

Media Manager logs any tape library 4MM and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

Windows systems:

Media Manager logs any tape library 4MM and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

SEE ALSO

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

t18d

t18d – Tape library 8MM (TL8) daemon (process)

SYNOPSIS

t18d [-v]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

t18d interfaces with Media Manager to mount and unmount volumes in a Tape Library 8MM robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. t18d runs on each host with a drive connection and sends mount and unmount requests to the control daemon.

On UNIX and Linux systems, t18d automatically starts and stops when ltid is started and stopped. To stop or start t18d independently of ltid, use `/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the t18d process ID. Then enter the following commands:

```
kill t18d_pid
```

```
/usr/opensv/volmgr/bin/t18d [-v] &
```

The control daemon, t18cd, is on the host that has the robotic control. t18d on that host starts it (see EXAMPLES).

On Windows systems, t18d is started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, t18cd, is on the host that has the robotic control. t18d starts it automatically on that host (see EXAMPLES). t18cd stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), ltid, t18d, and t18cd, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

If the `vm.conf` configuration option `PREVENT_MEDIA_REMOVAL` is enabled when `t18cd` is active, `t18cd` disables access to the volumes and the media access port. It disables access by issuing a command to the TL8 robot. If it is necessary to open the door of the cabinet, you must terminate `t18cd` first. By default, access to the library is allowed.

The drives are logically numbered 1 through n , where n is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index the drive.
- The robotic test utility, or experiment by mounting media and then watch the operator display.

On UNIX and Linux systems, the Internet service port number for `t18cd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the `/usr/opensv/volmgr/database/ports/t18cd` file with a single line that contains the service port number for `t18cd`.

On Windows systems, the Internet service port number for `t18cd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\t18cd` file with a single line that contains the service port number for `t18cd`.

The default service port number is 13705.

The following items apply only to NetBackup Enterprise Server:

- Tape library 8MM robotic control software permits drives in the same robot to be configured on different hosts. `t18cd` may be running on a different host than `t18d`, depending on where the SCSI connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), `t18d` puts the TL8 robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, `t18d` changes the robot to the DOWN state. In this state, `t18d` is still running and returns the robot to the UP state if `t18cd` is able to make a connection.

- If drives are on different NetBackup hosts, enter the robotic information in the Media Manager configuration on all machines. The robot number must be the same on all machines.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

- v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `t18d` and `t18cd` are also started with `-v`.

ERRORS

UNIX and Linux systems:

`t18d` logs error messages if a copy of the daemon is running.

Media Manager logs any tape library 8MM and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

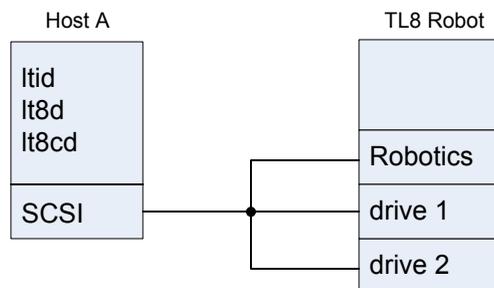
Windows systems:

Media Manager logs any tape library 8MM and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

Example 1 - In the following diagram, the drives and the robotics are connected to a single host. `ltid` initiates `t18d`, which in turn initiates `t18cd`.

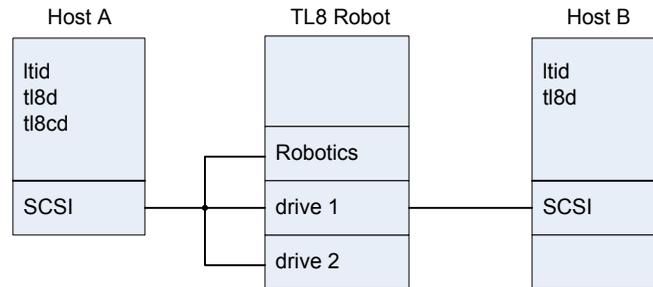
Figure A-1 Use of `t18d` with single host connected to TL8 robot



Example 2 - The following example applies only to NetBackup Enterprise Server:

In the following diagram, each host is connected to one drive in the robot and the robotics are connected to host A. `ltid` on each host initiates `t18d`. The `t18d` on host A also initiates `t18cd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `t18d` on host B, which sends the robotic command to `t18cd` on host A.

Figure A-2 Use of `t18d` with two hosts connected to TL8 robot



See [t18cd](#) on page 580.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

See `syslogd` (UNIX and Linux command)

See [vmadm](#) on page 661.

t18cd

t18cd – Tape library 8MM (TL8) control daemon (process)

SYNOPSIS

```
t18cd [-v] [-t] [-n]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

t18d and t18cd interface with Media Manager to mount and unmount volumes in a Tape Library 8MM robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. t18d runs on each host with a drive connection and sends mount and unmount requests to the control daemon (t18cd). t18cd communicates with the robotics through a SCSI interface.

On UNIX and Linux systems, t18d and t18cd automatically start and stop when ltid is started and stopped. To stop or start t18d independently of ltid, use `/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the t18d process ID. Then enter the following commands:

```
kill t18d_pid
```

```
/usr/opensv/volmgr/bin/t18d [-v] &
```

The control daemon, t18cd, is on the host that has the robotic control. t18d on that host starts it (see EXAMPLES).

On Windows systems, t18d and t18cd are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, t18cd, is on the host that has the robotic control. t18d starts it automatically on that host (see EXAMPLES). t18cd stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), ltid, t18d, and t18cd, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

If the `vm.conf` configuration option `PREVENT_MEDIA_REMOVAL` is enabled when `t18cd` is active, `t18cd` disables access to the volumes and the media access port. It disables access by issuing a command to the TL8 robot. If it is necessary to open the door of the cabinet, you must terminate `t18cd` first. By default, access to the library is allowed.

The drives are logically numbered 1 through n , where n is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index the drive.
- The robotic test utility, or experiment by mounting media and then watch the operator display.

On UNIX and Linux systems, the Internet service port number for `t18cd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the `/usr/opensv/volmgr/database/ports/t18cd` file with a single line that contains the service port number for `t18cd`.

On Windows systems, the Internet service port number for `t18cd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\t18cd` file with a single line that contains the service port number for `t18cd`.

The default service port number is 13705.

The following items apply only to NetBackup Enterprise Server:

- Tape library 8MM robotic control software permits drives in the same robot to be configured on different hosts. `t18cd` may be running on a different host than `t18d`, depending on where the SCSI connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), `t18d` puts the TL8 robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, `t18d` changes the robot to the DOWN state. In this state, `t18d` is still running and returns the robot to the UP state if `t18cd` is able to make a connection.

- If drives are on different NetBackup hosts, enter the robotic information in the Media Manager configuration on all machines. The robot number must be the same on all machines.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

- v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `t18d` and `t18cd` are also started with `-v`.
- t Terminates `t18cd`.
- n Causes `t18cd` to run with the barcode check function disabled. This option is useful if all or most of the volumes in the library do not contain bar codes. With no bar codes, it takes the robot less time to scan volumes.

Note that if the volumes contain bar codes and the `-n` option is selected, the bar codes are ignored.

ERRORS

UNIX and Linux systems:

`t18d` and `t18cd` both log error messages if a copy of the daemon is running.

Media Manager logs any tape library 8MM and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

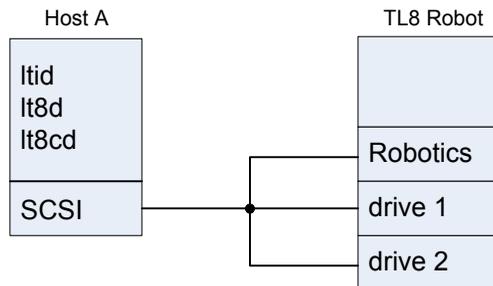
Windows systems:

Media Manager logs any tape library 8MM and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

Example 1 - In the following diagram, the drives and the robotics are connected to a single host. `ltid` initiates `t18d`, which in turn initiates `t18cd`.

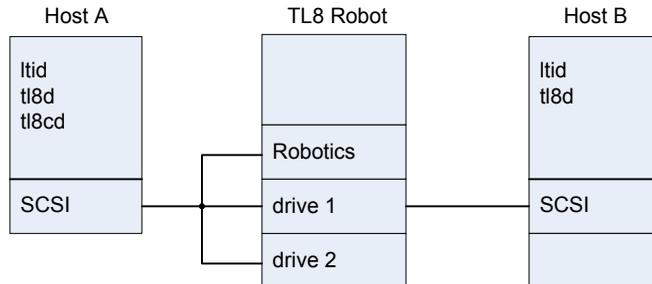
Figure A-3 Use of t18d with single host connected to TL8 robot



Example 2 - The following example applies only to NetBackup Enterprise Server:

In the following diagram, each host is connected to one drive in the robot and the robotics are connected to host A. `ltid` on each host initiates `t18d`. The `t18d` on host A also initiates `t18cd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `t18d` on host B, which sends the robotic command to `t18cd` on host A.

Figure A-4 Use of t18d with two hosts connected to TL8 robot



SEE ALSO

See [tpclean](#) on page 606.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

See [vmadm](#) on page 661.

`syslogd`

tldd

tldd – Tape library DLT (TLD) daemon/process or control daemon/process.

SYNOPSIS

tldd [-v]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

tldd and tldcd interface with Media Manager to mount and unmount volumes in a tape library DLT (TLD) robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. tldd directly interfaces with ltid. tldd runs on each host with a drive connection and sends mount and unmount requests to the control daemon (tldcd). tldcd communicates directly with the robotics through a SCSI interface.

The following items apply only to NetBackup Enterprise Server:

- TLD robotic control software permits drives in the same robot to be configured on different hosts. tldcd may be running on a different host than tldd, depending on where the interface connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), tldd puts the TLD robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, tldd changes the robot to the DOWN state. In this state, tldd is still running and returns the robot to the UP state if tldcd is able to make a connection.
- If drives are on different NetBackup hosts, enter the robotic information in the Media and Device Management of the Administration Console on all computers. The robot number must be the same on all computers.

On UNIX and Linux systems, tldd and tldcd automatically start and stop when ltid is started and stopped. To stop or start tldd independently of ltid, use /usr/opensv/volmgr/bin/vmps or your server's ps command to identify the tldd process ID. Then enter the following commands:

```
kill tldd_pid  
/usr/opensv/volmgr/bin/tldd [-v] &
```

The control daemon, `t1dcd`, is on the host that has the robotic control. `t1dd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `t1dd` and `t1dcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `t1dcd`, is on the host that has the robotic control. `t1dd` starts it automatically on that host (see EXAMPLES). `t1dcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), `ltid`, `t18d`, and `t18cd`, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

The drives are logically numbered 1 through *n*, where *n* is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index drives.
- The robotic test utility, or experiment by mounting media and watch the operator display.

On UNIX and Linux systems, the Internet service port number for `t1dcd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the `/usr/opensv/volmgr/database/ports/t1dcd` file with a single line that contains the service port number for `t1dcd`.

On Windows systems, the Internet service port number for `t1dcd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\t1dcd` file with a single line that contains the service port number for `t1dcd`.

The default service port number is 13711.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

-v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `tldd` and `tldcd` are also started with `-v`.

ERRORS

Media Manager logs any tape library DLT and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

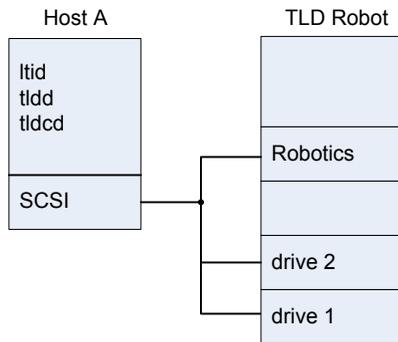
`tldd` and `tldcd` log an error message if another copy of the daemon is in operation.

Media Manager logs any tape library DLT and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

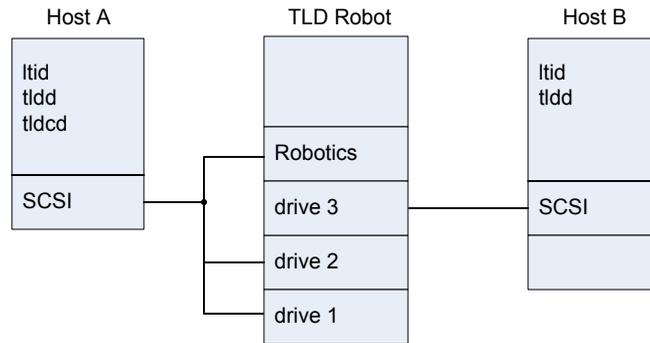
EXAMPLES

Example 1 - In the following diagram, the two drives and the robotics connect to Host A. `ltid` initiates `tldd`, which in turn initiates `tldcd`.

Figure A-5 Use of `tldd` with single host and TLD robot



Example 2 - This example applies only to NetBackup Enterprise Server. In the following diagram, each host connects to one drive and the robotics connect to host A. `ltid` on each machine initiates `tldd`. The `tldd` on host A also initiates `tldcd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `tldd` on host B, which sends the robotic command to `tldcd` on host A.

Figure A-6 Use of `tldd` with two hosts connected to TLD robot

SEE ALSO

See [tldcd](#) on page 588.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

tldcd

tldcd – Tape library DLT (TLD) control daemon/process

SYNOPSIS

tldcd [-v] [-t]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

tldd and tldcd interface with Media Manager to mount and unmount volumes in a tape library DLT (TLD) robot.

ttid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. tldd directly interfaces with ttid. tldd runs on each host with a drive connection and sends mount and unmount requests to the control daemon (tldcd). tldcd communicates directly with the robotics through a SCSI interface.

The following items apply only to NetBackup Enterprise Server:

- TLD robotic control software permits drives in the same robot to be configured on different hosts. tldcd may be running on a different host than tldd, depending on where the interface connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), tldd puts the TLD robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, tldd changes the robot to the DOWN state. In this state, tldd is still running and returns the robot to the UP state if tldcd is able to make a connection.
- If drives are on different NetBackup hosts, enter the robotic information in the Media and Device Management of the Administration Console on all computers. The robot number must be the same on all computers.

On UNIX and Linux systems, tldd and tldcd automatically start and stop when ttid is started and stopped. To stop or start tldd independently of ttid, use /usr/opensv/volmgr/bin/vmps or your server's ps command to identify the tldd process ID. Then enter the following commands:

```
kill tldd_pid  
/usr/opensv/volmgr/bin/tldd [-v] &
```

The control daemon, `tldcd`, is on the host that has the robotic control. `tldd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `tldd` and `tldcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `tldcd`, is on the host that has the robotic control. `tldd` starts it automatically on that host (see EXAMPLES). `tldcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), `ltid`, `tl8d`, and `tl8cd`, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

The drives are logically numbered 1 through *n*, where *n* is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index drives.
- The robotic test utility, or experiment by mounting media and watch the operator display.

On UNIX and Linux systems, the Internet service port number for `tldcd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the `/usr/opensv/volmgr/database/ports/tldcd` file with a single line that contains the service port number for `tldcd`.

On Windows systems, the Internet service port number for `tldcd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\tldcd` file with a single line that contains the service port number for `tldcd`.

The default service port number is 13711.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

- v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `tldd` and `tldcd` are also started with `-v`.
- t Terminates `tldcd`.

ERRORS

Media Manager logs any tape library DLT and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

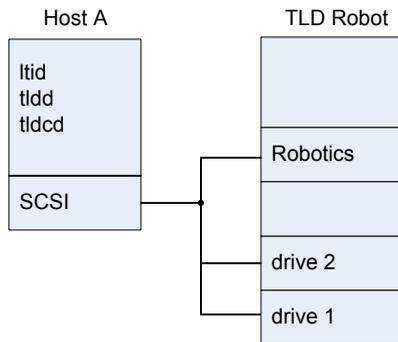
`tldd` and `tldcd` log an error message if another copy of the daemon is in operation.

Media Manager logs any tape library DLT and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

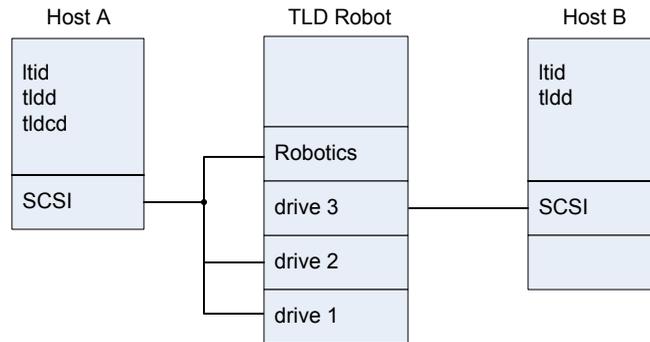
EXAMPLES

Example 1 - In the following diagram, the two drives and the robotics connect to Host A. `ltid` initiates `tldd`, which in turn initiates `tldcd`.

Figure A-7 Use of `tldd` with single host and TLD robot



Example 2 - This example applies only to NetBackup Enterprise Server. In the following diagram, each host connects to one drive and the robotics connect to host A. `ltid` on each machine initiates `tldd`. The `tldd` on host A also initiates `tldcd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `tldd` on host B, which sends the robotic command to `tldcd` on host A.

Figure A-8 Use of `tldcd` with two hosts connected to TLD robot

SEE ALSO

See [tldd](#) on page 584.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

tlhd

tlhd – Tape library half-inch (TLH) daemon (process on Windows systems)

SYNOPSIS

tlhd [-v]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

Note: This command applies only to the NetBackup Enterprise Server.

tlhd and tlhdcd interface with Media Manager to mount and unmount tape volumes in a tape library half-inch (TLH) robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. tlhd interfaces directly with ltid. tlhd runs on each host with a drive connection and sends mount and unmount requests to the control daemon-process, tlhdcd.

tlhdcd communicates with the IBM Automated tape library (ATL) library manager, which processes all requests and all control functions for the robotic library. TLH robotic control software permits drives in the same robot to be configured on different hosts. tlhdcd can be running on a different host than tlhd, depending on where the IBM library control is configured (see EXAMPLES). When communication with the library is established, tlhd puts the TLH robot in the UP state and can request volume mounts and unmounts. If the library or the control daemon is inaccessible, tlhd changes the robot to the DOWN state. In this state, tlhd is still running and returns the robot to the UP state if tlhdcd is able to make a connection.

Note: If drives are on different hosts, enter the robotic information in the Media and Device Management of the Administration Console on all machines. The robot number must be the same on all machines.

On UNIX and Linux systems, tlhd and tlhdcd automatically start and stop when ltid is started and stopped. To stop or start tlhd independently of ltid, use

`/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the `tlhd` process ID. Then enter the following commands:

```
kill tlhd_pid  
/usr/opensv/volmgr/bin/tlhd [-v] &
```

The control daemon, `tlhdcd`, is on the host that has the robotic control. `tlhdcd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `tlhd` and `tlhdcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `tlhdcd`, is on the host that has the robotic control. `tlhd` starts it automatically on that host (see EXAMPLES). `tlhdcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), `ltid`, `tlhd`, and `tlhdcd`, define the following information: the media ID and slot number for volumes in a robot in the EMM database. Both the initial EMM database population and future updates can be accomplished by using Media Manager robotic inventory options.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` about how to set the frequency to clean the drive automatically.

The drives are configured by using IBM device names. The robotic test utility, `tlhtest` (`robtest` if the robot is configured), can be used to determine the device names that are associated with the robot. You can also use this utility along with IBM's `mtlib` command-line interface to verify library communications, status, and functionality.

Configure the drive cleaning operation for the tape library half-inch robotic control through an IBM library manager console. The cleaning operations are not available to applications that use the IBM library manager. For this reason, you cannot define the volumes to clean through Media Manager. In addition, you cannot use the Media Manager utilities or the `tpclean` command for cleaning operations on drives under TLH robotic control.

On UNIX and Linux systems, the Internet service port number for `tlhdcd` must be in `/etc/services`. If you use NIS, place the entry in the `/etc/services` file in the master NIS server database for services. To override the services file, create the following file with a single line that contains the service port number for `tlhdcd`
`/usr/opensv/volmgr/database/ports/tlhdcd`.

On Windows systems, the Internet service port number for `tlhdcd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\tlhdcd` file with a single line that contains the service port number for `tlhdcd`.

The default service port number is 13717.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

- v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `tlhd` and `tlhcd` also start with `-v`.

ERRORS

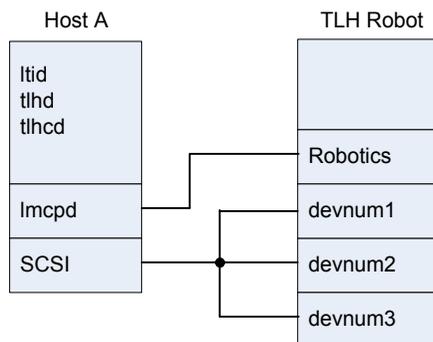
`tlhd` and `tlhcd` log an error message if a copy of the daemon or process is in operation. Media Manager logs any tape library half-inch and robotic errors to `syslogd` (UNIX and Linux systems) or to the application event log (Windows). Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

In the following examples the device hosts can be any supported Windows server or the following UNIX servers: AIX, HP-UX, Solaris (SPARC), and Linux.

Example 1 - In the following diagram, the drives are attached to and the robotics are controlled from a single host. `ltid` initiates `tlhd`, which in turn initiates `tlhcd`. `lmcpd` must be running on Host A. `lmcpd` is the IBM library manager control-point daemon on UNIX and Linux systems and the IBM Automated tape library service on Windows systems.

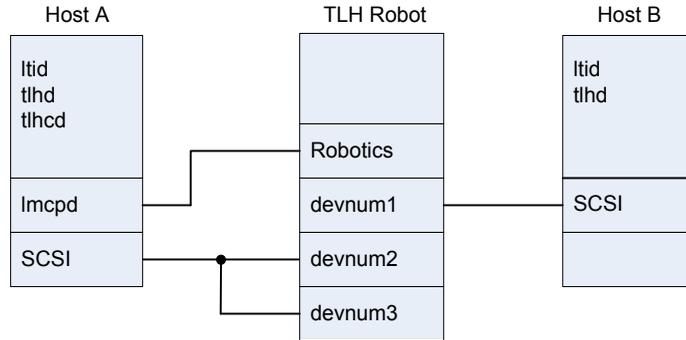
Figure A-9 Use of `tlhd` with single host connected to TLH robot



Example 2 - In the following diagram, each host is connected to at least one drive and the robotics are controlled from Host A. `ltid` on each machine initiates `tlhd`.

The `tlhd` on Host A also initiates `tlhd`, since that is where the robotic control is defined. Requests to mount tapes from Host B go to `tlhd` on Host B, which sends the robotic command to `tlhd` on Host A.

Figure A-10 Use of `tlhd` with two hosts connected to TLH robot



SEE ALSO

See [tlhcd](#) on page 596.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

tlhcd

tlhcd - Tape library half-inch (TLH) control daemon (process on Windows systems)

SYNOPSIS

tlhcd [-v] [-t]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

Note: This command applies only to the NetBackup Enterprise Server.

tlhd and tlhcd interface with Media Manager to mount and unmount tape volumes in a tape library half-inch (TLH) robot.

ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. tlhd interfaces directly with ltid. tlhd runs on each host with a drive connection and sends mount and unmount requests to the control daemon-process, tlhcd.

tlhcd communicates with the IBM Automated tape library (ATL) library manager, which processes all requests and all control functions for the robotic library. TLH robotic control software permits drives in the same robot to be configured on different hosts. tlhcd can be running on a different host than tlhd, depending on where the IBM library control is configured (see EXAMPLES). When communication with the library is established, tlhd puts the TLH robot in the UP state and can request volume mounts and unmounts. If the library or the control daemon is inaccessible, tlhd changes the robot to the DOWN state. In this state, tlhd is still running and returns the robot to the UP state if tlhcd is able to make a connection.

Note: If drives are on different hosts, enter the robotic information in the Media and Device Management of the Administration Console on all machines. The robot number must be the same on all machines.

On UNIX and Linux systems, tlhd and tlhcd automatically start and stop when ltid is started and stopped. To stop or start tlhd independently of ltid, use

`/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the `tlhd` process ID. Then enter the following commands:

```
kill tlhd_pid  
/usr/opensv/volmgr/bin/tlhd [-v] &
```

The control daemon, `tlhcd`, is on the host that has the robotic control. `tlhcd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `tlhd` and `tlhcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `tlhcd`, is on the host that has the robotic control. `tlhd` starts it automatically on that host (see EXAMPLES). `tlhcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems), `ltid`, `tlhd`, and `tlhcd`, define the following information: the media ID and slot number for volumes in a robot in the EMM database. Both the initial EMM database population and future updates can be accomplished by using Media Manager robotic inventory options.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` about how to set the frequency to clean the drive automatically.

The drives are configured by using IBM device names. The robotic test utility, `tlhtest` (`robtest` if the robot is configured), can be used to determine the device names that are associated with the robot. You can also use this utility along with IBM's `mtlib` command-line interface to verify library communications, status, and functionality.

Configure the drive cleaning operation for the tape library half-inch robotic control through an IBM library manager console. The cleaning operations are not available to applications that use the IBM library manager. For this reason, you cannot define the volumes to clean through Media Manager. In addition, you cannot use the Media Manager utilities or the `tpclean` command for cleaning operations on drives under TLH robotic control.

On UNIX and Linux systems, the Internet service port number for `tlhcd` must be in `/etc/services`. If you use NIS, place the entry in the `/etc/services` file in the master NIS server database for services. To override the services file, create the following file with a single line that contains the service port number for `tlhcd`
`/usr/opensv/volmgr/database/ports/tlhcd`.

On Windows systems, the Internet service port number for `tlhcd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\tlhcd` file with a single line that contains the service port number for `tlhcd`.

The default service port number is 13717.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

- v Logs debug information using `syslogd`. If you start `ltid` with `-v`, `tlhd` and `tlhcd` also start with `-v`.
- t Terminates `tlhcd`.

ERRORS

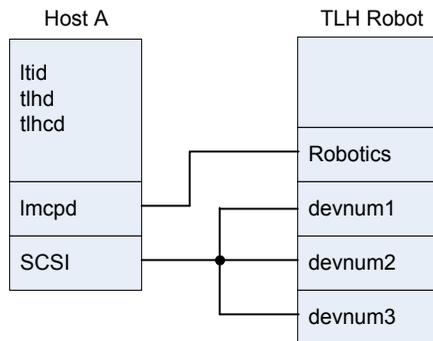
`tlhd` and `tlhcd` log an error message if a copy of the daemon or process is in operation. Media Manager logs any tape library half-inch and robotic errors to `syslogd` (UNIX and Linux systems) or to the application event log (Windows). Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

In the following examples the device hosts can be any supported Windows server or the following UNIX servers: AIX, HP-UX, Solaris (SPARC), and Linux.

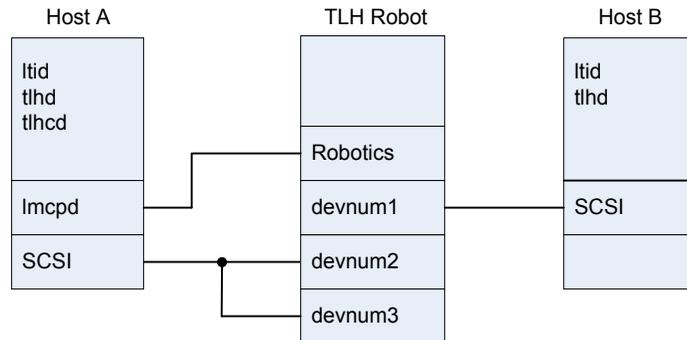
Example 1 - In the following diagram, the drives are attached to and the robotics are controlled from a single host. `ltid` initiates `tlhd`, which in turn initiates `tlhcd`. `lmcpd` must be running on Host A. `lmcpd` is the IBM library manager control-point daemon on UNIX and Linux systems and the IBM Automated tape library service on Windows systems.

Figure A-11 Use of `tlhd` with single host connected to TLH robot



Example 2 - In the following diagram, each host is connected to at least one drive and the robotics are controlled from Host A. `ltid` on each machine initiates `tlhd`. The `tlhd` on Host A also initiates `tlhcd`, since that is where the robotic control is defined. Requests to mount tapes from Host B go to `tlhd` on Host B, which sends the robotic command to `tlhcd` on Host A.

Figure A-12 Use of `tlhd` with two hosts connected to TLH robot



SEE ALSO

See [tlhd](#) on page 592.

See [tpclean](#) on page 606.

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

t1md

t1md – Tape library Multimedia (TLM) daemon-process

SYNOPSIS

t1md [-v]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

This command applies only to NetBackup Enterprise Server.

t1md interfaces with Media Manager to automatically mount and unmount tapes in a tape library multimedia (TLM) robot. ltid is the Media Manager device daemon on UNIX and Linux systems and the NetBackup Device Manager service on Windows systems. ltid initiates t1md if drives are defined to be in a tape library multimedia robot.

t1md communicates with the ADIC Distributed AML Server (DAS) that controls the robot. This client and the server software product are designed to provide shared access to the family of ADIC Automated Media Libraries (AML). When the connection is established, t1md puts the TLM robot in the UP state and can request inventories as well as media mounts and dismounts. If the connection cannot be established or DAS errors occur, t1md changes the robot to the DOWN state but continues in operation. In this state, t1md continues in operation and returns the robot to the UP state when the problem no longer exists.

The DAS server attribute defines the DAS server in the TLM robot entry in the Media and Device Management of the Administration Console. For each defined TLM robot, t1md connects to this DAS server. From the perspective of DAS, t1md connects as a DAS client. The host running t1md establishes communication as the DAS client that the DAS_CLIENT entry in the Media Manager configuration file specifies: /usr/opensv/volmgr/vm.conf. If no DAS_CLIENT entry exists, the DAS client name is the standard host name for the host that is running t1md.

The drives are configured by using DAS drive names, which are based on the information that is obtained from the DAS server. You can use the robotic test utility, t1mtest (robtest if the robot is configured), to determine the drive names that are associated with the robot. You can also use ADIC's DASADMIN to verify library communications, status, and functionality.

UNIX and Linux systems: To stop or start `tcmd` independently of `ltid`, use `/usr/opensv/volmgr/bin/vmps` or your server's `ps` command to identify the `tcmd` process ID. Then enter the following commands:

```
kill tcmd_pid  
/usr/opensv/volmgr/bin/tcmd [-v] &
```

The control daemon, `tcmd`, is on the host that has the robotic control. `tcmd` on that host automatically starts it (see **EXAMPLES**).

On UNIX and Linux systems, the Internet service port number for `tcmd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the `/usr/opensv/volmgr/database/ports/tcmd` file with a single line that contains the service port number for `tcmd`.

On Windows systems, the Internet service port number for `tcmd` must be in `%SystemRoot%\system32\drivers\etc\services`. To override the services file, create the `install_path\Volmgr\database\ports\tcmd` file with a single line that contains the service port number for `tcmd`.

The default service port number is 13716.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX and Linux systems.

`-v` Logs debug information using `syslogd`. If you start `ltid` with `-v`, `tcmd` also starts with `-v`.

ERRORS

`tcmd` returns an error message if a copy of `tcmd` is in operation.

Media Manager logs TLM and network errors to `syslogd` (UNIX and Linux systems) or the Windows application event log. It also logs entries when the state changes between UP and DOWN.

SEE ALSO

See [tpconfig](#) on page 609.

See [ltid](#) on page 423.

`syslogd`

See [vmadm](#) on page 661.

tpautoconf

tpautoconf – discover and configure devices

SYNOPSIS

```
tpautoconf -get_gdbhost
tpautoconf -set_gdbhost host_name
tpautoconf -verify ndmp_host_name
tpautoconf -probe ndmp_host_name
tpautoconf -report_disc
tpautoconf -replace_drive drive_name -path drive_path
tpautoconf -replace_robot robot_number -path robot_path
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

The Device Configuration Wizard normally uses tpautoconf to discover devices. This wizard calls tpautoconf with a different set of options.

The `get` and the `set` options are useful in special situations. For example, use them to specify a different host as the Enterprise Media Manager (EMM) server. The EMM server name is automatically defined when NetBackup is installed.

For more information about how to manage the EMM server, refer to "Managing the EMM server" of the *NetBackup Administrator's Guide, Volume I*.

Use `-report_disc`, `-replace_drive`, and `-replace_robot` to reconfigure the devices in the EMM database to reflect a serial number change that a configured device replacement caused. After hardware replacement, the correction process requires that at least one system is available through the operating system. You may need to re-map, rediscover, and reboot the system.

After you configure the server or servers, use the `-report_disc` option to scan the current hardware and compare it with the configured hardware. A list of discrepancies appears and shows the replaced hardware and the new hardware.

Note: Not all servers have access to robotic hardware. Even though no access is expected, these robots are listed as missing.

The final step to add replacement hardware is to configure the hardware on all servers by their operating systems. Then run the Device Configuration Wizard to configure the new path information.

Refer to "Changing your hardware configuration" in the *NetBackup Administrator's Guide, Volume II*.

You must have administrator privileges to run this command.

OPTIONS

Note: Only limited validation of the option parameters is done.

`-get_gdbhost`

Returns the name of the EMM server host.

`-set_gdbhost host_name`

Sets the name of the EMMSERVER entry in bp.conf.

`-probe ndmp_host_name`

Lists all devices that are attached to the NDMP host.

`-report_disc`

Enables the device data to be queried from the EMM server to enable a "diff" to be run on these data records against those scanned. You can run this command on reconfigured servers to produce a list of new and missing hardware. This command scans for new hardware and produces a report that shows the new and the replaced hardware.

`-replace_drive drive_name -path drive_path, -replace_robot
robot_number -path robot_path`

The EMM database is used to query or to update robot drives and robot records.

Note: On Windows systems, *drive_path* is a non-NDMP Windows device path for drives and *robot_path* is a non-NDMP Windows device path for robots. Use the path in the {p,b,t,l} format (where p -port, b -bus, t -target, and l -lun). This information is located in the registry.

`-verify ndmp_host_name`

Verifies the server name of the NDMP host.

EXAMPLES

Example 1 - Return the name of the host where the Enterprise Media Manager database is stored:

```
# tpautoconf -get_gdbhost
```

Example 2 - Set the Enterprise Media Manager Server to be the host `server2`:

```
# tpautoconf -set_gdbhost server2
```

Example 3 - Show the `-report_disc` command reports discrepancies between detected devices and the EMM database. Included is an example of how to use the `-replace_drive drive_name -path drive_path` command.

```
# tpautoconf -report_disc
===== New Device (Tape) =====
Inquiry = "QUANTUM DLT8000          0250"
Serial Number = PXB08P3242
Drive Path = /dev/rmt/119cbn
Found as TLD(6), Drive = 1
===== Missing Device (Drive) =====
Drive Name = QUANTUMDLT800014
Drive Path = /dev/rmt/9cbn
Inquiry = "QUANTUM DLT8000          0250"
Serial Number = PXB08P1345
TLD(6) definition Drive = 1
Hosts configured for this device:
Host = plum
Host = avocado

# tpautoconf -replace_drive QUANTUMDLT800014 -path /dev/rmt/119cbn
Found a matching device in EMM DB, QUANTUMDLT800014 on host plum
update on host plum completed
Found a matching device in EMM DB, QUANTUMDLT800014 on host avocado
update on host avocado completed
```

SEE ALSO

See [tpconfig](#) on page 609.

tpclean

tpclean – manage the cleaning of the tape drive

SYNOPSIS

```
tpclean -L | -C drive_name [-priority number] | -M drive_name | -F  
drive_name cleaning_frequency
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

tpclean enables you to monitor Media Manager tape drive usage and optionally configure tape drives to be cleaned automatically. (This function does not apply to drives in ACS or TLH robots, or QIC drives.)

Media Manager tracks the total amount of time that volumes have been mounted in the drives. You can use tpclean to specify a cleaning frequency (in hours) for a drive.

The drive is cleaned if the following conditions are true:

- The mount time exceeds the cleaning frequency.
- A TapeAlert "CLEAN NOW" or "CLEAN PERIODIC" flag has been raised.
- The drive is in a robot.
- The Media Manager volume configuration shows a cleaning tape in the robot.

The Comment field in the tpclean -L output contains the message, NEEDS CLEANING, if the following are true:

- The mount time exceeds the cleaning frequency.
- The drive is a stand-alone drive or does not have a defined cleaning tape.

Manually clean the drive and reset the mount time by using the -M option.

For the -C, -M, and -F options to operate, the following must occur: ltid must be running on UNIX or Linux systems, or the NetBackup Device Manager service must be running on Windows systems.

For more information on TapeAlert and other related drive-cleaning topics, refer to "Using TapeAlert" in the *NetBackup Administrator's Guide, Volume II*.

In a NetBackup Enterprise Server, a frequency-based cleaning is not supported for shared drives.

You must have administrator privileges to run this command.

OPTIONS

`-C drive_name`

Initiates the cleaning of a drive in a robot. The drive must be defined in a robot and a defined cleaning tape in the Media Manager volume configuration. The mount time is reset to zero. The drive name is the name that was assigned to the drive when it was added to the configuration.

`-L`

Prints the cleaning statistics. (On UNIX and Linux systems, it prints to `stdout`.)

`-priority number`

Specifies a new priority for the job at which `tpclean` gets a media-drive pair of resources. The new priority overrides the default job priority.

`-M drive_name`

Indicates that the drive was manually cleaned. The mount time is reset to zero. The drive name is the name that was assigned to the drive when it was added to the device configuration.

`-F drive_name cleaning_frequency`

Sets the cleaning frequency for the specified drive to *cleaning_frequency* hours. The drive name is the name that was assigned to the drive when it was added. The value of *cleaning_frequency* must be between zero (0) hours and 10,000 hours.

NOTES

`tpconfig -d`, `tpconfig -l`, and `vmopr cmd` may truncate long drive names. Use `tpconfig -dl` to obtain the full drive name.

`tpclean` truncates drive names to 22 characters.

EXAMPLES

Example 1 - Display cleaning statistics. An asterisk next to the drive type indicates that the device is defined as robotic.

```
# tpclean -L
Drive Name      Type      Mount Time    Frequency    Last Cleaned    Comment
*****        *****
*****        *****
*****        *****
*****        *****
*****        *****
*****        *****
```

rob_A_drv1	8mm*	11.4	30	14:33 05/29/92
4mm_drv5	4mm	5.6	10	13:01 06/02/92
dlt_drv6	dlt	3.0	0	N/A

Example 2 - Set the cleaning frequency for the drive named `dlt_drv6` to 25 hours. The drive is flagged as having a need to be cleaned after 25 hours of mount time has occurred.

```
# tpclean -F dlt_drv6 25
```

Example 3 - Reset the mount time for the drive named `rob_A_drv1` to zero. You normally use this command after you manually clean the drive.

```
# tpclean -M rob_A_drv1
```

Example 4 - Initiate the cleaning of drive `rob_A_drv1`. This example assumes that the drive is a robotic drive with a cleaning tape defined. The mount time is reset to zero.

You can use the `-c` option to force the cleaning of a drive before you reach *cleaning frequency*. Normally, robotic drives are cleaned automatically when their mount time exceeds the cleaning frequency.

```
# tpclean -C rob_A_drv1
```

Note: To use a cleaning tape, the Cleanings Remaining for that tape must be greater than zero. (This value appears in the volume list of the Media node in the NetBackup Administration Console or from the `vmquery` command.) This cleaning count refers to how many more times the cleaning tape can be used. You can change this count by using the Media node or the `vmchange` command.

SEE ALSO

See [ltid](#) on page 423.

See [tpconfig](#) on page 609.

See [vmadm](#) on page 661.

tpconfig

tpconfig - run tape configuration utility

SYNOPSIS

UNIX and Linux systems: **tpconfig** [-noverify]

tpconfig -d | -dl | -l

UNIX and Linux systems: **tpconfig** -add -drive -type *drvtype* -path *drivepath* [-nh *ndmp_hostname*] [-asciiname *asciidrivename*] [-index *drvindex*] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus UP | DOWN | DISABLED] [-scsi_protection [SPR | SR | NONE]] [-robot *robnum* -rodtype *rodtype*] [-noverify] [-robdrnum *robdrvnum* | -VendorDrvName *venddrvname* | -ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*] [000-preview]

Windows systems: `<volmgr_dirpath>`tpconfig -add -drive -type *drvtype* -port *port* -bus *bus* -target *target* -lun *lun* [-asciiname *asciidrivename*] [-index *drvindex*] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP | DOWN | DISABLED]] [-scsi_protection [SPR | SR | NONE]] [-robot *robnum* -rodtype *rodtype*] [-noverify] [-robdrnum *robdrvnum* | -VendorDrvName *vendor_drive_name*] [-ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*] [preview]

UNIX and Linux systems: **tpconfig** -update -drive *drvindex* [-type *drvtype*] [-path *drivepath*] [-nh *ndmp_hostname*] [-noverify] [-newasciiname *asciidrivename*] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP|DOWN|DISABLED]] [-robot *robnum* -rodtype *rodtype*] [-robdrnum *robdrvnum* | -VendorDrvName *venddrvname* | -ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*]

Windows systems: **tpconfig** -update -drive *drvindex* [-type *drvtype*] [-port *port* -bus *bus* -target *target* -lun *lun*] [-nh *ndmp_hostname* -path *drivepath*] [-noverify] [-newasciiname *asciidrivename*] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP|DOWN|DISABLED]] [-robot *robnum* -rodtype *rodtype*] [-robdrnum *robdrvnum* | -VendorDrvName *vendor_drive_name*] [-ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*]

tpconfig -delete -drive *drvindex*

tpconfig -multiple_delete -drive *drvindex1*:...:*drvindexN*

tpconfig -add -disk_array *array_hostname* -disk_user_id *user_ID* -arraytype_name "*name:displayname*" -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]]

```
tpconfig -update -disk_array array_hostname -disk_user_id user_ID
-requiredport IP_port_number [-arraytype_name "name:displayname"]
[-password password [-key encryption_key]]
tpconfig -delete -disk_array array_hostname -disk_user_id user_ID
[-arraytype_name "name:displayname"]
tpconfig -ddiskarrays
tpconfig -list_array_types [media_server]
UNIX and Linux systems: tpconfig -add -robot robnum -roptype roptype
-robpath devfile [-nh ndmp_hostname]
Windows systems: tpconfig -add -robot robnum -roptype roptype -port
port -bus bus -target target -lun lun
Windows systems: tpconfig -add -robot robnum -roptype roptype [-nh
ndmp_hostname] -robpath changername [-bus bus -target target -lun
lun]
tpconfig -add -robot robnum -roptype roptype -cntlhost cntlhost
UNIX and Linux systems: tpconfig -update -robot robnum [-roptype
roptype] [-robpath devfile] [-cntlhost cntlhost]
Windows systems: tpconfig -update -robot robnum [-roptype roptype]
[-port port -bus bus -target target -lun lun | -cntlhost cntlhost |
-tlh_library_nametlh_library_name]
tpconfig -update -robot robnum [-roptype roptype] [-robpath devfile]
[-nh ndmp_hostname] [-bus bus] [-target target] [-lun lun]
tpconfig -update -robot robnum [-roptype roptype] [-pird [yes|no]]
tpconfig -delete -robot robnum
tpconfig -multiple_delete -robot robnum1:...:robnumN
tpconfig -add -drpath -path drivepath [-nh ndmp_hostname] [-asciiname
asciidrivename] [-drstatus [UP|DOWN|DISABLED]] [-noverify]
UNIX and Linux systems: tpconfig -update -drpath -old_path drivepath
-path drivepath [-nh ndmp_hostname] [-asciiname asciidrivename]
[-drstatus [UP|DOWN|DISABLED]] [-scsi_protection SPR|SR|DEFAULT]
[-noverify]
Windows systems: tpconfig -update -drpath -old_port port -old_bus
bus -old_target target -old_lun lun -port port -bus bus -target target
-lun lun -asciiname asciidrvname [-drstatus [UP|DOWN|DISABLED]]
[-noverify]
UNIX and Linux systems: tpconfig -delete -drpath -path drivepath
-asciiname asciidrivename [-nh ndmp_hostname]
Windows systems: tpconfig -delete -drpath [-port port -bus bus -target
target -lun lun | -path drivepath [-nh ndmp_hostname]] -asciiname
asciidrvname
```

```
tpconfig -dnh
tpconfig -dnh -all_hosts
tpconfig -ddnh
tpconfig -add -nh ndmp_hostname
tpconfig -add -nh ndmp_hostname -user_id | -filer_user_id user ID
[-password password [-key encryption_key]] -snap_vault_filer
tpconfig -update -nh ndmp_hostname -user_id | -filer_user_id user ID
[[-password password [-key encryption_key]]]
tpconfig -delete -nh ndmp_hostname -user_id | -filer_user_id user ID
tpconfig -multiple_delete -nh ndmp_hostname_1: ... :ndmp_hostname_N
tpconfig -add -default_user_id user ID [-password password [-key
encryption_key]]
tpconfig -update -default_user_id user ID [-password password [-key
encryption_key]]
tpconfig -delete -default_user_id
tpconfig -add | -update -disk_array disk_array_host_name -disk_user_id
user_ID -arraytype disk_array_type -requiredport IP_port_number
[-password password [-key encryption_key]]
tpconfig -delete -disk_array disk_array_host_name -disk_user_id
user_ID [-arraytype disk_array_type]
tpconfig -ddiskarrays
tpconfig -add | -update -virtual_machine virtual_machine_name
-vm_user_id user_id -vm_type virtual_machine_type -requiredport
IP_port_number [-password password [-key encryption_key]]
tpconfig -delete -virtual_machine virtual_machine_name -vm_user_id
user_id [-vm_type virtual_machine_type]
tpconfig -dvirtualmachines
tpconfig -add -storage_server server_name -stype server_type
-sts_user_id user_ID [-password password] [-st storage_type]
tpconfig -update -storage_server server_name -stype server_type
-sts_user_id user_ID [-password password]
tpconfig -delete -storage_server server_name -stype server_type
-sts_user_id user_ID
tpconfig -dsh [-stype server_type]
tpconfig -dsh -all_hosts
tpconfig -dev_ping [-drive -path drivepath | -rospath robotpath] [-nh
ndmp_hostname]
Windows systems: tpconfig -dev_ping [-drive] -port port -bus bus
-target target -lun lun
tpconfig -emm_dev_list [-noverbose]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

`tpconfig` configures robots, drives, drive arrays, drive paths, and hosts for use with NetBackup.

