

Solstice Backup 6.0 HowTo

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Server Install.....	1
Understanding Solstice Backup (Legato Networker) terminology:.....	2
Setting up the backup schedules:.....	2
Client Install :.....	3
Server/operation tips	4
Restoring files	4
Checking backups success or failure.....	4

Server Install

1. make backup copies of /etc/syslog.conf and /etc/rpc
add /usr/bin/nsr and /usr/sbin/nsr to root's PATH

2. create a /nsr directory or filesystem with at least 2GB free for exclusive use by SBU

3. pkgadd SUNWsbuc SUNWsbum SUNWsbus2 SUNWsbun SUNWsbus1
sbuc: SBU Client
sbum man pages
sbus2 device drivers
sbun network storage node
sbus1 SBU server
answer "no" to a question about starting the daemons while installing sbuc and sbun, answer 'yes' when installing sbus1.
enter a high compression device when prompted e.g. /dev/rmt/0cbn or 0hbn
enter tape type when prompted e.g. dlt8000

4. Configure the jukebox/autochanger if you have one:

Run /etc/LGTOuscsci/inquire and make sure it shows your jukebox/autochanger:

```
[root@jupiter]/:=> /etc/LGTOuscsci/inquire
scsidev@0.0.0:FUJITSU MAJ3182M SUN18G 0804|Disk, /dev/rdisk/c0t0d0s2
scsidev@0.1.0:SEAGATE ST318404LSUN18G 8507|Disk, /dev/rdisk/c0t1d0s2
scsidev@0.6.0: IBA DVD-ROM SD-M14011007|CD-ROM, /dev/rdisk/c0t6d0s2
scsidev@2.5.0:Symbios StorEDGE A1000 0205|Disk
scsidev@3.0.0:HP C7145-8000 206S|Autochanger (Jukebox)
scsidev@3.1.0:QUANTUM DLT8000 0114|Tape, /dev/rmt/0cbn
```

If your jukebox isn't shown, run drvconfig or do a reconfigure boot until inquire works

Now run jbcnfig to let SBU know about the jukebox

```
[root@jupiter]/:=> jbcnfig
1) Install a SmartMedia Jukebox.
2) Install an Autodetected SCSI Jukebox.
3) Install an Autodetected NDMP SCSI Jukebox.
4) Install an SJI Jukebox.
5) Install an STL Silo.

What kind of Jukebox are you installing? [1] 2
These are the SCSI Jukeboxes currently attached to your system:
1) scsidev@3.0.0: Standard SCSI Jukebox, Vendor <HP>, Product <C7145-8000>
Which one do you want to install? 1
Installing an 'Standard SCSI Jukebox' jukebox.
Name you would like to assign to the jukebox device? juke1
A brief description of the jukebox device? [scsidev@3.0.0: Standard SCSI Jukebox] Sun Storage L9 at scsidev@3.0.0
Pathname of the control port for the jukebox device? [scsidev@3.0.0]
Do you want automated device cleaning support enabled? (yes/no) no

Enter hostname that owns media drive 1: ? [jupiter]

An example of a valid device name for this OS is '/dev/rmt/1cbn'
Enter pathname of media drive 1: ? /dev/rmt/0cbn
```

```

using '/dev/rmt/0cbn' as device name
Should the drive be configured as a NDMP device? (yes/no) no
Your jukebox has a bar code reader.
Do you want bar code reader support enabled? (yes/no) no

Jukebox has been added successfully
Would you like to configure another jukebox? (yes/no) no
[root@jupiter]/:=>

```

5. Now we start configuring the backup schedules etc. using the nice GUI (nwadmin)

We want to run a full backup every Sunday morning at 1am and save that to one set of tapes, then do an incremental backup all the other days at 3am, and save that onto a separate set of tapes.

On the server, set your \$DISPLAY to an X display somewhere and run nwadmin:
 DISPLAY=myhost:0 ; export DISPLAY
 nwadmin

Understanding Solstice Backup (Legato Netwoker) terminology:

Schedules: - this is a calendar list of what Level of backup is done on each day of the month:
 (Full, Incremental or whatever)

A client is associated with one schedule ONLY.

Groups - a group is like a regular backup job.

A Group has a start time (e.g. 3am), and that's about it.

Pools -these are tape sets, e.g. all full backups will be made using the WeeklyFull pool tapes.

A Pool has at least one Group associated with it.

A Pool has one or more Levels associated with it

A Pool uses one Label Template only.

Label Templates- this is how Solstice Backup will identify the tapes, and how you should label them (e.g. Weekly.Full.21)

N.B. there can be more than one client entry for the same hostname: this allows us to define two client entries for each machine: one client entry uses the Full backup schedule and the other uses the Daily schedule.

Setting up the backup schedules:

In nwadmin GUI:

Create 2 new groups WeeklyFull and DailyIncr, make sure they are enabled and set the correct start time.
 Disable the Default Group by checking the Disable radio button.

Create two new Label templates: WeeklyFull with fields like client_name, weekly, 01-99
 and DailyIncr with fields like client_name, daily, 01-99

Create two pools:

WeeklyFull: Enabled=Yes, PoolType=Backup, LabelTemplate=WeeklyFull,
 Groups=WeeklyFull, levels = Full ONLY

DailyIncr: Enabled=Yes, PoolType=Backup, LabelTemplate= DailyIncr,
 Groups= DailyIncr, levels = inc ONLY

Create two schedules:

WeeklyFull: skip all days except Sunday, do a full on Sunday

DailyIncremental: skip Sunday, do incrementals all other days

Now add the clients. make sure you add the Backup server as a client too, or it won't get backed up!