On UNIX and Linux systems, `tpconfig [-noverify]` starts the Media and Device Management Utility. This menu-based utility creates and modifies devices in the EMM database. The EMM database identifies the robotics and drives that are under control of `ltid` (the Media Manager device daemon). `ltid` uses this database to correlate drives in the operator's drive status display to the device files in the `/dev` directory.

For example, assume that you want to configure a drive that the system recognizes as an 8-mm type drive. Look in the `/dev` directory and locate the no rewind on close device path for an 8-mm type drive. Then specify this device path for the drive. `tpconfig` then records the device path in the appropriate device database.

After you use `tpconfig` to change your device configuration, use `stopltid` to stop the `ltid` and (automatic volume recognition) daemons (if they are running). Then use the `ltid` command to start the daemons again. See `ltid` for more information.

On Windows systems, when your device configuration changes are complete, stop and restart the NetBackup Device Manager service.

You must have administrator privileges to run this utility.

OPTIONS

The following four options apply only to NetBackup Enterprise Server. They specify the configuration for ACS (Automated Cartridge System) robots.

`-ACS acsnum, -LSM lsmnum, -PANEL panelnum, -DRIVE drivenum`

acsnum specifies the number for the robotic library as configured on the ACS library software host.

lsmnum specifies the Library Storage Module that has this drive.

panelnum specifies the robot panel where this drive is located.

drivenum specifies the number of this drive.

`-add`

Adds a drive or a robot, depending on the accompanying options.

-all_hosts

Displays all hosts that have credentials on a media server.

-arraytype_name "*name:displayname*"

Specifies the type of the disk array for which to add, update, or delete credentials.

The double quote marks (") are required only if *name* or *displayname* includes one or more spaces.

The disk array vendor provides the values for *name:displayname*. The *name* portion is a unique string used internally by NetBackup. The *displayname* portion is a more human-readable string that is used in NetBackup Administration Console displays and menus.

The values depend on the disk array vendor and the provider type that are used for the array, as follows:

- For an array-specific provider, the format is as follows:

vendorID_productID:displayname

By default, NetBackup includes several array-specific providers, including (but not limited to) the following:

- HP_HSV:HP EVA
- EMC_CLARIION:EMC CLARiion
- EMC_SYMMETRIX:EMC Symmetrix
- IBM_TOTALSTORAGE:IBM System Storage
- NETAPP_LUN:NetApp

- For the generic array provider, the format is as follows:

OPENARRAY::vendorID_productID:displayname

For example, OPENARRAY::HITACHI_HDS:Hitachi HDS DF Series.

To determine valid disk array type names, use the `-list_array_types` option.

Requires a Flexible Disk or Snapshot Client license key.

-asciiname *asciidrivename*

Specifies a name for the drive. This name identifies the drive to Media Manager. If you do not specify a drive name, Media Manager generates a name. If you add or update shared drives (SharedDisk option), make this name as descriptive as possible.

-bus *bus*

Specifies the SCSI bus number to which the robot or drive connects.

You can find this information in the *NetBackup Device Configuration Guide*.

`-cleanfreq hours`

Specifies the number of hours between drive cleanings. When you add a drive, NetBackup starts to record the amount of time that volumes are mounted in that drive.

If the drive is in a robot and a cleaning volume is defined in the robot, the cleaning occurs in the following situation: The accumulated mount time exceeds the time that you specify for the cleaning frequency. NetBackup resets the mount time when the drive is cleaned.

If the drive is stand-alone or a cleaning tape is not defined, the following message appears in the `tpclean -L` output comment field: NEEDS CLEANING. To clean the drive, use the `tpclean` command.

A frequency-based cleaning is not needed if TapeAlert is used.

`-cntlhost cntlhost`

This option is only applicable for NetBackup Enterprise Server.

For a robot whose robotic control is on another host, this option specifies the host that controls the robotic library.

This option applies only for the TL8, TLD, and TLH robots that can have the robotic control on another host, and for ACS and TLM robots.

For an ACS robot, specify the host name where the ACS library software is installed. For a TLM robot, specify the host name where the DAS server software is installed.

`-comment comment`

Adds a comment about the drive. This field is useful for storing SCSI inquiry data so you can easily check the drive type and firmware level.

`-d`

Lists the current configuration information. On UNIX and Linux systems, the listing is sent to *stdout*). This option may truncate drive names to 22 characters. It can determine if the robot is in a PIRD state (pend if robot down). "PIRD = yes" means that the robot is in a PIRD state.

`-ddiskarrays`

Displays all configured disk arrays.

`-ddnh`

Displays the default credentials on the media server.

`-default_user_id user_ID`

Configures a user name and password for all media servers and NDMP host combinations under a given master server. You add a user name and password only once per filer. Use this option with the `-add`, `-update`, or `-delete` command to specify the user name and password.

`-delete`

Deletes a drive, robot, or host credentials, depending on the accompanying options.

`-dev_ping`

Retrieves the device information from a device.

`-disk_array array_hostname`

Specifies the hostname of the disk array. This option can be used only if the NetBackup Snapshot Client license key has been installed.

`-disk_user_id user_ID`

Specifies the user name that NetBackup must use to communicate with a disk array. This option can be used only if the NetBackup Snapshot Client license key has been installed.

`-dl`

Lists the full drive name.

`-dnh`

Displays the credentials on the NDMP host that is on the media server.

`-drive`

Use this option with the `-add` option to specify that the action is for a drive.

`-drive drvindex`

Specifies the drive index. Use this option with the `-update`, `-delete`, or the `-multiple_delete` command that specifies the action for a drive.

`-drpath`

The drive path that is added, updated, or deleted.

`-drstatus UP|DOWN|DISABLED`

Sets the initial status of the tape drive to the UP, DOWN, or DISABLED state. Discovered drive paths are enabled (UP) by default. An administrator or operator can disable or configure the drive path up/down. The user can also perform this action with options in the Device Management window.

A drive status of DISABLED means NetBackup stores the path but never to use it. In addition, if subsequent discoveries of this drive path occur, NetBackup does not configure it for use.

-dvirtualmachines

Displays all configured virtual machines.

-emm_dev_list [-noverbose]

Lists the complete tape device configuration as seen by the EMM database. This information includes all media servers, master server, NDMP hosts, and their credentials.

-filer_user_id *user ID*

Configures a user name and password for all media servers that are connected to a filer. You add a user name and password only once per filer. Use this option with the `-add`, `-update`, or `-delete` command to specify the user name and password.

-index *drvindex*

Specifies a drive index, a unique number that is used to identify the drive. When you add a drive, you are not required to supply a drive index, since Media Manager uses the next available drive index. Each drive on a particular host must have a unique index number.

-key *encryption_key*

Creates an encrypted key so that encrypted credentials can be safely sent over the network. If the `-key` option is specified, `tpconfig` assumes the password to be provided in MD5 encrypted format.

-l

Lists the current device configuration (to `stdout`). On Windows systems, `-l` displays the Windows device paths in the `{p,b,t,l}` encoded form: `p` is the port, `b` is the bus, `t` is the target, and `l` is the LUN.

-list_array_types [*media_server*]

Lists the disk array types for which you can add and manage credentials.

To restrict the output to the disk array types that are valid for a specific media server, specify that media server.

The command output is in a `name:displayname` format for each array type.

The disk array vendor provides the values for `name:displayname`. The `name` portion is a unique string used internally by NetBackup. The `displayname` portion is a more human-readable string that is used in NetBackup Administration Console displays and menus.

The values depend on the disk array vendor and the provider type that are used for the array, as follows:

- For an array-specific provider, the format is as follows:

`vendorID_productID:displayname`

By default, NetBackup includes several array-specific providers, including (but not limited to) the following:

- HP_HSV:HP EVA
- EMC_CLARIION:EMC CLARiion
- EMC_SYMMETRIX:EMC Symmetrix
- IBM_TOTALSTORAGE:IBM System Storage
- NETAPP_LUN:NetApp

- For the generic array provider, the format is as follows:

OPENARRAY::vendorID_productID:displayname

For example, OPENARRAY::HITACHI_HDS:Hitachi HDS DF Series.

`-lun lun`

Specifies the logical unit number (or SCSI ID) to which the robot or drive connects.

For information about device paths, see the *NetBackup Device Configuration Guide*.

`-multiple_delete`

Deletes multiple drives or robots, depending on the accompanying options.

`-newasciiname asciidrivename`

Specifies a new name for the drive.

`-nh ndmp_hostname | puredisk_hostname`

Specifies the hostname of the NDMP server or the PureDisk server.

`-noverify`

Drive paths are not verified. Normally, `tpconfig` verifies that the no rewind on close drive path has the correct minor number bits that relate to the following: no rewind, variable, Berkeley-style, and so on. This option may be helpful if you use non-standard platform device files, so make sure that your device files are correct.

`-old_bus bus`

This option is used on Windows systems. It specifies the SCSI bus number that a user may want to add, upgrade, or delete.

`-old_lun lun`

This option is used on Windows systems. It specifies the logical unit number (or SCSI ID) to which the robot or drive connects. You can find this information in the registry. Use this command to add, upgrade, or delete an existing logical unit number.

`-old_path drivepath`

When this option is used with the `-update` command, you can change the path to one that already exists in the database. If the path does not exist, an error occurs.

`-old_port port`

This option is used on Windows systems. It specifies an existing SCSI port number that a user may want to add, upgrade, or delete.

`-old_target target`

This option is used on Windows systems. It specifies an existing target number (or SCSI ID) to which the robot or drive connects. Use this command to add, upgrade, or delete an existing target.

`-password password`

Sets the password to log in to the NDMP, PureDisk, OpenStorage, or virtual machine host.

`-path drivepath`

Specifies the drive's device path on the NDMP filer.

On Windows systems, the `drive_path` variable is a non-NDMP Windows device path for drives. Use it in the `{p,b,t,l}` format: `p` is the port, `b` is the bus, `t` is the target, and `l` is the LUN. This information is located in the registry.

`-pird yes|no`

Sets or clears the PIRD state of the robot (pend if the robot is down). If a robot is in a PIRD state, any storage-unit-related mount requests for this robot pend when the robotic control is down.

`-port port`

Specifies the SCSI port number to which the robot or drive connects. You can find this information in the registry.

`-requiredport IP_port_number`

Specifies the IP port number on which the disk array accepts a connection from NetBackup.

`-robdrnum robdrvnum`

Specifies the physical location (within the robot) of the drive. If you assign the wrong number, NetBackup does not detect it. An error eventually occurs because the robotic control tries to mount media on the wrong drive.

You can usually determine the physical location by checking the connectors to the drives or the vendor documentation.

`-robot robnum`

A unique number that identifies the robot to NetBackup. You assign the robot number with the `add` option.

Robot numbers must be unique for all robots, regardless of the robot type or the host that controls them.

On NetBackup Enterprise Server, robot numbers must be unique for all robots that share the same EMM server (and use the same EMM database). This requirement applies regardless of the robot type or the host that controls them. For example, the same EMM server but different hosts control two TLD robots. If so, the robot numbers must be different.

`-robopath devfile`

Specifies the robot's device path on the NDMP filer.

On Windows systems, the `drive_path` variable is a non-NDMP Windows device path for drives. Use it in the `{p,b,t,l}` format: `p` is the port, `b` is the bus, `t` is the target, and `l` is the LUN. This information is located in the registry.

`-roctype roctype`

Specifies the type of robot that you plan to configure and can be any of the types that NetBackup supports. Check the support Web site to determine the robot type to specify for a particular model of robotic library.

Robot type can be any of the following for NetBackup Enterprise Server:

`acs` for Automated Cartridge System, `t14` for tape library 4mm, `t18` for tape library 8mm, `t1d` for tape library DLT, `t1h` for tape library Half-inch, `t1m` for tape library Multimedia

Robot type can be any of the following for NetBackup server:

`t14` for tape library 4mm

`t18` for tape library 8mm

`t1d` for tape library DLT

`-scsi_protection SPR | SR | NONE`

Specifies the access protection that NetBackup uses for SCSI tape drives.

`SPR` - SCSI Persistent Reserve In / Persistent Reserve Out

`SR` - SCSI Reserve/Release

`NONE` - No SCSI access protection

The default condition is SCSI Reserve/Release (`SR`).

`-shared yes|no`

Indicates that you want to add or update shared drives.

`-snap_vault_filer`

The `-snap_vault_filer` flag is used with the NetApp P3 feature. Set this flag when the user name and password for that filer are stored. If not set, the user interfaces do not allow the user to add volumes on this filer. If you stash the user name and password without this flag, do the following: Decide if you want its functionality, do a `tpconfig -delete` operation, and then re-add it with the flag. This flag is used with the NetApp P3 feature when used in the following context:

```
tpconfig -add -user_id root -nh mmnetapp2-target target
-snap_vault_filer
```

`-st storage_type`

Specifies a numeric value that identifies the storage server properties. The storage vendor provides this value. Whether the disk is formatted and how it is attached are mutually exclusive and complementary.

The following are the possible values of *storage_type*:

- formatted disk = 1
- raw disk = 2
- direct attached = 4
- network attached = 8

The *storage_type* value is the sum of whether the disk is formatted or raw (1 or 2) and how the disk is attached (4 or 8). The default value is 9 (a network attached, formatted disk).

`-storage_server server_name`

Specifies the host name of the storage server.

`-sts_user_id user_id`

Specifies the user name that is needed to log into the storage server. If the storage server does not require logon credentials, enter dummy credentials.

`-stype server_type`

Specifies a string that identifies the storage server type. The storage vendor provides the string.

`-target target`

Specifies the target number (or SCSI ID) to which the robot or drive connects.

You can find this information in the registry (Windows systems) or the *NetBackup Device Configuration Guide*.

`-tlh_library_name tlh_library_name`

Specifies the TLH robotic library name.

`-type drvtype`

Specifies the type of drive that you configure.

Drive type can be any of the following for NetBackup Enterprise Server:

`4mm` for 4mm tape drive, `8mm` for 8mm tape drive, `8mm2` for 8mm tape drive 2, `8mm3` for 8mm tape drive 3, `dlt` for DLT tape drive, `dlt2` for DLT tape drive 2, `dlt3` for DLT tape drive 3, `dtf` for DTF tape drive, `qscsi` for QIC tape drive, `hcart` for Half-inch cartridge drive, `hcart2` for Half-inch cartridge drive 2, `hcart3` for half-inch cartridge drive 3. Drive type can be any of the following for NetBackup server: `4mm` for 4mm tape drive, `8mm` for 8mm tape drive, `dlt` for DLT tape drive, `hcart` for Half-inch cartridge drive, `qscsi` for QIC tape drive.

`-update`

Changes the configuration information for a drive or robot. For example, you can add a drive to a robot.

`-user_id user_ID`

Specifies the user ID of a particular NDMP host on a media server for which you add credentials.

Note: A media server is allowed only one user ID per NDMP hostname. If you try to add a second user ID for a single NDMP hostname fails.

`-VendorDrvName venddrvname`

This option applies only to NetBackup Enterprise Server. It specifies the IBM device name for a TLH robotic drive or the DAS drive name for a TLM robotic drive.

`-virtual_machine virtual_machine_name`

Specifies the host name of the virtual machine whose credentials are to be added, updated, or deleted. This option can be used only if the NetBackup Snapshot Client license key has been installed.

`-vm_type virtual_machine_type`

Specifies the type of virtual machine. The following are possible values:

- 1 - VMware VirtualCenter Servers
- 2 - VMware ESX Servers
- 3 - VMware Converter Servers

This option can be used only if the NetBackup Snapshot Client license key has been installed.

`-vm_user_id user_id`

Specifies the user name that NetBackup must use to communicate with a virtual machine's disk array. This option can be used only if the NetBackup Snapshot Client license key has been installed.

You must have administrator privileges to run this command.

NOTES

`tpconfig -d` may truncate drive names to 22 characters, and `tpconfig -l` may truncate drive names to 32 characters. To list the full drive name, use `tpconfig -dl`.

The delete multiple NDMP host credentials applies only to credentials that are specific to this host and the specified filer. In other words, it has no default or no filer credentials.

SEE ALSO

[ltid](#)

SEE ALSO

See [ltid](#) on page 423.

EXAMPLES

In the following examples, the command that is entered is shown on multiple lines because of page limitations. The actual command is entered on one line.

Example 1 - Robotic control on the local Windows server

The following example adds a robot that connects directly to a Windows host, and also adds drives to that robot.

The following procedure applies only to NetBackup server:

- Add the robot by using the following command:

```
# tpconfig -add -robot 7 -robtype tld -port 0 -bus 0 -target 2 lun 0
```

- If there are drives in the robot that have not been configured, add them.

The following command configures the drive with the system name of Tape0 under control of the robot that is configured in step 1. (The server has attached and recognized Tape0.)

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3 -lun 4
-comment "DEC      DLT2000 8414" -index 0 -drstatus up -robot 7
-robtype tld -robdnum 1 -asciiname DLT2000_D1
```

The command in this example uses the comment field. This field is useful for storing the drive's SCSI inquiry data so that drive type and firmware level can be easily checked.

- If the robot contains any drives that are currently configured as stand-alone drives, update the drive configuration to place them under robotic control. The following commands update the configuration for drives 1 and 2:

```
# tpconfig -update -drive 1 -type dlt -robot 7 -robtype tld
-robdnum 1
# tpconfig -update -drive 2 -type dlt -robot 7 -robtype tld
-robdnum 2
```

Note: Assign the correct robot drive number to the drives. If robot drive numbers are incorrect, tape mounts or backups may fail.

Example 2 - Robotic control on the remote host

This example applies only to NetBackup Enterprise Server:

It assumes that one or more tape drives that are in the robot, connect to the Windows host where you currently manage devices.

The following is a sequence of `tpconfig` operations that adds a robot that connects to another host:

- Add the robot by executing the following command:

```
# tpconfig -add -robot 9 -robtype tld -cntlhost perch
```

Ensure that the robot number matches the one on the control host.

- If the robot contains any drives that are currently configured as stand-alone, update the drive configuration to place them under robotic control. The following commands update the configuration for drives 1 and 2:

```
# tpconfig -update -drive 1 -type dlt -robot 9 -robtype tld
-robdnum 1
```

```
# tpconfig -update -drive 2 -type dlt -robot 9 -robtype tld
-robdrnum 2
```

Note: Assigned the correct robot drive number. If robot drive numbers are incorrect, tape mounts or backups may fail.

- If there are drives in the robot that have not been configured, add them now. The following command configures the drive with the system name of Tape0 under control of the robot that is configured in step 1. (The Windows server has attached and recognized Tape0.)

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3 -lun 4
-comment 'DEC DLT2000 8414' -index 3 -drstatus up -robot 9
-robtype tld -robdrnum 3 -asciiname DLT2000_D3
```

Example 3 - Configuring new stand-alone drives

The following is an example of how to add a stand-alone drive after the drive is installed:

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3 -lun 4
-comment 'DEC DLT2000 8414' -index 6 -asciiname DLT2000_standalone
```

Example 4 - Demonstrate how Windows displays device paths

This example demonstrates how to how the `-l` option displays the Windows device paths in the `p, b, t, l` format.

```
C:\Program Files\VERITAS\Volmgr\bin>tpconfig -l
```

Device Type	Robot Num	Drive Index	Robot Type	DrNum	Status	Comment	Drive Name	Device Path
robot	0	-	TLD	-	-	-	-	{3,1,0,1}
robot	1	-	TLD	-	-	-	-	{3,1,0,3}
robot	2	-	TLD	-	-	-	-	{3,1,2,0}
drive	-	0	pcd	-	DISABL	-	SONY.SDX-400V.000	{1,0,0,0}
drive	-	1	hcart2	2	UP	-	IBM.ULTRIUM-TD2.001	{3,1,0,2}
drive	-	1	hcart2	2	UP	-	IBM.ULTRIUM-TD2.001	{3,1,1,2}
drive	-	2	hcart2	1	UP	-	IBM.ULTRIUM-TD2.002	{3,1,0,5}
drive	-	2	hcart2	1	UP	-	IBM.ULTRIUM-TD2.002	{3,1,1,5}
drive	-	3	hcart	1	DOWN	-	IBM.ULTRIUM-TD1.003	{3,1,0,6}
drive	-	3	hcart	1	UP	-	IBM.ULTRIUM-TD1.003	{3,1,1,6}
drive	-	4	hcart	2	UP	-	IBM.ULTRIUM-TD1.004	{3,1,0,7}
drive	-	4	hcart	2	UP	-	IBM.ULTRIUM-TD1.004	{3,1,1,7}

```
drive - 5 hcart2 2 UP - IBM.ULTRIUM-TD2.005 {3,1,2,1}
drive - 6 hcart2 1 UP - IBM.ULTRIUM-TD2.006 {3,1,2,2}
```

tpext

tpext – update EMM database device mappings and external attribute files

SYNOPSIS

tpext -loadEMM

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `tpext` command updates the EMM database with new versions of the device mappings and external attribute files.

EXAMPLE

Before you repopulate this data, make sure that you have the most current support for new devices. New devices are added approximately every two months.

- Obtain the `external_types.txt` mapping file from <http://entsupport.symantec.com>.
- On the EMM server or the master server, place `external_types.txt` in the following directory to replace the current `external_types.txt` file:

UNIX and Linux systems: `/usr/opensv/var/global`

Windows systems: `install_path\var\global`

- Repopulate the EMM data by running the `tpext` utility:

UNIX and Linux systems: `/usr/opensv/volmgr/bin/tpext -loadEMM`

Windows systems: `install_path\Volmgr\bin\tpext -loadEMM`

During regular installation, `tpext` is run automatically.

Caution: If you use the `create_nbdb` command to create a database manually, you must also run the `tpext` utility. `tpext` loads EMM data into the database.

tpreq

tpreq - request a tape volume for mounting and assign a file name to the drive

SYNOPSIS

```
tpreq -m media_id [-a accessmode] [-d density] [-p poolname]  
[-priority number] [-f] filename
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

This command initiates a mount request for a tape volume on a removable media device. The information that you specify with this command identifies and registers the specified file as a logical identifier for the mount request with Media Manager. It also manages access to the volume.

Media Manager automatically mounts the media if it is in a robotic drive.

Otherwise, an operator mount request appears in the Device Monitor window.

tpreq does not complete normally in the case of a mount request for a robotic drive, if operator intervention is required. These requests also appear in the Device Monitor window.

When the operation is complete, use tpunmount to unmount the volume and remove the file name from the directory in which the file was created.

On UNIX and Linux systems, when a tpreq command is initiated, a call is made to the script drive_mount_notify immediately after the media is successfully placed in a pre-selected drive. This script allows user special handling to occur now. Control is then returned to tpreq to resume processing. The script is only called from the tpreq command for the drives that are in robots and is not valid for stand-alone drives. This script resides in the /usr/opensv/volmgr/bin/goodies directory. To use this script, activate it and copy it into the /usr/opensv/volmgr/bin directory; usage information is documented within the script.

You must have administrator privileges to run this command.

OPTIONS

-m *media_id*

Specifies the media ID of the volume to be mounted. You can enter the ID in upper or lowercase; Media Manager converts it to uppercase.

-a *accessmode*

Specifies the access mode of the volume. Valid access modes are *w* and *r*. If the access mode is *w* (write), the media must be mounted with write enabled. The default is *r* (read), which means the media may be write protected.

-d *density*

Specifies the density of the drive. This option determines the type of drive on which the tape volume is mounted. The default density is *dlt*.

Valid densities for NetBackup Enterprise Server follow:

4mm for 4-mm cartridge, 8mm for 8-mm cartridge, 8mm2 for 8-mm cartridge 2, 8mm3 for 8-mm cartridge 3, *dlt* for DLT cartridge, *dlt2* for DLT cartridge 2, *dlt3* for DLT cartridge 3, *dtf* for DTF cartridge, *hcart* for 1/2-inch cartridge, *hcart2* for 1/2 Inch cartridge 2, *hcart3* for 1/2 Inch cartridge 3, *qscsi* for 1/4-inch cartridge.

The following applies only to NetBackup Enterprise Server:

The half-inch cartridge densities (*hcart*, *hcart2*, and *hcart3*) can be used to distinguish between any supported half-inch drive types. However, tape requests can only be assigned to drives of the associated media type. For example, it assigns a tape request with density *hcart2* that specifies a media ID with media type *HCART2* to an *hcart2* drive. Likewise, it assigns a tape request with density *hcart* that specifies a media ID with media type *HCART* to an *hcart* drive. The same rules apply to the DLT densities (*dlt*, *dlt2*, and *dlt3*) and the 8MM densities (8mm, 8mm2, and 8mm3).

Valid densities for NetBackup server follow:

4mm for 4-mm cartridge, 8mm for 8-mm cartridge, *dlt* for DLT cartridge, *hcart* for 1/2 Inch cartridge, *qscsi* for 1/4-inch cartridge.

The mount request must be performed on a drive type that satisfies the density.

-p *poolname*

Specifies the volume pool where the volume resides. *poolname* is case sensitive. The default is None.

-priority *number*

Specifies a new priority for the job that overrides the default job priority.

`-f filename`

Specifies the file to be associated with the volume. The file name represents a symbolic link to the drive where the volume is mounted.

The file name can be a single name or a complete path. If you specify only a file name, the file is created in the current working directory. If you specify a path, the file is created in the directory that is named in the path. *filename* cannot be an existing file.

If the `tpreq` command is successful, Media Manager creates a file with the name that you specified. This file contains the name of the tape device where the media is mounted. Do not delete this file. Use the `tpunmount` command to remove it.

The specification of `-f` before *filename* is optional.

EXAMPLE

The following command creates a file named `tape1` in the current working directory. It links the file to the drive that contains the volume that has media ID of JLR01. The access mode for the tape file is set to write, and a 1/4-inch cartridge drive is assigned.

```
# tpreq -f tape1 -m jlr01 -a w -d qscsi
```

This command creates a file named `tape1` in the current working directory. It links the file to the drive that contains the volume that has media ID of JLR01. The access mode for the tape file is set to write, and a 1/4-inch cartridge drive is assigned.

SEE ALSO

See [tpunmount](#) on page 630.

See [vmadm](#) on page 661.

tpunmount

`tpunmount` - remove a tape volume from a drive and a tape file from the directory

SYNOPSIS

tpunmount [-f] *filename* [-force]

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
<*install_path*>\Volmgr\bin\

DESCRIPTION

`tpunmount` removes a tape file from the directory and physically removes the tape volume from the drive (if the media was mounted).

On UNIX and Linux systems, when `tpunmount` is executed for drives, a call is made to execute the `drive_unmount_notify` script. This script allows user special-handling to occur. Control is then returned to `tpunmount` to resume processing. The script resides in the `/usr/opensv/volmgr/bin/goodies` directory. To use this script, activate it and copy it into the `/usr/opensv/volmgr/bin` directory. The script is called from the `tpreq` command for only the drives that are in robots. The script is not valid for stand-alone drives or NDMP drives.

Stand-alone drives are not unloaded when the `DO_NOT_EJECT_STANDALONE` option is specified (and the `-force` option is not specified). This option is now stored in EMM.

The tape file and the device must be closed before you can use `tpunmount`.

You must have administrator privileges to run this command.

OPTIONS

`-f filename`

Specifies the file that is associated with the media. You must specify a file name. The specification of `-f` before *filename* is optional.

`-force`

Ejects the volume from a stand-alone drive, even if `DO_NOT_EJECT_STANDALONE` is specified in the EMM database.

EXAMPLE

The following command unmounts the tape volume that is associated with file `tape1` and removes the file from the current directory:

```
# tpunmount tape1
```

SEE ALSO

See [tpreq](#) on page 627.

verifytrace

`verifytrace` - trace debug logs for verify jobs

SYNOPSIS

```
verifytrace [-master_server name] -job_id number [-start_time  
hh:mm:ss] [-end_time hh:mm:ss] mmdyy [mmdyy _]  
verifytrace [-master_server name] -backup_id id [-start_time hh:mm:ss]  
[-end_time hh:mm:ss] mmdyy [mmdyy _]  
verifytrace [-master_server name] [-policy_name name] [-client_name  
name] [-start_time hh:mm:ss] [-end_time hh:mm:ss] mmdyy [mmdyy _]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/netbackup/bin/admincmd/  
On Windows systems, the directory path to this command is  
<install_path>\NetBackup\bin\admincmd\
```

DESCRIPTION

The `verifytrace` command consolidates the debug log messages for the specified verify jobs and writes them to standard output. The messages sort by time. `verifytrace` tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, you must enable debug logging for the following:

- UNIX and Linux systems: The `/usr/opensv/netbackup/admin` directory on the master server
- Windows systems: The `install_path\NetBackup\bin\admin` directory on the master server
- The `bpbrm`, `bptm/bpdm`, and `tar` commands on the media server

For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and `bpcd` on all servers and clients in addition to already identified processes.

If you specify either `-job_id` or `-backup_id`, `verifytrace` uses this option as the sole criteria for selecting the verify jobs it traces. You cannot use the options `-policy_name` or `-client_name` with `-job_id` or `-backup_id`. If you do not specify `-job_id` or `-backup_id`, `verifytrace` selects all the verify jobs that match the specified selection criteria. If none of the following options is specified, `verifytrace` traces all the verify jobs that ran on the days that the day stamps (`mmdyy`) specify: `-job_id`, `-backup_id`, `-policy_name`, or `-client_name`. If

`-start_time/-end_time` options are used, the debug logs on the specified time interval are examined.

If `verifytrace` is started with `-backup_id id`, it looks for a verify job that `bpverify` started with `-backup_id id` where the backup IDs (*id*) match.

If `verifytrace` is started with `-policy_name name`, it looks for a verify job that `bpverify` started with `-policy_name name` where the policy names (*name*) match.

If `verifytrace` is started with `-client_name name`, it looks for a verify job that `bpverify` started with `-client_name name` where the client names (*name*) match.

`verifytrace` writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

`-master_server`

Name of the master server. Default is the local host name.

`-job_id`

Job ID number of the verify job to analyze. Default is any job ID.

`-backup_id`

Backup ID number of the backup image that the verify job verified to analyze. Default is any backup ID.

`-policy_name`

Policy name of the verify jobs to analyze. Default is any policy.

`-client_name`

Client name of the verify jobs to analyze. Default is any client.

`-start_time`

Earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`

Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddy`

One or more "day stamps". This option identifies the log file names (log.mmddy for UNIX, mmddy.log for Windows) that are analyzed.

OUTPUT FORMAT

The format of an output line is: *daystamp.millisecs.program.sequence machine log_line*

daystamp

The day of the log is created in *yyymmdd* format.

millisecs

The number of milliseconds since midnight on the local machine.

program

The name of program (ADMIN, BPBRM, BPCD, etc.) being logged.

sequence

Line number within the debug log file.

machine

The name of the NetBackup server or client.

log_line

The line that appears in the debug log file.

EXAMPLES

EXAMPLE 1

The following example analyzes the log of verify job with job ID 2 that ran on August 6, 2007.

```
# verifytrace -job_id 2 080607
```

EXAMPLE 2

The following example analyzes the verify jobs log that verify backup images with backup ID *pride_1028666945*, which ran on *20th August 2007*. This command only analyzes those verify jobs that were ran with option *-backupid pride_1028666945*.

```
# verifytrace -backup_id pride_1028666945 082007
```

EXAMPLE 3

The following example analyzes the verify jobs log that was ran on policy *Pride-Std* and client *pride* on August 16, 2009 and August 23, 2009. This command only analyzes those verify jobs that ran with options *-policy Pride-Std* and *-client pride*.

```
# verifytrace -policy_name Pride-Std -client_name pride 081609 082309
```

EXAMPLE 4

The following example analyzes the verify jobs log that ran on August 5, 2009 and August 17, 2009.

```
# verifytrace 080509 081709
```

vltadm

vltadm - start the NetBackup Vault menu interface for administrators

SYNOPSIS

```
/usr/opensv/netbackup/bin/vltadm [-version]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

vltadm is a menu interface utility that an administrator can use to configure NetBackup Vault. You must have administrator privileges. This command can be used from any character-based terminal (or terminal emulation window) for which the administrator has a `termcap` or `terminfo` definition.

See the *NetBackup Vault Administrator's Guide* and the vltadm online Help for detailed operating instructions.

OPTIONS

-version

Display the vltadm version and exit.

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

```
/usr/opensv/netbackup/help/vltadm/*  
/usr/opensv/netbackup/db/vault/vault.xml  
/tmp/bp_robots  
/tmp/bp_vaults  
/tmp/bp_profiles  
/tmp/bp_duplicates  
/tmp/_tmp
```

vltcontainers

vltcontainers – move volumes logically into containers

SYNOPSIS

```
vltcontainers -run [-rn robot_number]  
vltcontainers -run -usingbarcodes [-rn robot_number]  
vltcontainers -run -vltcid container_id -vault vault_name -sessionid  
session_id  
vltcontainers -run -vltcid container_id -f file_name [-rn  
robot_number] [-usingbarcodes]  
vltcontainers -view [-vltcid container_id]  
vltcontainers -change -vltcid container_id -rd return_date  
vltcontainers -delete -vltcid container_id  
vltcontainers -version
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

vltcontainers logically adds to containers the media that was ejected from one or more vault sessions. It can view, set, or change the return date of containers that go off-site or are already at the off-site vault. vltcontainers can also delete a container from the NetBackup and Media Manager catalogs.

You can add media IDs to containers as follows:

- Use the keyboard to enter the container and the media IDs.
- Use a keyboard interface bar code reader to scan the container IDs and media IDs. Keyboard interface readers are also known as keyboard wedge readers because they connect (or wedge) between the keyboard and the keyboard port on your computer.
- Use an input file that contains the media IDs or numeric equivalents of bar codes of all the media that are added to one container. To add media to more than one container, enter the IDs by using the keyboard or a keyboard interface bar code reader. Or, run the vltcontainers command again and specify different container and file name options.

- Add all the media that a specific session ejects to one container. To add media from a single eject session into more than one container, enter IDs using the keyboard or a keyboard interface bar code reader.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

Run the `vltcontainers` command from a NetBackup master server that is licensed for Vault.

If the following directory with public-write access exists, `vltcontainers` writes to its daily debug log file (`log.DDMMYY` where `DDMMYY` is current date):

UNIX and Linux systems: `usr/opensv/netbackup/logs/vault`

Windows systems: `install_path\netbackup\logs\vault`

Public-write access is required because not all executable files that write to this file can run as administrator or root user.

OPTIONS

`-change`

Changes the default return date for the container. The default return date of a container is the date of the volume in the container that is returned the latest. It requires the `-vltcid container_id` option.

`-delete`

Deletes the container record from the NetBackup and Media Manager catalogs. You can delete a container only if it contains no media.

`-f file_name`

Specifies the file from which to read media IDs. All the listed media in the file are added to the container that the `-vltcid` option specifies. The file can be a list of media IDs (one per line). Or it can be the numeric equivalents of bar codes (one per line) scanned into a file by a bar code reader.

`-rd return_date`

Specifies the return date for the container.

The return date format depends on the locale setting.

`-rn robot_number`

Specifies the robot, which is used to determine the EMM Server from which the `vltcontainers` command should obtain media information. If `-rn robot_number` is not used, the master server is considered as the EMM server. The only media that can be added to containers is the media in the database on the EMM server.

`-run`

Logically adds media to the container. If you specify no other options, you must enter the container IDs and the media IDs by using the keyboard. To use a bar code reader to scan the container and the media IDs, specify the `-usingbarcodes` option. To add the media that a specific session ejects, use the `-vault vault_name` and `-sessionid session_id` options. To add the media that is specified in a file, use the `-f file_name` option. To specify an EMM server other than the master server, use the `-rn robot_number` option.

`-sessionid session_id`

The ID of a vault session. All media that the specified session ejects is added to the container that the `-vltcid` option specifies.

`-usingbarcodes`

Specifies a keyboard interface bar code reader that scans container IDs and media IDs, or bar code numbers that are used in the file that `-f file_name` specifies. Keyboard interface bar code readers (also called keyboard wedge bar code readers) connect between the keyboard and the keyboard port on your computer.

`-vault vault_name`

The name of the vault to which the profile that ejected the media belongs. You also must specify the ID of the session (`-sessionid`) that ejected the media to be added to the container.

`-version`

Displays the `vltcontainers` version and exit.

`-view [-vltcid container_id]`

Shows the return date that is assigned to all containers. Use the `-vltcid container_id` option and argument to show the return date of a specific container.

`-vltcid container_id`

Specifies the container ID. Container ID can be a string of up to 29 alphanumeric characters (no spaces). The `-rd return_date` option and argument are required to change a container return date.

EXAMPLES

EXAMPLE 1

Use the following command to:

- Add the volumes that are ejected from robot number 0 to containers
- Use a bar code reader to scan the container ID and media ID

```
# vltcontainers -run -usingbarcodes -rn 0
```

EXAMPLE 2

To view the return date of container ABC123, use the following command:

```
# vltcontainers -view -vltcid ABC123
```

EXAMPLE 3

To change the return date of container ABC123 to December 07, 2007, use the following command:

```
# vltcontainers -change -vltcid ABC123 -rd 12/07/2007
```

EXAMPLE 4

To delete container ABC123 from the NetBackup and Media Manager catalogs, use the following command:

```
# vltcontainers -delete -vltcid ABC123
```

EXAMPLE 5

To add all media that was ejected to container ABC123 by session 4 of vault MyVault_Cntr, use the following command:

```
# vltcontainers -run -vltcid ABC123 -vault MyVault_Cntr -sessionid 4
```

EXAMPLE 6

To add the media that is listed in the `medialist` file that is ejected from robot number 0 to container ABC123, use the following command:

```
UNIX and Linux systems: # vltcontainers -run -vltcid ABC123 -f  
/home/jack/medialist -rn 0
```

```
Windows systems: # vltcontainers -run -vltcid ABC123 -f  
C:\home\jack\medialist -rn 0
```

EXAMPLE 7

Use the following command to:

- Add media to container ABC123 that was ejected from a robot that is attached to the master server
- Read the bar codes for that media from the `medialist` file

```
UNIX and Linux systems: # vltcontainers -run -vltcid ABC123 -f  
/home/jack/medialist -usingbarcodes
```

```
Windows systems: # vltcontainers -run -vltcid ABC123 -f  
C:\home\jack\medialist -usingbarcodes
```

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called **extended exit status codes**. For such a case, the **exit status** that returned to the system is 252. The actual exit status is written to `stderr` in the format `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/vault/sessions/cntrDB  
/usr/opensv/netbackup/db/vault/vault.xml  
/usr/opensv/netbackup/logs/vault
```

Windows systems:

```
install_path\NetBackup\vault\sessions\cntrDB  
install_path\NetBackup\db\vault\vault.xml  
install_path\netbackup\logs\vault
```

SEE ALSO

See [vltadm](#) on page 635.

See [vltoffsitemedia](#) on page 647.

See [vltopmenu](#) on page 651.

vlt eject

vlt eject – eject media and generate reports for previously run sessions

SYNOPSIS

vlt eject

```
vlt eject -eject [-profile profile_name] [-robot robot_name] [-vault  
vault_name [-sessionid id]] [-auto y|n] [-eject_delay seconds]
```

```
vlt eject -report [-profile profile_name] [-robot robot_name] [-vault  
vault_name [-sessionid id]] [-legacy]
```

```
vlt eject -eject -report [-profile profile_name] [-robot robot_name]  
[-vault vault_name [-sessionid id]] [-auto y|n] [-eject_delay seconds]  
[-version] [-legacy]
```

```
vlt eject -preview [-vault vault_name [-profile profile_name]]  
[-profile robot_no / vault_name / profile_name] [-robot  
robot_name][-sessionid id]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

vlt eject ejects media and generates the corresponding reports (as configured in the profiles) for vault sessions for which media have not yet been ejected.

vlt eject can process the pending ejects and reports for all sessions, for a specific robot, for a specific vault, or for a specific profile. To process all pending ejects and reports, do not use the -profile, -robot, or -vault option.

vlt eject operates only on sessions for which the session directory still exists. After that directory is cleaned up (removed by NetBackup), vlt eject can no longer eject or report for that session.

Whether vlt eject can run interactively or not depends on how it is called. Run interactively when you plan to eject more media than that amount that fits in the media access port.

Do not modify your vault configuration while vlt eject is running.

vlt eject can be run in any of the following ways:

- Directly from the command line

- By using the NetBackup policy schedule. The policy must be of type Vault, and the policy's file list must consist of a `vlt eject` command.
- By using `vltopmenu` to run an eject operation or a consolidated eject or consolidated report operation

If the following directory exists and has public-write access, `vlt eject` writes to its daily debug log file:

UNIX and Linux systems: `usr/opensv/netbackup/logs/vault`

Windows systems: `install_path\netbackup\logs\vault`

The daily debug log file is `log.DDMMYY`; the `DDMMYY` is the current date.

Public-write access is required because not all executable files that write to this file can run as administrator or root user. The host property "Keep vault logs for n days" determines how long the vault session directories are retained.

Any authorized user can run this command.

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

OPTIONS

`-auto y|n`

Specifies automatic (y) or interactive mode (n). In automatic mode (y), `vlt eject` runs without input from the user and does not display output. In interactive mode (default), `vlt eject` runs interactively. It accepts input and displays output.

`-eject`

Ejects media for the indicated sessions. `-eject` is optional if eject was completed and you only want to generate reports.

`-eject_delay seconds`

The number of seconds to delay before the media is ejected. This option is useful if an operation such as backing up or duplication recently occurred on the affected media. The default is 0. The maximum is 3600 (one hour).

`-legacy`

Generates reports by using the old-style consolidation. Valid only with the `-report` option.

`-preview`

Lists the sessions and the media that are ejected for the sessions. Does not eject the media.

`-profile robot_no / vault_name / profile_name`

Identifies a robot number, vault name, and profile name from which to eject media and generate reports. All three options must be used with `-profile`. To process all pending ejects and reports, use `-profile` with *profile_name* only.

`-report`

Generates reports for the indicated sessions. If the corresponding eject process has completed, it generates and distributes any pending reports from the selected sessions. The reports are not generated again if `vlt eject` is run again. If the eject has not completed, the subset of reports that do not depend on completion of eject are generated. These reports are generated again if `vlt eject -report` is run again after eject has completed.

`-robot robot_no`

Specifies the robot number that identifies the robot which you want to eject media and generate reports. All vaults in the robot should use the same off-site volume group. To process all pending ejects and reports, do not use the `-profile`, `-robot`, or `-vault` option.

`-sessionid id`

The numeric session ID. If `-profile`, `-robot`, or `-vault` is specified, but `-session id` is not specified, `vlt eject` operates on all sessions for the specified profile, robot, or vault.

`-vault vault_name`

The vault for which to eject media and generate reports. To process all pending ejects and reports; do not use the `-profile`, `-robot`, or `-vault` option.

`-version`

Displays the `vlt eject` version and exit.

EXAMPLES

EXAMPLE 1

To eject media and generate reports for all robots that have sessions for which media have not yet been ejected, enter the following:

```
# vlt eject -eject -report
```

EXAMPLE 2

To eject all media that have not yet been ejected for all sessions for the CustomerDB vault and to generate corresponding reports, enter the following:

```
# vlt eject -vault CustomerDB -eject -report
```

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/db/vault/vault.xml  
/usr/opensv/netbackup/logs/vault/log.mmdyy  
/usr/opensv/netbackup/vault/sessions/vlt_name/sidxxx/detail.log  
/usr/opensv/netbackup/vault/sessions/vlt_name/sidxxx/summary.log  
/usr/opensv/netbackup/vault/sessions/vlt_name/sidxxx/vltject_status  
/usr/opensv/netbackup/vault/sessions/vltject.mstr  
/usr/opensv/netbackup/bp.conf
```

Windows systems:

```
install_path\NetBackup\db\vault\vault.xml  
install_path\NetBackup\logs\bpbrmvlt\mmdyy.log  
install_path\NetBackup\logs\vault\mmdyy.log  
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\detail.log  
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\summary.log  
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\vltject.status  
install_path\NetBackup\vault\sessions\vltject.mstr  
install_path\NetBackup\bp.conf
```

SEE ALSO

See [vltopmenu](#) on page 651.

vltinject

vltinject - inject volumes into a robot for a specified vault configuration

SYNOPSIS

```
vltinject profile|robot/vault/profile [-version]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

vltinject injects volumes into a robot and updates the Enterprise Media Manager Database. It runs vmupdate and assigns it the robot number, robot type, and robotic volume group from the vault configuration that matches the specified profile.

If the following directory exists and has public write access, vltinject writes to the daily debug log file:

UNIX and Linux systems: usr/opensv/netbackup/logs/vault

Windows systems: install_path\netbackup\logs\vault

The daily debug log file is log.DDMMYY; the DDMMYY is the current date.

You then can use this file for troubleshooting. Public-write access is needed because not all executables that write to this file can run as administrator or root.

Any authorized user can run this command.

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

OPTIONS

```
profile|robot/vault/profile
```

The name of a profile or a robot number, vault, and profile that are nested within the vault configuration file. If *profile* is used without *robot* and *vault*, the profile must be unique. vltinject executes vmupdate with the robot number, robot type, and robotic volume group from this profile's configuration.

```
-version
```

Display the vltinject version and exit.