Client settings: create two client entries for each client that you want to back up:

client entry 1: Schedule=DailyIncremental

Retention=Quarter

Browse=Month

Groups: uncheck the Default radio button, check DailyIncr

client entry 2: Schedule=WeeklyFull
 Retention=Quarter or Year depending on how long you want to keep the tapes
 Browse=Month or Quarter depending on you
 Groups: uncheck the Default radio button, check WeeklyFull

You can use Add Multiple if you have many clients with the same settings

After adding the clients, make sure that each client has an Alias defined with its fully-qualified hostname if need be (it should be added automatically).

Now label some tapes in each Pool.

Client Install :

```
[root@europa]> pkgadd -d . SUNWsbuc
```

```
Processing package instance <SUNWsbuc> from </export/home/>
```

```
Solstice Backup (Backup/Recover) Client(sparc) 6.0.1,REV=Build.174  
Copyright (c) 1990-2000, Sun Microsystems, Inc., All rights reserved.NetWorker(TM) - Release 6.0.1.Build.174  
Copyright (c) 1990-2000, Legato Systems, Inc. All rights reserved. This product includes software developed  
by the University of California, Berkeley and its contributors.
```

To set up a NetWorker storage node, licensing manager or client, you need to supply a directory for the nsrexecd state file.

Below is a list of some of the filesystems, with their free space, which you might consider:

```
/var                   : 5054245  
/opt                   : 4012439  
/usr                   : 3345840  
/spare                 : 918535
```

Directory to use for client, licensing and server information [*/var/nsr*?] ***/opt/nsr***

The nsrexecd program restricts access to a select set of NetWorker servers. Please enter the names of each computer running a NetWorker server that will back up this computer, one name at a time. If a computer has more than one network interface, please enter each interface's name (one at a time).

Enter the first NetWorker server's name [no more]: jupiter

Enter the next NetWorker server's name [no more]:

Start NetWorker daemons at end of install [yes]?

Using </usr> as the package base directory.

```
## Processing package information.  
## Processing system information.  
## Verifying package dependencies.  
## Verifying disk space requirements.  
## Checking for conflicts with packages already installed.  
## Checking for setuid/setgid programs.
```

This package contains scripts which will be executed with super-user permission during the process of installing this package.

Do you want to continue with the installation of <SUNWsbuc> [y,n,?] y

Installing Solstice Backup (Backup/Recover) Client as <SUNWsbuc>

```
## Installing part 1 of 1.  
/usr/bin/nsr/networker <symbolic link>  
/usr/bin/nsr/nsrfile  
/usr/bin/nsr/nsrports  
/usr/bin/nsr/nsrwatch  
/usr/bin/nsr/nwadmin  
/usr/bin/nsr/nwarchive <symbolic link>  
/usr/bin/nsr/nwbackup  
..  
..  
/usr/sbin/nsr/nsrndmp_recover  
/usr/sbin/nsr/savefs  
/usr/sbin/nsr/savenpc <symbolic link>  
[ verifying class <none> ]  
## Executing postinstall script.  
    Directory /opt/nsr, does not exist.  
    Creating directory /var/nsr.  
    Installing NetWorker home directory in /opt/nsr  
    nsr-izing system files
```

```
nsr-izing system files
Creating /etc/init.d/networker
Creating /etc/rc2.d/S95networker
Creating /etc/rc0.d/K05networker
Completing Installation
Starting NetWorker daemons
NetWorker successfully installed on `europa'!
```

```
Installation of <SUNWsbuc> was successful.
[root@europa]>
```

Server/operation tips

If for some reason the jukebox doesn't seem to be responding to Media->Inventory , (e.g. gives an error 69 failing to load or unload a tape) you can do a manual inventory of the jukebox:

```
nsrjb -u      (unloads whatever tape may be in the drive)
nsrjb -H      (resets the jukebox and Networker database of tape/slot mappings to a known state)
```

followed by a

```
nsrjb -I      (perform a jukebox inventory from the command line). This takes about 15 minutes.
```

N.B make sure before and after you do this that it has not disabled the DLT drive : if it has you will see a disabled message in the main nwadmin window. To -re-enable the drive , do Media --> Drives and select Enable.

Restoring files

There are 2 ways to recover files, one from the command line and one from an X-windows GUI. You can use either on the client machine where you want to restore the files. It will work out which backup server to talk to.

Command-line:

To recover individual files, the quickest way is to use 'recover' (/usr/bin/nsr/recover):
as root, cd into the directory where the file you want to recover lived, then type

```
recover
```

you will be put in an interactive recover program which operates very much like `ufsrestore`. Use the `cd`, `ls`, `add` and `recover` commands to list and restore files. Use '?' for help.

The 'versions', 'list', 'changetime' and 'relocate' commands are also useful.

GUI:

```
This needs X-windows, so set your DISPLAY appropriately
cd to the directory where your file lived.
then type
```

```
nwrecover (or /usr/bin/nsr/nwrecover)
```

select the files you want to recover by putting a blue tick on them and then click the recover button. Use the Options->Relocate option if you want to restore them into a different directory.

Checking backups success or failure

When the backup completes, it sends a mail to root with the subject : "jupiter's savegroup completion". Someone should check this every day!

Successful backups start with the lines:

```
Solstice Backup Savegroup: (notice) DailyIncr completed, 9 client(s) (All Succeeded)
Start time: Tue May 22 03:33:00 2001
End time: Tue May 22 03:58:40 2001
```

Unsuccessful backups start with :

```
Solstice Backup Savegroup: (alert) WeeklyFull completed, 11 client(s) (jupiter Failed)
Start time: Fri May 25 00:33:00 2001
End time: Fri May 25 01:13:02 2001
```