EXAMPLES

EXAMPLE 1

To inject the volumes that the Payroll profile has vaulted and that were returned from the off site vault, enter the following:

```
# vltinject Payroll
```

EXAMPLE 2

To inject the volumes that the Weekly profile (in the Finance vault) vaulted and that the off-site vault has returned, the user enters the following:

```
# vltinject 8/Finance/Weekly
```

RETURN VALUES

```
0           The EMM Database was successfully updated.
```

```
not = 0     There was a problem updating the EMM Database.
```

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/logs/vault/log.mmdyy
```

Windows systems:

```
install_path\NetBackup\logs\vault\mmdyy.log
```

vloffsitemedia

vloffsitemedia - list off site parameter values for a group of media, or change the off site parameter value for a single media

SYNOPSIS

```
vloffsitemedia -list [-W] [-vault vault_name] [-voldbhost host_name]
vloffsitemedia -change -m media_id [-voldbhost host_name] [-d
media_description] [-vltname vault_name] [-vltsent date][-vltreturn
date] [-vltslot slot_no] [-vltcid container_id] [-vltsession
session_id]
vloffsitemedia -version
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

vloffsitemedia allows the user to change the vault-specific parameters of a given media. This command lets the user change one or more parameters by using a single command. It lets the user view the various vault parameters of all media for a particular EMM server or vault.

If you create the following directory with public-write access, **vloffsitemedia** creates a daily debug log in this directory:

UNIX: /usr/opensv/netbackup/logs/vault

Windows: install_path\netbackup\logs\vault

The log is called log.DDMMYY (where *DDMMYY* is the current date). You then can use this file that for troubleshooting.

Public-write access is needed because not all executables that write to this file can run as root.

OPTIONS

-change

Changes the attributes of the specified volume.

-d *media_description*

Specifies the description for the volume.

To configure NetBackup so that the media description field is cleared automatically when volumes are returned to the robot, set the `VAULT_CLEAR_MEDIA_DESC` parameter in EMM.

`-list`

Lists the off-site parameters for the media in the local EMM database. To restrict the list to a specific vault for the local EMM database, include the `-vault` option with the command. To list the off-site parameters for media for a specific EMM database, include the `-voldbhost` option with the command.

`-m media_id`

Media ID of the volume whose vault parameters are to be changed.

`-vault vault_name`

Name of the vault for which all media IDs and their vault-specific parameters are to be listed.

`-version`

Display the `vltoffsitemedia` version and exit.

`-vltcid container_id`

Specifies the container in which a volume is stored. *container_id* (a string of up to 29 alphanumeric characters (no spaces) specifies the new container for the volume. You must specify an existing container ID. You cannot assign media from one EMM server to a container that has media from a different EMM server. Use the `-m` option to specify the media ID of the volume.

`-vltname vault_name`

Specifies the name of the logical vault that is configured for the robot that ejected the volume.

`-vltreturn date`

Specifies the date and time the media was requested for return from the vault vendor. For Catalog Backup volumes, this date is the date that the media is requested for return from the vault vendor.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

`-vltsent date`

Specifies the date and time the media was sent to the off site vault.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

`mm/dd/yyyy [hh[:mm[:ss]]]`

`-vltsession session_id`

Specifies the identifier of the Vault session that ejected this media.

`-vltslot slot_no`

Specifies the vault vendor's slot number for the slot that this volume occupies.

`-voldbhost host_name`

Name of the EMM server.

`-W`

Specifies the parsable output format for the media off-site parameters. For containers, the output includes the length of the container description, the container description, and the container ID. The output header line is a space that is separated line of column labels; the output data lines are space-separated fields.

EXAMPLES

EXAMPLE 1

This command changes the vault name and the vault sent dates of the media with the ID BYQ:

```
vltoffsitemedia -change -m BYQ -vltname THISTLE -vltsent 08/01/2009  
12:22:00
```

EXAMPLE 2

The following command changes the vault slot number to 100 for a media with ID 000012:

```
vltoffsitemedia -change -m 000012 -vltslot 100
```

EXAMPLE 3

The following command clears out the vault-specific fields for a media:

```
vltoffsitemedia -change -m 000012 -vltname "" -vltsession 0 -vltslot  
0 -vltsent 0 -vltreturn 0
```

or:

```
vltoffsitemedia -change -m 000012 -vltname - -vltsession 0 -vltslot  
0 -vltsent 00/00/00 -vltreturn 00/00/00
```

EXAMPLE 4

To clear the container ID and media description of volume ABC123:

```
vltoffsitemedia -change -m ABC123 -vltname - -d ""
```

or:

```
vltoffsitemedia -change -m ABC123 -vltname "" -d ""
```

The `vltoffsitemedia` command uses the Media Manager commands to query or update the EMM database.

If the `vltoffsitemedia` command fails, look at the debug log on the following directory for detailed information about the actual Media Manager command that failed:

UNIX and Linux systems: `usr/opensv/netbackup/logs/vault`

Windows systems: `install_path\netbackup\logs\vault`

For more information on the status codes that Media Manager commands return, see the *NetBackup Troubleshooting Guide*.

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called "extended exit status codes." For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the NetBackup Troubleshooting Wizard.

vltopmenu

vltopmenu - start NetBackup Vault menu interface for operators

SYNOPSIS

vltopmenu [-version]

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

Allows the user to activate a menu screen that contains the various options that an Operator of the NetBackup Vault feature can use. It lets the user eject or inject media, print various reports individually or collectively. It also consolidates all reports and ejects for all sessions that have not ejected media yet. This interface can be used from any character-based terminal (or terminal emulation window) for which the user has a `termcap` or a `terminfo` definition.

See the *NetBackup Operator's Guide* for detailed operating instructions.

Any authorized user can run this command.

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

OPTIONS

-version

Displays the vltopmenu version and exit.

RETURN VALUES

Vault may exit with an extended exit status code (greater than 255). For such a case, the exit status is returned to the system is 252. The actual exit status is written to `stderr` in the format, `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/vault/sessions/vlteject.mstr  
/usr/opensv/netbackup/vault/sessions/vlteject_status.log.timestamp  
/usr/opensv/netbackup/vault/sessions/*/sid*/detail.log
```

Windows systems:

```
install_path\NetBackup\vault\sessions\vlteject.mstr  
install_path\NetBackup\vault\sessions\vlteject_status.log.ti  
mestamp  
install_path\NetBackup\vault\sessions\*\sid*\detail.log
```

vltrun

vltrun - Run a NetBackup Vault session

SYNOPSIS

```
vltrun -haltdups -vjobs vault_jobid [profile | robot/vault/profile]  
[-preview] [-verbose | -v] [-version]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<*install_path*>\NetBackup\bin\

DESCRIPTION

vltrun drives a NetBackup Vault session by issuing a sequence of calls to the vault engine. Optionally, the session can include callouts to user-provided notify scripts.

OPTIONS

profile | *robot/vault/profile*

Specifies the name of a profile or a nested robot number, vault, and profile in the vault parameter file. If *profile* is used without *robot* and *vault*, the profile must be unique within the vault parameter file. This option is required.

-vjob *vault_jobid*

Specifies the job ID of an active vault job that is currently duplicated.

-haltdups

Terminates all associated, active vault duplication jobs.

-preview

Generates the preview list of images to be vaulted in a vault session. The results go to the file *preview.list* in the session directory.

-verbose | -v

Reports verbosely on the session in the vault debug log.

-version

Displays the vltrun version and exit.

USAGE

The vltrun session follows this sequence:

- Run the `vlt_start_notify` script.
- Inventory media.
- Initialize Media Manager database for the vault media that is returned to the robot.
- Generate the list of preview images to be vaulted.
- Duplicate images.
- Inventory Media Manager database (first time).
- Assign media for the NetBackup catalog backup.
- Inventory Media Manager database (second time).
- Inventory images.
- Suspend media.
- Run the `vlt_end_notify` script.
- Re-inventory images.
- Assign slot IDs.
- Back up the NetBackup catalog.
- Inventory the Media Manager database (third and final time).
- Run the `vlt_ejectlist_notify` script.
- Generate the eject list.
- Run the `vlt_starteject_notify` script.
- Eject and report.
- Run the `vlt_end_notify` script.

`vltrun` can be run in any of the following ways:

- Directly from the command line
- By NetBackup policy scheduling. In this case, the policy must consist of type Vault, and the policy's file list must consist of a `vltrun` command.
- By running the command `Start Session` for a profile in the Vault GUI or `vltadm`

`vltrun` uses the option `profile|robot/vault/profile` to run a vault session. You can use the *profile* form of the option if there is no other profile with the same name in your vault configuration. In this case, the profile name is sufficient to uniquely identify the configuration information.

If there is more than one profile with the same name, then use the `robot/vault/profile` form to uniquely identify the configuration.

Do not modify your vault configuration while a vault session is running.

When the session starts, it creates a directory to hold the files that `vltun` and the vault engine create during the session.

The vault session uses the following directory:

UNIX and Linux systems:

```
/usr/opensv/netbackup/vault/sessions/vault_name/sidxxx
```

Windows systems:

```
install_path\NetBackup\vault\sessions\vault_name\sidxxx
```

The `xxx` variable is an integer uniquely assigned to this session. For each vault name, session identifiers are sequentially assigned, starting with 1.

If you have configured an email address in your vault properties, then email is sent to this address at the end of the session. The email reports the results. By default, email is sent to root.

`vltun` produces an overview of the session, called `summary.log`, in the session directory.

Control the vault process at several points in the session by installing notify scripts in the directory for NetBackup binaries, `/usr/opensv/netbackup/bin`. Refer to the *NetBackup Vault Administrator's Guide* for more information on notify scripts.

You can monitor the progress of your `vltun` session in the NetBackup Activity Monitor.

The Operation field on the main Activity Monitor window shows the progress of your vault session by using the following statuses:

- Choosing Images.
- Duplicating Images.
- Choosing Media.
- Catalog Backup..
- Eject and Report.
- Done.

If you create the following directory with public-write access, `vltun` creates a daily debug log on this directory:

UNIX and Linux systems: `usr/opensv/netbackup/logs/vault`

Windows systems: `install_path\netbackup\logs\vault`

The log is called `log.DDMMYY` (where *DDMMYY* is the current date). You then can use this file that for troubleshooting.

Public-write access is needed because not all executables that write to this file run as administrator or root.

You can adjust the level of logging information that is provided in this log file by adjusting the following: the vault logging level parameter on the Logging page of the master server's properties through Host Properties on the NetBackup Console.

You can terminate active vault duplication jobs by using the `vltrun -halttdups` command. Initiate a `-halttdups` script that sends a SIGUSR2 signal to the main vault job (currently at the duplication step). It then automatically propagates the signal to all of the vault duplication instances without waiting for any current duplication job instance to finish. After this step completes, the main vault job proceeds with the remaining steps.

After the SIGUSR2 signal is received, the job details of the following message of the terminated vault duplication job appears: termination requested by administrator (150)

You must have administrator privileges to run this command.

EXAMPLES

EXAMPLE 1

To vault the profile `my_profile`, enter:

```
# vltrun my_profile
```

EXAMPLE 2

The following command vaults the images for robot 0, vault Financials, and profile Weekly:

```
# vltrun 0/Financials/Weekly
```

EXAMPLE 3

To terminate an active vault duplication job with the ID of 1, enter:

```
# vltrun -halttdups -vjob 1
```

RETURN VALUES

On UNIX and Linux systems, vault may exit with a status code greater than 255. For these extended exit status codes, the status that is returned to the system is

252. The actual exit status is written to `stderr` in the format, `EXIT status = exit status`

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/vault  
/usr/opensv/netbackup/bp.conf  
/usr/opensv/netbackup/logs/bpcd/log.mmddy  
/usr/opensv/netbackup/logs/vault/log.mmddy  
/usr/opensv/netbackup/db/vault/vault.xml  
/usr/opensv/netbackup/vault/sessions/vault_name/sidxxx  
/usr/opensv/netbackup/vault/sessions/vault_name/sidxxx/summary.log  
/usr/opensv/netbackup/vault/sessions/vault_name/sidxxx/detail.log
```

Windows systems:

```
install_path\NetBackup\vault  
install_path\NetBackup\bp.conf  
install_path\NetBackup\logs\bpbrmvlt\mmddy.log  
install_path\NetBackup\logs\bpcd\mmddy.log  
install_path\NetBackup\logs\vault\mmddy.log  
install_path\NetBackup\db\vault\vault.xml  
install_path\NetBackup\vault\sessions\vault_name\sidxxx  
install_path\NetBackup\vault\sessions\vault_name\sidxxx\summary.log  
install_path\NetBackup\vault\sessions\vault_name\sidxxx\detail.log
```

SEE ALSO

See [vltadm](#) on page 635.

See [vlteject](#) on page 641.

See [vltinject](#) on page 645.

See [vloffsitemedia](#) on page 647.

See [vltopmenu](#) on page 651.

vmadd

vmadd – add volumes to EMM database

SYNOPSIS

```
vmadd -m media_id -mt media_type [-h EMM_server |  
volume_database_host] [-verbose] [-b barcode] [-rt robot_type] [-rn  
robot_number] [-rh robot_host] [-rc1 rob_slot] [-rc2 rob_side] [-p  
pool_number] [-mm max_mounts | -n cleanings] [-d "media_description"]  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/volmgr/bin/  
On Windows systems, the directory path to this command is  
<install_path>\Volmgr\bin\
```

DESCRIPTION

Add volumes to the Enterprise Media Manager (EMM) Database.

Any authorized user can run this command.

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

OPTIONS

-m *media_id*

Specifies the media ID of the volume to add. The media ID can be a maximum of 6 ASCII characters. The actual character input is restricted to alpha numerics and '.', '+', '_', and '-' if they are not the first character.

The following applies only to NetBackup Enterprise Server:

-mt *media_type*

Specifies the media type of the volume to add.

Valid media types for NetBackup Enterprise Server are as follows:

4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean

Valid media types for NetBackup server are as follows:

4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean

`-h EMM_server | volume_database_host`

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default. For communicating with pre-NetBackup 6.0 systems not in the EMM domain, this server is the EMM server.

For systems before NetBackup 6.0, ensure the following: The specified host matches the EMM server name that is associated with the robot or set of stand-alone drives, as indicated in the device configuration.

`-verbose`

Selects the verbose mode.

`-b barcode`

Specifies the barcode that is attached to the volume.

`-rt robot_type`

Specifies the robot type of the robot where the volume is located.

Valid robot types for NetBackup Enterprise Server are as follows:

none, acs, tl4, tl8, tld, tlh, tlm.

Valid robot types for NetBackup server are as follows:

none, tl4, tl8, tld.

`-rn robot_number`

Unique, logical identification number for the `robot` where the volume is located.

`-rh robot_host`

Name of the host that controls the robot, where the volume is located.

`-rc1 rob_slot`

Robot coordinate 1 is the slot number in the robot where the volume is located.

The following applies only to NetBackup Enterprise Server:

Do not enter slot information for Media Manager API robot types. The robot software tracks the slot locations for these robots.

`-p pool_number`

Index of the volume pool that contains this volume. You can use `vmppool -listall` to determine the index for a given pool name.

`-mm max_mounts`

Maximum number of mounts that are allowed for this volume. Only used for non-cleaning media. When this limit is exceeded, the volume can be mounted for read operations only.

`-n cleanings`

The number of cleanings that remain for this volume. Only used for cleaning media.

`-d "media_description"`

"Media description of the volume. The double quote marks are required if the description contains any spaces.

EXAMPLES

The following command adds volume AJU244 in the NetBackup volume pool to the EMM database on the host that is named llama.

The volume has the barcode AJU244 and is in slot 2 of TLD robot 1. For write operations, the volume may be mounted a maximum of 1000 times.

The following point applies only to NetBackup server :

Only one host (the master) exists, so the `-h` option is not needed.

Note: This command is usually entered on only one line.

```
# vmadd -m AJU244 -mt dlt -h llama -b AJU244 -rt tld -rn 1 -rh llama  
-rc1 2 -p 1 -mm 1000 -d "vmadd example"
```

NOTES

Only limited validation of the option parameters is done.

SEE ALSO

See [vmchange](#) on page 663.

See [vmdelete](#) on page 674.

See [vmpool](#) on page 685.

See [vmquery](#) on page 688.

vmadm

vmadm – run character-based media management utility

SYNOPSIS

```
/usr/opensv/volmgr/bin/vmadm [-t]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

Use `vmadm` to manage the volumes and volume pools, the barcode rules, and the inventory robots that the Media Manager volume daemon (`vmd`) controls. You must have superuser privileges to run this utility.

This utility has a character-based user interface and can be used from any terminal. When this utility runs, the administrator is presented with a menu of operations that can be performed.

You can also start the `tpconfig` utility from `vmadm`.

OPTIONS

`-t` Terminates the Media Manager volume daemon.

ERRORS

If `vmd` is not running, most `vmadm` operations fail and the following message appears:

```
unable to validate server: cannot connect to vmd (70)
```

See `vmd` to obtain additional debugging information should problems persist.

FILES

`/usr/opensv/volmgr/help/vmadm*` (these are help files)

EMM database

SEE ALSO

See [ltid](#) on page 423.

See [tpconfig](#) on page 609.

See [vmd](#) on page 672.

vmchange

vmchange - change media information in EMM database

SYNOPSIS

```
vmchange [-h EMM_server | volume_database_host] -vg_res -rt robot_type
-rn robot_number -rh robot_control_host -v volume_group
vmchange [-h EMM_server | volume_database_host] -res -m media_id -mt
media_type -rt robot_type -rn robot_number -rh robot_control_host -v
volume_group -rcl rob_slot
vmchange [-h EMM_server | volume_database_host] -exp date -m media_id
vmchange [-h EMM_server | volume_database_host] -barcode barcode -m
media_id [-rt robot_type]
vmchange [-h EMM_server | volume_database_host] -m media_id -vltcid
vault_container_id
vmchange [-h EMM_server | volume_database_host] -barcode barcode
-vltcid vault_container_id
vmchange [-h EMM_server | volume_database_host] -d "media_description"
-m media_id
vmchange [-h EMM_server | volume_database_host] -p pool_number -m
media_id
vmchange [-h EMM_server | volume_database_host] -maxmounts max_mounts
-m media_id
vmchange [-h EMM_server | volume_database_host] -clean cleanings left
-m media_id
vmchange [-h EMM_server | volume_database_host] -n num_mounts -m
media_id
vmchange [-h EMM_server | volume_database_host] -new_mt media_type
-m media_id
vmchange [-h EMM_server | volume_database_host] -new_rt robot_type
-m media_id -rn robot_number
vmchange [-h EMM_server | volume_database_host] -new_v volume_group
[-m media_id | {-b barcode -mt media_type -rt robot_type}]
vmchange [-h EMM_server | volume_database_host] -vltname vault_name
-m media_id
vmchange [-h EMM_server | volume_database_host] -vltsent date -m
media_id
vmchange [-h EMM_server | volume_database_host] -vltreturn date -m
media_id
```

```
vmchange [-h EMM_server | volume_database_host] -vltslot vault_slot
-m media_id
```

```
vmchange [-h EMM_server | volume_database_host] -vltsession
vault_session_id -m media_id
```

```
vmchange -api_eject -map map_id:mapid:...:mapid | any -w [-h
EMM_server | volume_database_host] -res -ml media_id:media_id:
...:media_id -rt robot_type -rn robot_number -rh robot_control_host
[-v volume_group]
```

```
vmchange -multi_eject -w [-h EMM_server | volume_database_host] -res
-ml media_id:media_id: ...:media_id -rt robot_type -verbose -rn
robot_number -rh robot_control_host
```

```
vmchange -multi_inject -w [-h EMM_server | volume_database_host] -res
-rt robot_type -verbose -rn robot_number -rh robot_control_host
```

```
vmchange [-h EMM_server | volume_database_host] -res -robot_info
-verbose -rn robot_number -rt robot_type -rh robot_control_host
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<*install_path*>\Volmgr\bin\

DESCRIPTION

Change volume information in the Enterprise Media Manager database.

Any authorized user can run this command.

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

OPTIONS

```
-h EMM_server | volume_database_host
```

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default. For communicating with pre-6.0 systems not in the EMM domain, this server is the EMM server.

```
-vg_res
```

Change volume group residence.

```
-rt robot_type
```

Specifies the robot type of the robot where the volume is located.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tl4, tl8, tld, tlh, tlm

Valid robot types for NetBackup Server follow:

none, tl4, tl8, tld

`-rn robot_number`

Unique, logical identification number for the robot where the volume is located.

`-rh robot_control_host`

Name of the host that controls the robot, where the volume is located.

`-v volume_group`

A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.

`-res`

Changes the volume's residence.

`-m media_id`

Specifies the media ID of the volume to change.

`-mt media_type`

Specifies the media type of the volume to change.

Valid media types for NetBackup Enterprise Server follow:

4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean

Valid media types for NetBackup Server follow:

4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean

`-rc1 rob_slot`

Robot coordinate 1 is the robot slot number where the volume is located.

The following applies only to NetBackup Enterprise Server:

Do not enter slot information for API robot types. The robot software tracks the slot locations for these robots.

`-exp date`

Expiration date for this volume.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain

information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

`-barcode barcode`

Specifies the bar code that is attached to the volume.

`-d "media_description"`

Media description for the volume. The double quote marks are required if the description contains any spaces.

`-p pool_number`

Index of the volume pool that contains this volume. You can get the pool index using `vmpool -listall`.

`-maxmounts max_mounts`

Maximum number of mounts that are allowed for this volume. Only used for non-cleaning media.

`-n num_mounts`

For non-cleaning media, *num_mounts* is the number of times this volume has been mounted.

`-clean cleanings_left`

For cleaning media, *cleanings_left* is the number of cleanings that remain for this cleaning tape.

`-new_mt media_type`

Specifies the media type of the volume to change. See the `-mt` option for a list of media types.

`-new_rt robot_type`

Specifies the robot type. See the `-rt` option for a list of robot types.

`-new_v volume_group`

A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.

`-b barcode`

Specifies the barcode that is attached to the volume.

`-vltcid vault_container_id`

Changes the container in which a volume is stored. *vault_container_id* (a string of up to 29 alphanumeric characters) specifies the new container for the volume. Use the `-m` or `-barcode` option to specify the volume.

`-vltname vault_name`

Specifies the name of the logical vault that is configured for the robot that ejected the volume.

`-vltsent date`

Specifies the date the volume was sent off site.

The format of *date* depends on the user's locale setting. For the C locale, the date syntax is as follows:

mm/dd/yyyy [hh[:mm[:ss]]]

`-vltreturn date`

Specifies the date the volume was requested for return from the vault vendor. For catalog backup volumes, this date is the date that the volume is requested for return from the vault vendor.

The required date and time values format in NetBackup commands varies according to your locale. The `/user/opensv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

`-vltslot vault_slot`

Specifies the vault vendor's slot number for the slot that this volume occupies.

`-vltsession vault_session_id`

Specifies the ID of the vault session that ejected this media.

`-api_eject`

Eject ACS, TLH, or TLM volumes from the specified robot. For ACS and TLM robots, the ejection timeout period is one week. For TLH robots, the robot allows an unlimited period to remove media.

`-map map_id:mapid: ...:mapid | any`

For ACS robots, this option can specify multiple media access ports (MAPs) to use for eject operations. The *map_id* (also known as the CAP ID) can be `all` or `ALL`, which specifies all MAPs in the robot. Or it can be a colon-separated list of MAP IDs in the format of ACS,LSM,CAP. When the `-map` option is used, media are ejected to the MAPs that are specified by using a nearest MAP algorithm. The algorithm assumes that the LSMs are connected in a line. If your LSMs connect in a configuration other than a line, see the *NetBackup*

Administrator's Guide: Adjacent LSM Specification for ACS Robots and Media Access Port Default for ACS Robots.

For TLM robots, use map_id "ANY" to eject to the MAP that is configured for each media type on the DAS/SDLC server.

For TLH robots, select the "standard" MAP or the "BULK" MAP, depending on the library's hardware configuration.

-w

Wait flag. This flag must be used with the eject, multiple eject, and multiple inject commands.

-verbose

Selects the verbose mode.

-ml *media_id:media_id: ...:media_id*

Specifies a list of media to be ejected from the robot.

-multi_eject

Uses the robotic library's media access port to eject multiple volumes. This option is valid only for TL8 and TLD robot types. The ejection timeout period is 30 minutes.

-multi_inject

Uses the robotic library's media access port to inject multiple volumes. This option is valid only for TL8 and TLD robot types. The user must run the `vmupdate` command after this operation to update the EMM database.

-robot_info

Retrieves information about a robotic library. This option is valid only for TLD and TL8 robot types

CAUTIONS

Some robotic libraries implement different functionality for their media access ports. For example, some libraries have the front-panel inject and the eject features that conflict with NetBackup's use of the media access port. (For example, Spectra Logic Bullfrog.) Other libraries require front-panel interaction when you use the media access port (for example, Spectra Logic Gator).

The media is returned to (injected into) the robot in the following situation: you use an eject option and the media is not removed and a timeout condition occurs. If this action occurs, inventory the robot and then eject the media that was returned to the robot.

Make sure that you read the operator manual for your robotic library to gain an understanding of its media access port functionality. Libraries such as those that

are noted may not be fully compatible with NetBackup's inject and eject features if not properly handled. Other libraries may not be compatible at all. In addition, NetBackup performs limited validation of these option parameters.

EXAMPLES

EXAMPLE 1

The following command changes the expiration date of volume AJS100:

```
# vmchange -exp 12/31/99 23:59:59 -m AJS100
```

EXAMPLE 2

The following command changes the pool (which contains volume AJS999) to pool 1 (the NetBackup pool):

```
# vmchange -p 1 -m AJS999
```

EXAMPLE 3

The following command ejects volumes `abc123` and `abc124` from ACS robot number 700. The residences for these two volumes are changed to stand alone.

```
# vmchange -res -api_eject -w -ml abc123:abc124 -rt acs -rn 700 -rh  
verbena -map 0,0,0
```

EXAMPLE 4

The following command changes the container ID of volume ABC123:

```
# vmchange -vltcid Container001 -m ABC123
```

SEE ALSO

See [vmadd](#) on page 658.

See [vmdelete](#) on page 674.

See [vmpool](#) on page 685.

See [vmquery](#) on page 688.

vmcheckxxx

vmcheckxxx - report the media contents of a robotic library

SYNOPSIS

```
vmcheckxxx -rt robot_type -rn robot_number [-rh robot_host] [-h  
EMM_server | volume_database_host] [[-if inventory_filter_value] [-if  
inventory_filter_value] ...] [-full] [-list]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

Report the media contents of a robotic library and optionally compare its contents with the volume configuration.

If no options are specified, the media contents of the robot and the volume configuration are listed along with a list of any mismatches detected.

Any authorized user can run this command.

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

OPTIONS

`-rt robot_type`

Specifies the robot type of the robot to inventory.

Valid robot types for NetBackup Enterprise Server follow:

`none, acs, tl4, tl8, tld, tlh, tlm.`

Valid robot types for NetBackup server follow:

`none, tl4, tl8, tld.`

`-rn robot_number`

Unique, logical identification number of the robot to inventory.

`-rh robot_host`

Name of the host that controls the robot. If no host is specified, the host where you execute this command is assumed.

`-h EMM_server | volume_database_host`

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default. For communicating with pre-NetBackup 6.0 systems not in the EMM domain, this server is the EMM server.

`-if inventory_filter_value`

This option is only applicable for NetBackup Enterprise Server.

Specifies the inventory filter values. Multiple `-if` options may be specified. The inventory filter value is an ACS scratch pool ID, or a TLH volume category.

The `-if` and `-full` options cannot be specified together.

`-full`

Specifies the full inventory. The `-full` and `-if` options cannot be specified together.

`-list`

Lists the robot contents.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

EXAMPLE 1

The following command lists the media contents of TLD robot 1 and the volume configuration for that robot on the host named server2. It also lists any mismatches that are detected:

```
# vmcheckxxx -rt tld -rn 1 -rh server2
```

EXAMPLE 2

The following command lists the contents of TLH robot 2 that is connected to the host where the `vmcheckxxx` command was ran:

```
# vmcheckxxx -rt tlh -rn 2 -list
```

SEE ALSO

See [vmupdate](#) on page 696.

vmd

vmd - run EMM daemon

SYNOPSIS

```
/usr/opensv/volmgr/bin/vmd [-v]
```

DESCRIPTION

This command operates only on UNIX and Linux systems.

vmd provides a proxy to the EMM database for pre-NetBackup 6.0 servers that respond to requests to add, change, list, or delete volumes.

ltid does not require volumes to be defined in the EMM database before it is used.

The following paragraph applies only to NetBackup Enterprise Server:

The automatic mount of volumes in robotic devices does not take place until the following actions occur: the volumes are defined and their slot information (for non-API robots) is entered in the EMM database.

A direct interface to the EMM database is provided to facilitate EMM database administrative activities easily. Graphical, menu-driven, and command-line Media Manager utilities are provided.

vmd is also used for remote Media Manager device management and for managing the volume pool, barcode rules, and device databases.

The Internet service port number for vmd must be in `/etc/services`. If you use NIS (Network Information Service), place the entry that is in this host's `/etc/services` file in the master NIS server database for services. To override the services file, create the file `/usr/opensv/volmgr/database/ports/vmd` with a single line that contains the service port number for vmd. The default service port number is 13701.

The following paragraphs apply only to NetBackup Enterprise Server:

OPTIONS

- v Logs detailed debug information if you create the `debug/daemon` directory (see ERRORS). Specify this option only if problems occur or if requested by Symantec support.

ERRORS

vmd logs an error message using `syslogd` if there is a copy of vmd in operation.

vmd logs an error message using `syslogd` if the port that it binds to is in use. If this message appears, you may need to override the services file by using the mechanism that is described under DESCRIPTION.

To run vmd in debug mode do the following:

- Before starting vmd, create the following directory:

```
/usr/opensv/volmgr/debug/daemon
```

If vmd is running, stop, and restart it after creating the directory.

- Start vmd in verbose mode as follows or put a `VERBOSE` entry in `vm.conf`.

```
/usr/opensv/volmgr/bin/vmd -v
```

- Check the log message in `/usr/opensv/volmgr/debug/daemon`.

If problems persist, you can obtain more debug information on the requestor by creating the following directory: `/usr/opensv/volmgr/debug/reqlib`.

One log per day is created in each debug directory. These logs continue to build until the debug directory is moved or removed, unless you specify a `DAYS_TO_KEEP_LOGS` entry in `vm.conf`. Do not remove the debug directory while vmd is running. Only run vmd in debug mode when necessary.

FILES

```
/usr/opensv/volmgr/debug/daemon/*  
/usr/opensv/volmgr/debug/reqlib/*
```

EMM database

SEE ALSO

See [ltid](#) on page 423.

See [vmadd](#) on page 658.

See [vmadm](#) on page 661.

See [vmchange](#) on page 663.

See [vmdelete](#) on page 674.

See [vmquery](#) on page 688.

vmdelete

`vmdelete` - delete volumes from EMM database

SYNOPSIS

```
vmdelete [-h EMM_server | volume_database_host] [-m media_id | -v  
volume_group]
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/volmgr/bin/`

On Windows systems, the directory path to this command is
`<install_path>\Volmgr\bin\`

DESCRIPTION

Delete volumes from the Enterprise Media Manager database.

Any authorized user can run this command.

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

OPTIONS

```
-h EMM_server | volume_database_host
```

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default. For communicating with pre-NetBackup 6.0 systems not in the EMM domain, this server is the EMM server.

```
-m media_id
```

Specifies the media id of the volume to delete from the volume database.

```
-v volume_group
```

Specifies the volume group to delete. All volumes in this group are deleted from the volume database.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

The following command deletes a single volume:

```
vmdelete -m AJS144
```

The following command deletes all volumes with the volume group name of **DELETE_ME**:

```
vmdelete -v DELETE_ME
```

SEE ALSO

See [vmadd](#) on page 658.

See [vmchange](#) on page 663.

See [vmquery](#) on page 688.

vmoprcmd

vmoprcmd – perform operator functions on drives

SYNOPSIS

```

vmoprcmd -devmon [pr | ds | hs] [-h device_host] default_operation
vmoprcmd -dp [pr | ds | ad] [-h device_host]
vmoprcmd -down | -up | -upopr | -reset drive_index [-h device_host]
vmoprcmd -downbyname | -upbyname | -upoprbyname | -path drive_path
[-nh ndmp_hostname] [-h device_host]
vmoprcmd -resetbyname drive_name [-h device_host]
vmoprcmd -assign drive_index mount_request_id [-h device_host]
vmoprcmd -assignbyname drive_name mount_request_id [-h device_host]
vmoprcmd -deny | -resubmit mount_request_index [-h device_host]
vmoprcmd -comment drive_index ["comment"] [-h device_host]
vmoprcmd -commentbyname drive_name ["comment"] [-h device_host]
vmoprcmd -crawlreleasebyname drive_name [-h EMM_Server]
vmoprcmd [-activate_host | -deactivate_host] [-h device_host]
vmoprcmd -hoststatus [-h device_host]

```

On UNIX and Linux systems, the directory path to this command is /usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is <install_path>\Volmgr\bin\

DESCRIPTION

Perform operator functions on drives. The `-h` option is not required, but you must choose only one of the following other options.

Non NDMP Windows device paths appear as {p,b,t,l}: where p is the port, b is the bus, t is the target, and l is the LUN. When `vmoprcmd` is run by using the `-path` argument, specify the path in the {p,b,t,l} format.

Any authorized user can run this command.

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

OPTIONS

```

-assign drive_index mount_request_id
    Assign a drive to a mount request.

```

`-assignbyname drive_name mount_request_id`

This option is similar to the `-assign` option, except the drive name specifies the drive instead of the drive index.

The following point applies only to NetBackup server:

The device host is the host where Media Manager is installed.

`-comment drive_index ["comment"]`

Add a comment for the drive. The quotes are required if your comment contains any spaces. If you do not specify *comment*, any existing comments for the drive are deleted.

`-commentbyname drive_name ["comment"]`

This option is similar to the `-comment` option, except the drive name specified the drive instead of drive index.

`-crawlreleasebyname drive_name`

This option is only applicable for NetBackup Enterprise Server.

This option forces all hosts (that are registered to use the drive) to issue a SCSI release command to the drive. Issue this option on the host that is the SSO device allocator (DA host) or use the `-h` option to specify the DA host.

Caution: Use this option after a PEND status has been seen in Device Monitor. Do not use this option during backups.

`-down | -up | -upopr | -reset drive_index`

`-down` Sets the drive to the DOWN state, if it is not assigned.

`-up` Sets the drive to the UP position in Automatic Volume Recognition (AVR) mode. This mode is the normal mode for all drives.

`-upopr` Sets the drive to the UP position in Operator (OPR) mode. This mode is normally used only for security reasons. For a drive in a robot, OPR and AVR are treated identically while the robot daemon or process is running.

`-reset` Resets the specified drive. Also, it unloads the drive (if not assigned in the EMM database). You can use the unload capability to unload the media that is stuck in the drive.

`-downbyname | -upbyname | -upoprbyname | -resetbyname drive_name`

These options are similar to `-down`, `-up`, `-upopr`, and `-reset` respectively, except the drive name specifies the drive instead of the drive index.

`-deny | -resubmit mount_request_id`

`-deny` Denying a mount request returns an error message to the user.

`-resubmit` Resubmit a mount request. If a pending action message involves a robot, you must correct the problem and resubmit the request that caused the message.

`-dp [pr | ds | ad]`

If none of the following optional display parameters are specified, all information is displayed.

`pr` - Displays any pending requests.

`ds` - Displays the status of drives under control of Media Manager.

`ad` - Displays additional status of drives under control of Media Manager.

`-devmon [pr | ds | hs] default_operation`

The `-dp` command lists all of the drive paths that are configured for a given drive name. If none of the following optional display parameters are specified, all information is displayed.

`pr` Displays any pending requests.

`ds` Displays the status of drives under control of Media Manager.

`hs` Displays additional status of drives under control of Media Manager.

`-h EMM_Server | device host`

Name of the Enterprise Media Manager database host where the drives are attached and configured. If no host option is specified, the device host where you run the command is default.

The *device host* is the host where the device is attached and configured.

`-hoststatus`

Displays the current status of the host. The following states can appear:

DEACTIVATED - This state prevents any new jobs from starting on this host.

ACTIVE - The media server is available to run any jobs.

ACTIVE-DISK - The media server is available to run jobs for disk storage units only.

ACTIVE-TAPE - The media server is available to run jobs for tape storage units only.

OFFLINE - The media server is not available to run jobs for either tape storage units or disk storage units. This state occurs because the media server is not active for tape or disk, or because the master server cannot communicate with the media server.

`-nh ndmp_hostname`

Specifies the hostname of the NDMP server.

`-activate_host`

Makes the host available to run jobs.

`-deactivate_host`

Makes the host unavailable to run jobs.

`-path drivepath`

Specifies the system name for the drive. For example, `/dev/rmt/0cbn`.

`-setpath drivepath drive_name ndmp_hostname`

Specifies the system name and the drive name of the NDMP host.

NOTES

Only limited validation of the option parameters is done.

`tpconfig -d`, `tpconfig -l`, and `vmopr cmd` may truncate long drive names. Please use `tpconfig -dl` to obtain the full drive name.

`vmopr cmd` may truncate drive names to 20 characters.

EXAMPLES

EXAMPLE 1

The following command sets the drive, with a drive index of 0, to UP mode:

```
# vmopr cmd -up 0
```

EXAMPLE 2

The following command displays the drive status of all drives:

```
# vmopr cmd -d ds
```

EXAMPLE 3

The following command displays pending requests and the drive status of all drives on the device host named `crab`:

```
# vmopr cmd -h crab
```

EXAMPLE 4

The following command demonstrates how non-NDMP Windows device paths appear.

```
# vmopr cmd
```

```

Host Name                               Version   Host Status
=====
hamex                                   600000   ACTIVE

```

PENDING REQUESTS

<NONE>

DRIVE STATUS

```

Drive Name      Label   Ready  RecMID  ExtMID  Wr.Enbl.  Type
Host            DrivePath
=====
IBM.ULTRIUM-TD2.001  No     No           J945L2    No     hcart2
  hamex          {3,1,0,2}          TLD
  hamex          {3,1,1,2}          TLD

IBM.ULTRIUM-TD1.004  No     No           J945L2    No     hcart
  hamex          {3,1,0,7}          TLD
  hamex          {3,1,1,7}          TLD

IBM.ULTRIUM-TD2.005  Yes    Yes           J945L2    Yes    hcart2
  hamex          {3,1,2,1}          TLD

IBM.ULTRIUM-TD2.006  No     No           J945L2    No     hcart2
  hamex          {3,1,2,2}          TLD

```

```
# vmopr cmd -downbyname IBM.ULTRIUM-TD1.004 -path {3,1,0,7}
```

vmphyinv

vmphyinv - inventory media contents of a robotic library or stand-alone drive and update the volume database

SYNOPSIS

```
vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host] [-pn pool_name] [-v volume_group] [-rc1 robot_coord1-number number] [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority number] [-verbose]
```

```
vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host] [-ml media_id:media_id:...:media_id] [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority number] [-verbose]
```

```
vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host] [ { { [-slot_range from to] [-slot_list s1:s2:...:sN] } -d density } { { [-slot_range from to] [-slot_list s1:s2:...:sN] } -d density } ] [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority number] [-verbose]
```

```
vmphyinv {-u drive_number | -n drive_name} [-h device_host] [-non_interactive] [-mount_timeout timeout] [-verbose]
```

On UNIX and Linux systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is <install_path>\Volmgr\bin\

DESCRIPTION

Physically inventory the media contents of a robotic library or stand-alone drive and update the EMM database. Based on information in the tape header, **vmphyinv** mounts each media that the search criterion specifies, reads the tape header, and updates the EMM database.

For more information about this command, refer to the *NetBackup Administrator's Guide, Volume I*.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the *NetBackup Encryption Guide*.

OPTIONS

- `-rn robot_number`
Specifies the Media Manager robot number whose media is inventoried. `robot_number` should correspond to a robot with already configured drives. `vmphinv` inventories each of the media, having `robot_number` in the volume database of `robot_number`.
- `-rh robot_host`
Specified the name of the host that controls the robot. If no host is specified, the host where this command is executed is assumed.
- `-h device_host`
Specifies the device host name. This option is used to obtain the Enterprise Media Manager Server name. If not specified, the current host is used to obtain the EMM server name.
- `-pn pool_name`
Specifies the case-sensitive pool name of the volumes, which corresponds to the robot that the `-rn` option specifies, which need to be inventoried. Valid only when the `-rn` option is specified.
- `-priority number`
Specifies a new priority for the inventory job that overrides the default job priority.
- `-v volume_group`
Specifies the volume group of the volumes, that correspond to the robot that the `-rn` option specifies, which need to be inventoried. Valid only when the `-rn` option is specified.
- `-rc1 robot_coord1`
Specifies the starting slot of the media that needs to be inventoried. Valid only when the `-rn` option is specified.
- `-number number`
Specifies the number of slots that start from `robot_coord1` that need to be inventoried. Valid only when `-rn` and `-rc1` are also specified.
- `-ml media_id1:media_id2: ... :media_idN`
Specifies a list of media, which need to be inventoried. Valid only when `-rn` option is specified. If the media ID that is specified does not belong to the specified robot, the media is skipped.
- `-slot_range from to`
Specifies a range of slots that need to be inventoried. If one or more slots are empty, those slots are skipped.

- `-slot_list s1:s2:...sN`
Specifies a list of slots that need to be inventoried. If one or more slots are empty, those slots are skipped.
- `-d density`
Specifies the density of the media. The user must specify the media density and inventory the media by slot range or slot list.
- `-u drive_number`
Specifies the drive index that needs to be inventoried. The drive must contain media and be ready. The number for the drive can be obtained from the Media and Device Management of the Administration Console.
- `-n drive_name`
Specifies the drive name that needs to be inventoried. The drive must contain media and be ready. The name for the drive can be obtained from the Media and Device Management of the Administration Console.
- `-non_interactive`
vmphyinv, in the default mode, displays a list of recommendations and asks for confirmation before it modifies the volume database and Enterprise Media Manager Database (if required). If this option is specified, the changes are applied without any confirmation.
- `-mount_timeout timeout`
Specifies the mount timeout in seconds. If the media cannot be mounted within the specified time, the mount request is canceled. The default value is 15 minutes.
- `-drv_cnt count`
Specifies the maximum number of drives that can be used simultaneously by vmphyinv. The total number of configured drives and this value determine the actual number of drives vmphyinv uses. The number of drives that vmphyinv uses is the minimum of the specified drive count and the total number of configured drives. The default is to use all the drives.
- `-verbose`
Selects the verbose mode. When you specify this option, more information appears. For example, this information consists of the following: The number of available drives, what is found on each tape, and catalog identification if the media is a catalog.

EXAMPLES

EXAMPLE 1

The following command updates the EMM database of robot 1 connected to host shark:

```
# vmphyinv -rn 1 -rh shark
```

EXAMPLE 2

The following command updates the EMM database of robot 7 connected to host whale. Only the media that belongs to the pool name "some_pool" is inventoried:

```
# vmphyinv -rn 7 -rh whale -pn some_pool
```

EXAMPLE 3

The following command updates the EMM database of robot 3 connected to host dolphin. Only the media A00001, A00002, A00003 is inventoried.

```
# vmphyinv -rn 3 -rh dolphin -ml A00001:A00002:A00003
```

EXAMPLE 4

The following command updates the EMM database of robot 2 of type TLD that is connected to host phantom. It only inventories the media in slots 3 to 8.

```
# vmphyinv -rn 2 -rh phantom -slot_range 3 8 -d dlt
```

EXAMPLE 5

The following command updates the EMM database of stand-alone drive (drive index 3) attached to host tigerfish:

```
# vmphyinv -u 0 -h tigerfish
```

SEE ALSO

See [vmupdate](#) on page 696.

See [vmcheckxxx](#) on page 670.

See [vmoprcmd](#) on page 676.

vmpool

vmpool - manage volume pools

SYNOPSIS

```
vmpool [-h EMM_server | volume_database_host] -list_all [-b|-bx] |  
-list_scratch | -list_catalog_backup | -create -pn pool_name  
-description description [-mpf mpf_max] | -update -pn pool_name  
[-description description] [-reason "string"] [-mpf mpf_max] | -delete  
pool_name | -set_scratch pool_name | -unset_scratch pool_name |  
-set_catalog_backup pool_name | -unset_catalog_backup pool_name  
On UNIX and Linux systems, the directory path to this command is  
/usr/opensv/volmgr/bin/  
On Windows systems, the directory path to this command is  
<install_path>\Volmgr\bin\
```

DESCRIPTION

Use this command to add, change, delete, or list volume pools.

The `-h` option is not required, but you must choose one and only one of the other seven options (for example, `-list_scratch`).

Any authorized user can run this command.

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

OPTIONS

`-h` *EMM_server* | *volume_database_host*

This option applies only to the NetBackup Enterprise Server.

Specifies the name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default. For communicating with pre-6.0 systems not in the EMM domain, this server is the volume database host.

`-list_all` [-b | -bx]

Lists the information about all volume pools. Use the `-b` or `-bx` option to specify a brief format for volume pool information.

`-list_scratch`

Lists all configured scratch pools and the pool index number.

`-list_catalog_backup`

Lists the volume pool to be used for catalog backup.

`-create -pn pool_name -description description -mpf mpf_max`

Adds a new volume pool. Optionally limits the number of partially full media to be used in this pool by using `-mpf`. The default value is zero (0), which indicates that the number of partially full media is unlimited.

The `-description` option describes the volume pool. Double quote marks are required if the description contains any spaces.

`-update -pn pool_name [-description description] [-mpf mpf_max]`

Changes an existing volume pool. Optionally limits the number of partially full media to be used in this pool by using `-mpf`. The default value is zero (0), which indicates that the number of partially full media is unlimited.

The `-description` option describes the volume pool. Double quote marks are required if the description contains any spaces.

`-delete pool_name`

Deletes a volume pool.

`-reason "string"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-set_scratch pool_name`

If *pool_name* is a previously defined volume pool, *pool_name* becomes the scratch pool, and its description is not changed. The NetBackup, Datastore, Catalog Backup, and None volume pools cannot be changed to scratch pools.

If *pool_name* is a new volume pool, a new pool is created with "Scratch Pool" as the description.

Only one scratch pool at a time can be defined.

`-unset_scratch pool_name`

Undefines *pool_name* as the scratch pool and defines it as a regular volume pool. The pool can be deleted by using `vmpool -delete pool_name`.

`-set_catalog_backup_pool pool_name`

Specifies the volume pool to back up the NetBackup catalog. You can also create a dedicated catalog backup pool to be used for catalog policies. A dedicated catalog volume pool reduces the number of needed tapes during

catalog restores since catalog backup media are not mixed with other backup media.

```
-unset_catalog_backup_pool pool_name
```

Defines a volume pool that you do not want to use to back up the NetBackup catalog.

NOTES

Only limited validation of the option parameters is done.

A pool cannot be both a scratch pool and Catalog Backup pool.

The `-add` and `-change` options have been deprecated. They can still be used, but do not set the `mpf` value.

EXAMPLES

EXAMPLE 1

The following command adds a new pool named MyPool on the host that is named llama. It has the default host, user ID, and group ID permissions:

```
vmpool -create -pn MyPool -description "description with spaces"  
-mpf 17
```

EXAMPLE 2

The following command lists all pools that are configured on the host where the command is executed:

```
vmpool -list_all -b
```

vmquery

vmquery – query EMM database, or assign and unassign volumes

SYNOPSIS

```
vmquery [-h EMM_server | volume_database_host, ... -h EMM_server |  
-h volume_database_host, ... -h volume_database_host] [-vltcid  
vault_container_id] [-b | -w | -W | l] -a | -m media_id | -v  
volume_group | -rn robot_number | -rt robot_type | -mt media_type |  
-p pool_number | -pn pool_name | -res robot_type robot_number  
robot_control_host robot_coord1 robot_coord2 | -assignbyid media_id  
media_type pool_number stat asg_time | -deassignbyid media_id  
pool_number stat
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

Query the EMM database for volume information. The `-h`, `-b`, `-W`, and `-w` options are not required, but you must choose one and only one of the other (twelve) options.

The `-b` or `-w` option can be used with any of the other 11 options, but the `-b` or `-w` options cannot be specified together.

Any authorized user can run this command.

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

OPTIONS

`-h EMM_Server | volume_database_host`

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default. For communicating with pre-NetBackup 6.0 systems not in the EMM domain, this server is the volume database host.

- b**
Specifies the brief output format for volume information. This option can be used with any of the other 11 options.
- w**
Specifies the wide output format for volume information. This option includes any additional information that the **-b** option does not show and can be used with any of the other 11 options.
- a**
Shows all volumes.
- m** *media_id*
Queries the volumes by media ID. The media ID is a maximum of 6 ASCII characters.
- v** *volume_group*
Queries the volumes by volume group. A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.
- rn** *robot_number*
Queries the volumes by robot number. A robot number is a unique, logical identification number for the robot where the volume is located.
- rt** *robot_type*
Queries the volumes by the type of robot where the volume is located.
Valid robot types for NetBackup Enterprise Server follow:
none, acs, tl4, tl8, tld, tlh, tlm.
Valid robot types for NetBackup Server follow:
none, tl4, tl8, tld.
- mt** *media_type*
Queries the volumes by media type.
Valid media types for NetBackup Enterprise Server follow:
4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean.
Valid media types for NetBackup Server follow:
4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean.

-p pool_number

Queries the volumes by pool number. Pool number is an index into the volume pool. You can use `vmppool -listall` to determine the index for a given pool name.

-pn pool_name

Queries the volumes by pool name.

-res robot_type robot_number robot_host rob_slot

Queries the volumes by residence.

robot_host

Specifies the host that controls the robot where the volume is located.

rob_slot

Specifies the slot number in the robot (robot coordinate 1) where the volume resides.

-assignbyid media_id media_type pool_number stat asg_time

Assigns the volume by media ID, pool, and status. This option can only assign non-NetBackup media. Non-NetBackup media include the media that the following use: Veritas Storage Migrator, Veritas Data Lifecycle Manager, or by users that work outside of the NetBackup policy framework (for example, those using `tpreq` directly).

The `-assignbyid` option cannot be used with media of status (*stat*) 0 (regular NetBackup tapes) or 1 (NetBackup catalog tapes).

stat

Status applies only to volumes that are assigned to NetBackup or Storage Migrator. Possible *stat* values are:

0 - the volume is assigned to NetBackup regular backups.

1 - Volume is assigned to NetBackup catalog backups.

2 - Volume is assigned to Storage Migrator.

3 - Volume is assigned to Storage Migrator for Microsoft Exchange or Storage Migrator for Windows 2000.

asg_time

This option applies only to volumes that are assigned to NetBackup or Storage Migrator.

Specifies the time when the volume was assigned. It is the number of seconds since 00:00:00 UTC, January 1, 1970. *asg_time* was originally created by using the `time()` call.

`-deassignbyid media_id pool_number stat`

Unassigns the volume by media ID, pool, and status. This option can only deassign non-NetBackup media. Non-NetBackup media includes the media that the following use: Veritas Storage Migrator, Veritas Data Lifecycle Manager, or the users that work outside of the NetBackup policy framework (for example, those using `tpreq` directly). To deassign NetBackup tapes, use the `bpexpdate` command.

The `-deassignbyid` option cannot be used with media of status (`stat`) 0 (regular NetBackup tapes) or 1 (NetBackup catalog tapes).

`-vltcid vault_container_id`

Lists the volumes that are stored in the container. The `vault_container_id` variable can be a string of up to 29 alphanumeric characters.

`-w`

Specifies the parsable output format for volume information.

The output data lines are space separated fields except in the following conditions:

- The MediaID field is padded to six characters by adding spaces to the end of the string.
- The MediaType field is padded to eight characters by adding spaces to the end of the string.
- The MediaDescription field may contain spaces within the field.
- For Vault containers, the output includes the length of the container description (DescriptionLength), the container description, and the container ID. The output header line is a space-separated line of column labels.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

EXAMPLE 1

The following command lists all volume information, in brief format from the Enterprise Media Manager database on the host that is named llama:

```
# vmquery -h llama -b -a
```

EXAMPLE 2

The following command assigns volume A23456, which is in pool 1 (NetBackup). It sets the status to 0 and the assign time to 12/31/98 15:50:22:

```
# vmquery -assignbyid A23456 8mm 1 0 915141022
```

EXAMPLE 3

The following command unassigns volume A23456, which is in pool 2 (Storage Migrator), with a status of 0:

```
# vmquery -deassignbyid A23456 0
```

SEE ALSO

See [vmadd](#) on page 658.

See [vmchange](#) on page 663.

See [vmdelete](#) on page 674.

See [vmpool](#) on page 685.

vmrule

vmrule - manage barcode rules

SYNOPSIS

```
vmrule [-h EMM_server | volume_database_host] -listall [-b] | -add  
barcode_tag media_type pool_name max_mounts "description" | -change  
barcode_tag media_type pool_name max_mounts "description" | -delete  
barcode_tag
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<*install_path*>\Volmgr\bin\

DESCRIPTION

Use `vmrule` to add, change, delete, or list barcode rules. The `-h` option is not required, but you must choose one and only one of the other four options.

Any authorized user can run this command.

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

OPTIONS

`-h EMM_server | volume_database_host`

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default. This server is the EMM server for communicating with pre-NetBackup 6.0 systems not in the EMM domain.

`-listall [-b]`

Lists information about all barcode rules. You can use the `-b` option to specify a brief format for the barcode rule information that is displayed.

`-add barcode_tag media_type pool_name max_mounts "description"`

Adds a new barcode rule.

`-change barcode_tag media_type pool_name max_mounts "description"`

Changes a barcode rule.

-delete barcode_tag

Deletes a barcode rule.

barcode_tag

Specifies the barcode prefix that activates the barcode rule.

media_type

Specifies the media type of the volume, a barcode rule attribute. This option affects whether the rule is used. It also affects the media type for the volumes that are added by using a robot inventory update.

Valid media types for NetBackup Enterprise Server follow:

4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean.

Valid media types for NetBackup Server follow:

4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean.

pool_name

Specifies the pool to which the volumes are added.

max_mounts

Maximum number of mounts that are allowed for this volume (when the volume is added). This option is used only for non-cleaning media. When this limit is exceeded, the volume can only be mounted for read operations.

Note: Numbers larger than 99999 are stored in the database, but `vmtree` displays the *max_mounts* as 0 if the value is larger than 99999. A value of zero means that the number of mounts is unlimited.

"description"

Description of the barcode rule. The double quote marks are required if the description contains any spaces.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

The following command creates a rule that defines any tape with a barcode that starts with ABC is a DLT tape in the NetBackup pool. The tape can be mounted up to 100 times for writes and is given a description.

```
vmrule -add ABC dlt NetBackup 100 "DLT cleaning tape"
```

SEE ALSO

See [vmupdate](#) on page 696.

vmupdate

vmupdate - inventory media contents of a robotic library and update the EMM database

SYNOPSIS

```
vmupdate -rt robot_type -rn robot_number [-rh robot_host] [-h  
EMM_Server | volume_database_host] [[-if inventory_filter_value] [-if  
inventory_filter_value] ...] [-full] [-recommand] [-interactive]  
[-involgrp volume_group] [-outvolgrp volume_group] [-mt media_type]  
[-p pool_name] [-use_barcode_rules] [-use_seed] [-mp media_id_prefix]  
[-empty_map]
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/volmgr/bin/

On Windows systems, the directory path to this command is
<install_path>\Volmgr\bin\

DESCRIPTION

Inventory the media contents of a robotic library and update the Enterprise Media Manager database. If no options are specified, the volume configuration is updated to match the robot contents.

Any authorized user can run this command.

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

OPTIONS

-rt *robot_type*

Specifies the robot type of the robot to inventory.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tl4, tl8, tld, tlh, tlm.

Valid robot types for NetBackup server follow:

none, tl4, tl8, tld.

-rn *robot_number*

Unique, logical identification number for the robot to inventory.

`-rh robot_host`

Name of the host that controls the robot. If no host is specified, the host where you execute this command is assumed.

`-h EMM_server | volume_database_host`

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default. For communicating with pre-NetBackup 6.0 systems not in the EMM domain, this server is the EMM server. If no host is specified, but `-rh` specifies a pre-NetBackup 6.0 robotic control host, the robotic control host is used as the EMM server.

`-if inventory_filter_value`

This option is only applicable for NetBackup Enterprise Server.

Specifies the inventory filter values. Multiple `-if` options may be specified. The inventory filter value is an ACS scratch pool ID, or a TLH volume category.

The `-if` and `-full` options cannot be specified together.

`-full`

Specifies full the inventory. The `-full` and `-if` options cannot be specified together.

`-recommend`

Lists the changes that are required to update the volume configuration.

`-interactive`

Prompts you before it updates the volume configuration.

`-involgrp volume_group`

Specifies the volume group for the media that is moved into the robot.

`-outvolgrp volume_group`

Specifies the volume group for the media that is moved out of the robot.

`-mt media_type`

Specifies the media type of the volume.

Valid media types for NetBackup Enterprise Server follow:

4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean.

Valid media types for NetBackup server follow:

4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean.

`-p pool_name`

Specifies the name of the volume pool to which new media are assigned.

`-use_barcode_rules`

Specifies that barcode rules are used for assigning attributes to new media.

`-use_seed`

Specifies the automatic generation of media IDs for media with no bar codes.

`-mp media_id_prefix`

Specifies the prefix that is used as a seed to generate new media IDs for media with no bar codes. This prefix should be between 1 and 5 characters in length and contain only valid media ID characters (alpha-num, "+", "_", ".", and "-" if it is not the first character).

`-empty_map`

Specifies that volumes in the media access port (map) are moved into the robot before the robot inventory is started. This option is only valid for TLD, TLD, or TLM robot types.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

The following updates the volume configuration on the EMM server named *mymaster* to match the contents of TLD robot 7 connected to the host *macris*:

```
# vmupdate -rt tld -rn 7 -rh macris -h mymaster
```

SEE ALSO

See [vmcheckxxx](#) on page 670.

vxlogcfg

vxlogcfg – modify unified logging configuration settings

SYNOPSIS

```
vxlogcfg -a -p ProductID -c ConfigPath -n Names [-q]  
vxlogcfg -a -p ProductID -o OriginatorID -s keyname=value [-q]  
vxlogcfg -a -p ProductID -g LogSet -s keyname=value [-q]  
vxlogcfg -d -p ProductID  
vxlogcfg -l [-p ProductID [-o OriginatorID]] [-q]  
vxlogcfg -l [-p ProductID [-g LogSet]] [-q]  
vxlogcfg -r -p ProductID [-o OriginatorID] [-s keyname] [-q]  
vxlogcfg -r -p ProductID [-g LogSet] [-s keyname] [-q]  
vxlogcfg -v
```

On UNIX and Linux systems, the directory path to this command is
/usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is
<install_path>\NetBackup\bin\

DESCRIPTION

Use the `vxlogcfg` command to change the logging settings for NetBackup unified logging. It registers and unregisters the product log configurations during installation and uninstallation.

Unified logging uses a standardized naming format for log files, as follows:

```
productID-originatorID-hostID-date-rotation.log
```

For more information about the unified logging naming format, and the logging originator IDs, refer to the *NetBackup Troubleshooting Guide for UNIX, Windows, and Linux*.

OPTIONS

Specify the product log configuration to register or unregister. Use fully-qualified path names for all directory paths. If a directory name contains spaces, use quotes around the path name for that directory (for example, "Program Files").

`-a, --add`

Registers or creates the product log configuration settings. Any existing log settings are overwritten. Do not use this option to add a product to the list

of those that use unified logging. Instead, use it only to modify existing unified logging settings. See examples.

`-c, --config ConfigPath`

Provides the absolute path from which the product log configuration settings should be read.

On UNIX and Linux systems, use the absolute path to the product log configuration file (for example, `/opt/vrts/ProductA/log.conf.`)

On Windows systems, use the path to the product log registry settings (for example, `\\SOFTWARE\VERITAS\PRODUCTA\`)

`-d, --delete`

Unregisters and removes the product log configuration settings from the main logging configuration file, if there are no originator IDs configured for the product. The corresponding product log configuration file is also deleted.

`-g, --logset LogSet`

Creates or modifies log configuration settings for the specified LogSet. LogSet is supplied as the text string "Default" or the text string "ALL." If the LogSet is "Default," then the `-s` configuration settings are the default settings. If the LogSet is "ALL," then the `-s` configuration settings are given to all the originators of a given product ID.

`-l, --list`

Lists one of the following:

- All of the configured products.
- All of the originator IDs and logset for a product.
- All of the configuration settings defined for a product ID and originator ID pair, or a product ID and LogSet pair.

`-n, --names Name`

Specifies abbreviated or short names for the product. Separate multiple names with a comma.

`-o, --orgid OrgID`

Creates or modifies log configuration settings for the specified originator ID. The Originator ID can be supplied as a valid originator ID (a number); or, it can be the text string "Default," or the text string "ALL." If the Originator ID is "Default," then the `-s` configuration settings are the default settings. If the Originator ID is "ALL," then the `-s` configuration settings are given to all the originators of a given product ID.

`-p, --prodid ProductID`

Creates or modifies the log configuration settings for a *productID*.

-q, --quiet

Prevents the display of error or informational messages (Quiet Mode).

-r, --remove

Unregisters and removes the log configuration settings for the specified OID and product from the product logging configuration file. Individual settings can be removed with the "-s, --setting *keyname=value*" option.

Caution: Always use the -r option with the -o option. Otherwise, all of the existing NetBackup log settings are removed and no further logging is performed for all of NetBackup.

-s, --setting *keyname=value*

Sets individual configuration settings when used with -a (add option). *keyname* is the configuration setting's name and *value* is the value for that setting. You can use multiple -s *keyname=value* arguments on the command line.

-s, --setting *keyname*

Removes a configuration setting when it is used with the -r option. Use only one *keyname* with the -r option. To remove multiple settings, provide multiple -s options. See the KEYNAMES AND VALUES section for particular keynames.

-v, --version

Displays the version information for this command.

KEYNAMES AND VALUES

Following are the keynames and values that can be specified on the -s option. For NetBackup, the vxlogcfg command places these keynames and values in the /usr/opensv/netbackup/nblog.conf file on UNIX and in install_path\NetBackup\nblog.conf on Windows. For PBX, these are placed in /etc/vx/VxICS/icsul.conf on UNIX and in the registry entry SOFTWARE\VERITAS\VxICS\logcfg on Windows.

Keynames and the values for UNIX and Windows

LogDirectory

Provides an absolute path or relative path to a directory. No default value. If you specify a relative path for an originator ID, the path is relative to the product ID log directory, specified by Default.LogDirectory in the log configuration file.

Caution: When you use the `LogDirectory` keyname to redirect unified logs to an alternate directory, stop and restart the NetBackup services. This action makes redirection take effect.

`DebugLevel`

Sets the verbosity level for the debug log messages. (Debug logs are intended for Symantec engineers.) Valid values are 0 through 6.

`DiagnosticLevel`

Sets the verbosity level for the diagnostic log messages. (Diagnostic logs are intended for NetBackup administrators and users.) Valid values are 0 through 6. Zero (0) means no debug messages.

`DynaReloadInSec`

Dynamically reloads debug and diagnostic settings. Integers 0-60 reload after 60 seconds. Integers greater than 60 reload at the specified number of seconds.

`LogToStdout`

Sends all log messages to standard output (by default the terminal) and to the log file. Valid values are true and false (default value).

`LogToStderr`

Sends the application log messages to `stderr` (by default the terminal) and to the log file. Valid values are true and false (default value).

`LogToOslog`

Sends the application log messages to the operating system log (`syslog` on UNIX and the event log on Windows). Valid values are true and false (default value).

`RolloverMode`

Specifies when log files are rolled over. If you roll over a log file, it closes the current log file and opens a new one. The purpose is to keep log file size low and allow older log files to be deleted or archived. Valid values are `FileSize`, `LocalTime`, `Periodic`, `FileSize | LocalTime`, `FileSize | Periodic` and `None`.

`FileSize` indicates that the rollover occurs when the log reaches the size that the `MaxLogFileSizeKB` sets. `FileSize` is the default value.

`LocalTime` indicates the log file should be rolled over one time per day at a specified time by `RolloverAtLocalTime`.

`Periodic` indicates the log file should be rolled over after the number of specified seconds by `RolloverPeriodInSeconds`.

`FileSize|LocalTime` indicates that the log files are logged over when `FileSize` or `LocalTime` is reached, whichever occurs first.

`FileSize|Periodic` indicates that the log files are logged over when `FileSize` or `Periodic` is reached, whichever occurs first.

`None` indicates that log files are not rolled over.

`MaxLogFileSizeKB`

Specifies the maximum size that is allowed for the log file (in kilobytes) before rollover occurs, if the `RolloverMode` is set to `FileSize`. Valid values are 1 through 4294967295. The default value is 10240 (10 MB).

`RolloverPeriodInSeconds`

Specifies a period of time in seconds after which the log file is rolled over, if the `RolloverMode` is set to `Periodic`. Valid values are 1 through 2147483648. The default value is 43200 (12 hours).

`RolloverAtLocalTime`

Specifies the time of day at which the log file is rolled over, if the `RolloverMode` is set to `LocalTime`. Valid values are 00:00 through 23:59. The default value is 00:00 (Midnight local time).

`NumberOfLogFiles`

Specifies the maximum number of files to retain in the log directory for each unified logging originator. Valid values are 1 through 4294967295.

The `vxlogmgr --auto` command uses `NumberOfLogFiles` to determine how many log files to delete or move that starts with the oldest files. For example, a log directory contains seven files that a particular originator created. `NumberOfLogFiles` is set to 5. The `vxlogmgr --auto --del` command deletes the two oldest files that the originator created.

`LogRecycle`

Valid values are `true`, `false`. The default value is `false`. If `true`, the number of log files does not exceed the `NumberOfLogFiles`.

`OIDNames`

Specifies one or more alternate names for the unified logging originator that the `-o` option specifies. These names can be used in place of Originator IDs when you perform searches by using the `vxlogview` command. Each name can be up to 80 characters in length. Multiple names can be specified, separated by a space.

`L10nLib`

Specifies the absolute path and file name of the external localization library. This option is for Symantec internal use only. Use of this option can disable unified logging.

`L1OnResource`

Specifies the name of a localization resource that is associated with a unified logging product or originator. This option is for Veritas internal use only. Use of this option can disable unified logging.

`L1OnResourceDir`

This setting specifies the name of a localization resource directory that is associated with a unified logging product or originator. This option is for Veritas internal use only. Use of this option can disable unified logging.

The following four keynames operate only on UNIX and Linux systems.

`LogFilePermissions`

An octal number that specifies the UNIX file permissions that are assigned to log the files that the originator created, which the `-o` option specified. In most cases, this option is not needed.

`SyslogIdent`

Specifies a string that is attached to the beginning of every syslog message when `LogToOslog` is set to true. `SyslogIdent` can be any string up to 80 characters long. In most cases, this option is not needed.

`SyslogOpt`

Specifies the syslog option value that is passed to the syslog `openlog` function. Log messages are directed to the UNIX syslog when `LogToSyslog` is enabled. Valid values are 0 through 4294967295. In most cases, this option is not needed.

`SyslogFacility`

Specifies the syslog facility value that is associated with log messages directed to the syslog. Log messages are directed to the syslog when `LogToSyslog` is enabled. In most cases, this option is not needed.

Valid values are: `LOG_KERN`, `LOG_USER`, `LOG_MAIL`, `LOG_DAEMON`, `LOG_AUTH`, `LOG_LPR`, `LOG_NEWS`, `LOG_UUCP`, `LOG_CRON`, `LOG_LOCAL0`, `LOG_LOCAL1`, `LOG_LOCAL2`, `LOG_LOCAL3`, `LOG_LOCAL4`, `LOG_LOCAL5`, `LOG_LOCAL6`, `LOG_LOCAL7`. The default is `LOG_USER`.

The following three keynames operate only on Windows systems.

`NtEventLogCategory`

Specifies the category number that are associated with log messages that are directed to the Windows Event Log if `LogToOslog` is enabled. In most cases, there should be no need to use this option.

`LogFileSDDL`

Specifies the Windows Security Descriptor Definition Language (SDDL) string. This string sets the Access Control List (ACL) for the log files that the

originator created, which the `-o` option specified. In most cases, there should be no need to use this option.

`NtEventLogSourceName`

Specifies the Windows Event log that log messages are directed to if the `LogToOslog` option is enabled on Windows. This option is for internal use only. Use of this option can disable unified logging.

EXAMPLES

EXAMPLE 1

The following sets the `LogDirectory` for NetBackup and originator ID 111 on UNIX:

```
# vxlogcfg -a --prodid 51216 -orgid 111 -s  
LogDirectory=/usr/opensv/logs
```

EXAMPLE 2

The following sets the `DebugLevel` and `DiagnosticLevel` for all unified logging originators in NetBackup:

```
# vxlogcfg -a --prodid 51216 -orgid ALL -s DebugLevel=3 -s  
DiagnosticLevel=3
```

EXAMPLE 3

The following sets the default `RolloverMode` for product ID 1:

```
# vxlogcfg -a --prodid 1 -orgid Default -s RolloverMode=FileSize
```

EXAMPLE 4

The following displays configuration settings for originator 2 for product ID 1.

```
# vxlogcfg -l --prodid 1 --orgid 2
```

EXAMPLE 5

The following lists all the originators that are configured for product ID 1.

```
# vxlogcfg -l --prodid 1
```

EXAMPLE 6

The following lists all configured products.

```
# vxlogcfg -l
```

FILES

UNIX and Linux systems:

```
/usr/opensv/netbackup/nblog.conf  
/etc/vx/VxICS/icsul.conf
```

SEE ALSO

See [vxlogmgr](#) on page 707.

See [vxlogview](#) on page 712.

vxlogmgr

vxlogmgr - manages the log files generated by the products that support Unified Logging

SYNOPSIS

```
vxlogmgr { -c | -m } -f AbsoluteDir [-a]
vxlogmgr { -d | -F } [-a]
vxlogmgr {-c | -m | -A filename} -f AbsoluteDir [-p ProductID] [-o OriginatorID] [-n Days] [-t Time] [-b StartDate] [-g LogSet] [-e EndDate] [-q] [-z]
vxlogmgr {-c | -m | -A filename} -f AbsoluteDir -w QueryString [-q] [-z]
vxlogmgr {-d | -F | -s} [-p ProductID] [-o OriginatorID] [-n Days] [-t Time] [-b StartDate] [-g LogSet] [-e EndDate] [-q] [-z]
vxlogmgr {-d | -F | -s} -w QueryString [-q] [-z]
vxlogmgr -v
```

On UNIX and Linux systems, the directory path to this command is /usr/opensv/netbackup/bin/

On Windows systems, the directory path to this command is <install_path>\NetBackup\bin\

DESCRIPTION

The **vxlogmgr** utility manages the log files generated by unified logging-enabled applications. Log file management includes actions such as deleting or moving the log files that are based on log management configuration settings.

Unified logging uses a standardized naming format for log files, as follows:

```
productID-originatorID-hostID-date-rotation.log
```

For more information about the unified logging naming format, and the logging originator IDs, refer to the *NetBackup Troubleshooting Guide*.

OPTIONS

Specify the log management action to perform.

-A, --arch FileName

Creates an archive named FileName for the specified set of conditions. The compressed zip file requires WinZip and wzip on Windows to produce a zip file. On UNIX, a tar utility and GnuZip are required to produce a tar.gz file.

-a, --auto

Retrieves the log files that are based on individual configuration settings for NumberOfLogFiles. The actions are taken based on the given action type (such as move, copy, or delete). When the -a option is specified, the other options cannot be used.

-b, --startdate 'StartDate'

Manages the log files created at the specified start date.

The required date value format in NetBackup commands varies according to your locale. The /user/openv/msg/.conf file (UNIX and Linux) and the install_path\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

It is surrounded by single quotes in UNIX and double quotes in Windows. For example:

UNIX and Linux: --startdate '1/1/2010 12:00:00 AM'

Windows: --startdate "1/1/2010 12:00:00 AM"

-c, --cp

Copies log files from the folder that is configured by the product to the specified folder.

-d, --del

Deletes the log files from the folder that the product configures.

-e, --enddate 'EndDate'

Manages the log files created up to the specified *EndDate*.

The required date and time values format in NetBackup commands varies according to your locale. The /user/openv/msg/.conf file (UNIX and Linux) and the install_path\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

This option must be surrounded by single quotes in UNIX or Linux and double quotes in Windows.

UNIX and Linux: `--enddate '1/1/2010 12:00:00 PM'`

Windows: `--startdate "1/1/2010 12:00:00 AM"`

`-f, --dir AbsoluteDir`

Specifies the absolute name of the directory into which the log files are to be copied. On UNIX or Linux systems, this directory must be on the same device as the `opt/openv/netbackup/logs` directory. This option is valid only with the `-c` option.

`-F, --flush`

Deletes all log files for the host that originates this command except the most current log file. If the host that runs this command uses a shared directory, all log files for all hosts that use the same directory are removed. Only the most current file is preserved for the host that originated the flush command.

`-m, --mv`

Moves log files from the folder that the product that is configured to the specified folder.

`-n --days NumberOfDays`

Manages the log files created in last *NumberOfDays* days for the specified action.

`-o, --origid OriginatorID`

Manages the log files identified by a given originator ID (*OriginatorID*).

`-p, --prodid ProductID`

Manages the log files identified by a given product ID (*ProductID*) for the specified action. Instead of an identifier, the user can provide the product name.

`-q, --quiet`

Prevents messages from being displayed (quiet mode).

`-s, --vw`

Views the log files for a given query.

`-t, --tail hh:mm:ss`

Manages the log files for the last *hh:mm:ss* hours.

`-v, --version`

Displays the version information for this command.

`-w, --where QueryString`

Retrieves a subset of logs that is based on a query string or condition (*QueryString*).

`-z, --displaytimezone`

Displays the time zone information along with the log file display.

EXIT STATUS

The following exit values are returned:

0 Successful completion.

-1 An error occurred.

QUERY STRINGS

A query string is a text expression, similar to a database WHERE clause, that is used to retrieve log entries from the unified logging system. The expression is a combination of relational operators, constant integers, constant strings, and names of log fields that evaluate to a single value. Logical operators, such as AND and OR, are used to group expressions.

Supported relation operators include:

< Less than

> Greater than

<= Less than and equal to

>= Greater than and equal to

= Equal to

!= Not equal to

Supported logical operators include && (logical AND) and || (logical OR).

Predefined log fields include:

PRODID Product identifier (integer or string)

ORGID Originator identifier (integer or string)

STDATE Locale-specific start date (long integer or string [such as 'mm/dd/yy'])

ENDDATE Locale-specific end date (long integer or string [such as 'mm/dd/yy'])

PREVTIME Previous time (string [hh:mm:ss])

EXAMPLES

EXAMPLE 1

The following automatically moves the older log files that NetBackup created to the folder /tmp/nblogs. The --auto option depends on the configuration setting NumberOfLogFiles.

```
# vxlogmgr -m --auto --dir /tmp/nblogs
```

EXAMPLE 2

The following deletes log files that NetBackup created 15 days back:

```
# vxlogmgr -d --prodid NB -n 15
```

EXAMPLE 3

The following copies the log files created from date 01/22/09 by NetBackup:

```
# vxlogmgr -c --where "(prodid = NB) && (stdate >= '01/22/09')"
```

UNIX and Linux systems: --dir /usr/opensv/logs

Windows systems: --dir c:\temp\logfiles

EXAMPLE 4

The following copies the log files created between 10/10/09 and 10/28/09 inclusive by product ID 100:

```
# vxlogmgr -c --where "(PRODID == 100) && ((STDATE >= '10/10/09')
```

UNIX and Linux systems: && (ENDATE <= '10/28/09'))" --dir /usr/opensv/logs

Windows systems: && (ENDATE <= '10/28/09'))" --dir c:\temp\logfiles

SEE ALSO

See [vxlogcfg](#) on page 699.

See [vxlogview](#) on page 712.

vxlogview

vxlogview – display logs generated by the unified logging component

SYNOPSIS

```
vxlogview[-A] [-b StartDate] [-e EndDate] [-D] [-G Directory] [-g LogSet] [-I] [-i FileID] [-K HostName] [-L SeverityLevel] [-m Entity] [-N Level MsgTypes] [-n NumberOfDays] [-o OriginatorID] [-P ProcessID] [-p ProductID] [-r Result] [-s Subject] [-T ThreadID] [-t hh:mm:ss] [-X ContextToken] [-y]
```

```
vxlogview -a [-p ProductID] {[-d DisplayOption,...] [-R ResourceDirectory] [-z TimeZone] [-l Locale]}
```

```
vxlogview -q QueryName -f FileName {[-d DisplayOption,...] [-R ResourceDirectory] [-z TimeZone] [-l Locale]}
```

```
vxlogview -p ProductID -g LogSet | -i FileID {[-d DisplayOption,...] [-R ResourceDirectory] [-z TimeZone] [-l Locale]}
```

```
vxlogview -p ProductID -w queryString {[-d DisplayOption,...] [-R ResourceDirectory] [-z TimeZone] [-l Locale]}
```

```
vxlogview -v
```

On UNIX and Linux systems, the directory path to this command is
`/usr/opensv/netbackup/bin/`

On Windows systems, the directory path to this command is
`<install_path>\NetBackup\bin\`

DESCRIPTION

The `vxlogview` utility allows you to view the logs that unified logging generates. Search criteria can be specified by using command-line options to view specific logs.

Unified logging uses a standardized naming format for log files, as follows:

```
productID-originatorID-hostID-date-rotation.log
```

For more information about the unified logging name format and the logging originator IDs, refer to the *NetBackup Troubleshooting Guide*.

OPTIONS

Specify the logs you want to view.

- `-A, --audit`
Displays audit messages.
- `-a, --all`
Displays all log messages from log files that multiple Symantec products generate.
- `-b, --startdate StartDate`
Displays messages that are logged at the given start date and time.
- The required date value format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.
- See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.
- Surround the date by single quotes in UNIX and double quotes in Windows. For example:
- ```
-b '1/1/2010 12:00:00 AM'
```
- If the `-b` option is not specified, messages are displayed from the beginning of the log file to the given end time (see the `-e` option).
- `-D, --debug`  
Displays debug log messages.
- `-d, --display DisplayOption,...`  
Displays specified message fields. Separate multiple *DisplayOptions* with commas.
- DisplayOption* may be one or more of the following:
- D - Display date
  - T - Display time stamp
  - m - Display message type
  - p - Display process ID
  - t - Display thread ID
  - P - Display product ID
  - O - Display originator ID
  - c - Display context token

- s - Display application log entry severity
- u - Display application or diagnostic Unique Message ID
- x - Display actual log message text
- w - Display who logged the diagnostic or debug message
- i - Display short name for a product
- o - Display short name for an originator
- all - Display all fields of the log record

If `-d` is not specified, the following fields are displayed by default.

- Date
- Time
- Who (for diagnostic and debug messages only)
- Severity (application messages only)
- UMI (application and diagnostic messages only)
- message text

`-e, --enddate EndDate`

Displays messages that are logged up to a given end day and time.

The required date value format in NetBackup commands varies according to your locale. The `/user/openv/msg/.conf` file (UNIX and Linux) and the `install_path\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "Specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II* for more information.

Surround the date with single quotes in UNIX and double quotes in Windows. For example:

```
--enddate '1/1/2010 12:00:00 PM'
```

If the `-e` option is not specified, `vxlogview` displays messages from the given start date and time (see the `-b` option) to the end of the log file.

`-f, --filename FileName`

Specifies the path and filename of a file that contains one or more queries. Use with the `-q` option.

- `-G, --logdir Directory`  
Displays logs from the specified directory instead of a configured log directory. An absolute path must be specified for the directory.
- `-g, --logset LogSet`  
Displays log configuration settings for the specified LogSet.
- `-I, --diag`  
Displays diagnostic log messages.
- `-i, --fileid FileID`  
Displays messages that a given file ID or shared originator ID logged. It searches only the log files that were created by the specified process. By limiting the log files that it has to search, vxlogview returns a result faster. By comparison, the vxlogview `-o` option searches all unified log files for messages logged by the specified process.
- `-K, --hostname HostName`  
Displays messages that the specified host name logged.
- `-L, --app -C | -E | -F | -M | -W`  
Displays application log messages. The following parameters can be used with -L to specify the severity level:
- `-C, --crit` : A critical error has occurred which may impact the availability of the application.
  - `-E, --err` : An error has occurred that does not affect the entire application.
  - `-F, --info` : An informational message.
  - `-M, --emerg` : An emergency condition exists that may result in an operating system failure or shutdown.
  - `-W, --warning` : A warning is issued for a problem that has been detected.
- `-l, --locale Locale`  
Displays messages in the specified locale. The default is English. The messages are displayed in the current system locale if this option is not given.
- `-m, --who Entity`  
Displays messages logged by the given entity method name or function name.
- `-N, --level Level -D | -I`  
Displays debug messages (-D) or diagnostic log messages (-I) for a given level (*Level*).
- `-n, --days NumberOfDays`  
Displays the messages that are logged for the last *NumberOfDays* days.

- `-o, --orgid OriginatorID`  
Displays the messages that the specified originator ID has logged. You can use the ID number or the short name for the originator. For example, the Policy Execution Manager can be specified by `nbpem` or by 116, its originator ID number.
- `-P, --pid ProcessID`  
Displays the messages that are logged by the specified process ID.
- `-p, --prodid ProductID`  
Displays the messages that the product (identified by a given product ID) logged. Instead of an identifier, the user can provide the abbreviated name of product. The NetBackup product ID is 51216, and the PBX product ID is 50936.
- `-R, --resdir ResourceDirectory`  
Uses resources from the specified directory instead of a configured localization resource directory.
- `-r, --result Result`  
Displays audit messages that have the specified result. *Result* can be either 0 or 1.
- `-S, --tailloop`  
Continuously displays the new messages that are logged by a given product ID and file ID pair. The product ID (`-p ProductID`) and file ID (`-i FileID`) must accompany the tailloop option (`-s`) on the command line. The file ID can be a shared originator ID or an originator ID that is not shared with any other ID. Tailloop starts by displaying to the console the last 10 messages that have been logged. It then displays any new log messages. Use `Ctrl-C` at any time to stop the loop.
- `-s, --subject Subject`  
Displays the audit messages that have the specified *Subject*.
- `-T, --tid ThreadID`  
Displays the messages that the specified thread ID has logged.
- `-t, --tail hh:mm:ss`  
Displays the messages for the last *hh:mm:ss* time period.
- `-v, --version`  
Displays the version information for this command.

`-w, --where QueryString`

Specifies a WHERE clause to use when you query the log messages such that a subset of messages can be displayed. For more detail on *QueryString*, refer to the "Using Logs and Reports" in the *NetBackup Troubleshooting Guide*.

`-X, --ctx ContextToken`

Displays messages that belong to the given context instance. Context tokens identify context instances. If the context token is specified as "all," it displays all of the context names and associated tokens.

`-y, --displayhost`

Displays the hostname with each displayed log message. Use this option if the log files come from different hosts and you want to display which message came from which host.

`-z, --timezone GMT+hh:ss | GMT-hh:ss`

Displays messages with time adjusted as per the given timezone.

## EXIT STATUS

The following exit values are returned:

0 -- Successful completion.

-1 -- An error occurred.

## QUERY STRINGS

A query string is a text expression, similar to a database WHERE clause, that is used to retrieve log entries from the Unified Logging system. The expression is a combination of relational operators, constant integers, constant strings, and names of log fields that evaluate to a single value. Logical operators, such as AND and OR, are used to group expressions.

Supported relational operators include: < (less than), > (greater than) <= (less than or equal to), >= (greater than and equal to), = (equal to), and != (not equal to).

Supported logical operators include && (logical AND) and || (logical OR).

Predefined log fields can be in all uppercase or all lowercase (for example: PID | pid). These fields consist of the following:

CTXTOK -- Context token (string)

ENDATE -- Locale-specific end date (long integer or string)

FILEID -- Shared originator ID (integer)

HOSTNAME -- Name of source host (string with quotes)

**LEVEL** -- Debug and diagnostic level. Default is to display all (integer 0-6)

**MSGTYPE** -- The following message types are supported:

```
DEBUG | debug
DIAG | diag
APP | app
AUDIT | audit
```

**ORGID** -- Originator identifier (integer or string)

**PID** -- Process Identifier (integer)

**PREVTIME** -- Previous time (string *hh:mm:ss*)

**PRODID** -- Product identifier (integer or string)

**RETURNVAL** -- The audit message outcome field (0 or 1)

**SEV** -- Severity level. The following severity types are supported:

```
INFO | info
WARNING | warning
ERR | err
CRIT | crit
EMERG | emerg
```

**STDATE** -- Locale-specific start date (long integer or string)

**SUBJECT** -- Audit message subject field (string)

**TID** -- Thread ID (integer)

**WHO** -- Who logged the message (string)

## EXAMPLES

The following examples are valid for UNIX, which uses single quotes to enclose option arguments. In Windows, use double quotes.

### EXAMPLE 1

This example displays the log messages for all the installed products:

```
vxlogview -a
```

### EXAMPLE 2

This example displays the log messages for PBX (product ID 50936). You must be an authorized user with administrator (root) privileges. It displays only the date, time, message type, and message text:

```
vxlogview --prodid 50936 --display D,T,m,x
```

### EXAMPLE 3

This example displays the log messages for NetBackup that were logged between the dates 11/18/10 and 11/21/10:

```
vxlogview --where "(prodid = 'NB') && (stddate >= '11/18/10 0:0:0 AM' && enddate <= '11/21/10 10:12:00 AM')"
```

### EXAMPLE 4

This example displays the log messages that were created on or after the date and time 1/03/06, 11:00:00 a.m.:

```
vxlogview -b '1/03/10 11:00:00 AM'
```

### EXAMPLE 5

This example displays the log messages that were logged within the last hour:

```
vxlogview --tail 1:00:00
```

### EXAMPLE 6

This example displays the audit log messages that have a result of 0:

```
vxlogview --audit -r 0
```

### EXAMPLE 7

This example displays the context log messages for the "job\_context" instance:

```
vxlogview --ctx 'jobid=4'
```

## SEE ALSO

See [vxlogcfg](#) on page 699.

See [vxlogmgr](#) on page 707.



## Symbols

576

## A

ACS library

Automated Cartridge System 24

acsd command 24

add\_media\_server\_on\_clients command 26

ASA database files 450

## B

backupdbtrace command 27

backuptrace command 29

Bare Metal Restore (BMR)

bmrc 31

bmrconfig 34

bmrepadm 39

bmrprep 42

bmrts 45

bmrstadm 48

BMR client program 31

BMR database 453

bmrc command 31

bmrconfig command 34

bmrepadm command 39

bmrprep command 42

bmrts command 45

bmrstadm command 48

bp command 50

bpadm command 52

bparchive command 53

bpbackup command 58

bpbackupdb command 66

bpcatarc command 67

bpclist command 68

bpcatres command 71

bpcatrm command 72

bpcd command 73

bpchangeprimary command 75

bpclient command 79

bpclimagelist command 85

bpclntcmd command 88

bpclusterutil command 91

bpcompatd command 95

bpconfig command 97

bpdbjobs command 108

bpdbm command 116

bpdgclone command 119

bpdown 121

bpduplicate command 122

bperror command 131

bpexpdate command 140

bpfis 147

bpgetconfig command 151

bpgetdebuglog command 155

bpimage command 156

bpimagelist command 160

bpimmedia command 168

bpimport command 179

bpinst command

man page 186

recreate a key file 189

bpkeyfile command 193

bpkeyutil command 195

bplabel command 197

bplist command 200

bpmedia command 208

bpmedialist command 212

bpminlicense command 224

bpnbat command 227

bpnbaz command 234

bpnfcicorr command 249

bpplclients command 251

bppldelete command 258

bpplinclude command 260

bpplinfo command 266

bppllist command 278

bpplsched command 280

bpplschedrep command 293

bpplpolicynew 301

bpps 309, 313

bprd command 314

bprecover command 316  
 bprestore command 319  
 bpschedule command 333  
 bpschedulerep command 340  
 bpsetconfig command 346  
 bpstsinfo command 348  
 bpstuadd command 354  
 bpstudel command 364  
 bpstulist command 367  
 bpsturep command 374  
 bptestbpcd command 383  
 bptestnetconn command 386  
 bptpcinfo command 390  
 bpup 395  
 bpverify command 396

## C

cat\_convert utility 404  
 configuring
 

- encryption
  - using bpinst command 186

 create\_nbdb command 410  
 crypt\_option 187  
 crypt\_strength option 187

## D

DES
 

- keys
  - generating from bpkeyfile 193

 device allocator 493  
 duplicatetrace command 412

## E

Enterprise Media Manager 493

## G

generating DES encryption keys 193

## I

importtrace command 415  
 Inline Tape Copy option 126  
 installation
 

- using bpinst command 186

## J

jbpSA 419  
 jnbSA 421

## K

key file 189
 

- pass phrase 189

## L

LEGACY\_CRYPT option 186  
 licenses
 

- managing with bpminlicense command 224

 ltid command 423

## M

Media Contents Report 214  
 Media Count Report 215  
 Media List Report 212  
 Media Manager commands
 

- acsd 24

 Media Summary Report 214

## N

nbauditreport command 425  
 nbcatsync command 429  
 NBCC 432  
 NBCCR 437  
 nbcertupdater command 439  
 nbclogs command 443  
 nbdb\_admin command 447  
 nbdb\_backup command 450  
 nbdb\_move command 451  
 nbdb\_ping command 453  
 nbdb\_restore command 454  
 nbdb\_unload command 455  
 nbdc command 459  
 nbdecommission command 462  
 nbdelete command 464  
 nbdeployutil command 467  
 nbdevconfig command 473  
 nbdevquery command 484  
 nbdms\_start\_server command 457  
 nbdms\_start\_stop command 458  
 nbdna command 489  
 nbemm command 493  
 nbemmcmd command 494  
 nbexecute command 510  
 nbfirescan command 512  
 nbftadm command 513  
 nbftconfig command 514  
 nbhba command 524  
 nbjm command 527

nbkmsutil command 528  
 nbpem command 532  
 nbpemreq command 534  
 nbrb command 538  
 nbrbutil command 539  
 nbregopsc command 544  
 nbreplicate command 546  
 nbstl command 548  
 nbstlutil command 555  
 nbsu command 563  
 nbsvrgrp command 569  
 NetBackup Access Management 33, 38  
 NetBackup Encryption 186  
     Legacy Encryption 186  
 NetBackup Policy Execution Manager 532  
 NetBackup Policy Execution Manager Requisition 534  
 NetBackup Resource Broker 538–539  
 NetBackup troubleshooting commands  
     backupdbtrace 27  
     backuptrace 29  
 NetBackup Vault 126

## P

pass phrase 189  
 passphrase\_prompt option 188  
 passphrase\_stdin option 188  
 policy\_encrypt option 188  
 policy\_names option 188

## R

restoretrace command 572  
 robtest 600

## S

scripts  
     drive\_mount\_notify 627  
 stoptid command 423

## T

tl4d command 574  
 tl8cd command 580  
 tl8d command 576, 580  
 tldcd command 584, 588  
 tldd command 584, 588  
 tlhcd command 592, 596  
 tlhd command 592, 596  
 tlmd command 600  
 tlmtest 600

tpautoconf command 603  
 tpclean command 606  
 tpconfig command 609  
 tpext command 626  
 tpreq command 627  
 tpunmount command 630

## U

Unified logging 699  
     vxlogmgr 707  
     vxlogview 712

## V

verifytrace command 632  
 vltadm command 635  
 vltcontainers command 636  
 vlteject command 641  
 vltinject command 645  
 vltoffsitemedia 647  
 vltopmenu command 651  
 vltrun 653  
 vmadd command 658  
 vmadm command 661  
 vmchange command 663  
 vmcheckxxx command 670  
 vmd command 672  
 vmdelete command 674  
 vmoprcmd command 676  
 vmphyinv command 681  
 vmppool command 685  
 vmquery command 688  
 vmrule command 693  
 vmupdate command 696  
 vxlogcfg 699  
 vxlogcfg command 699  
 vxlogmgr command 707  
 vxlogview command 712