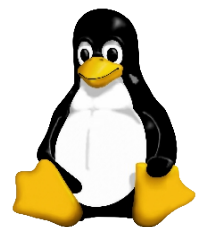
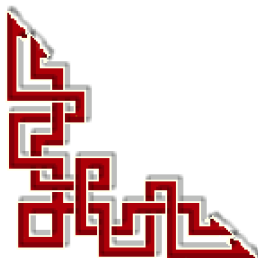


RF-232

Micronator

SME-8.0
Sauvegarde NFS



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6447, avenue Jalobert, Montréal. Québec H1M 1L1

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Avertissement

Bien que nous utilisons ici un vocabulaire issu des techniques informatiques, nous ne prétendons nullement à la précision technique de tous nos propos dans ce domaine.

Sommaire

I-	Introduction.....	5
1.	Description générale.....	5
1.1.	Note au lecteur.....	5
1.2.	Conventions.....	5
II-	Serveur NFS.....	6
1.	Recommandation.....	6
2.	Préparation du nouveau disque.....	6
2.1.	Création de la partition.....	7
2.2.	Création du système de fichiers.....	9
2.3.	Montage du nouveau disque.....	9
2.4.	Modification de /etc/fstab.....	10
3.	Installation de smeserver-nfs.....	11
4.	Activation de NFS.....	13
5.	/etc/exports.....	13
6.	Réamorçage.....	13
7.	Vérification.....	14
7.1.	Exportation.....	14
7.2.	Montage.....	14
III-	Client NFS.....	16
1.	Installation de smeserver-nfs.....	16
2.	Activation de NFS.....	18
3.	Signalement.....	18
4.	Montage du répertoire NFS.....	18
IV-	Fichiers de sauvegarde.....	20
1.	Introduction.....	20
2.	Fragment du gabarit sur mesure.....	20
3.	Modification de la longueur par défaut.....	21
V-	Sauvegarde.....	22
1.	Introduction.....	22
2.	Configuration de la sauvegarde.....	22
3.	Vérification.....	23
	Crédits.....	25
	GNU Free Documentation License.....	29

I- Introduction

1. Description générale

Ce document donne la marche à suivre pour réaliser l'installation d'un serveur et d'un client **NFS** sur deux serveurs **SME-8** dans le but de pouvoir faire une sauvegarde du client sur un partage **NFS** du serveur. Il est aussi démontré comment modifier la longueur des fichiers de sauvegarde (*slice*) par le client.

1.1. Note au lecteur

* Les captures d'écrans ne sont que des références.

** Les informations écrites ont préséance sur celles retrouvées dans les captures d'écrans. Veiller à se référer aux différents tableaux lorsque ceux-ci sont présents.

1.2. Conventions

Toutes les commandes à entrer sur le serveur sont en **gras**. Les affichages à surveiller sont en **rouge** ou en **bleu**.

```
# ping 192.168.1.149
192.168.1.149 is alive
#
```

Les liens de référence internet sont en [bleu](#) et ceux intra-document en [bleu](#).



Manipulation, truc ou ruse pour se tirer d'embaras.



Une recommandation ou astuce.



Une note.



Une étape, note ou procédure à surveiller.



Paragraphe non-complété ou non-vérifié.



Un site de téléchargement **FTP**.

II- Serveur NFS

1. Recommandation



Il est préférable de faire une mise à jour sur les deux serveurs avant de débiter.

2. Préparation du nouveau disque

Si l'espace nécessaire n'est pas suffisant sur le serveur NFS, il faut ajouter un autre disque.

On vérifie si le serveur a détecté le nouveau disque.

```
[root@nfs-serveur ~]# cat /proc/partitions
major minor #blocks name
 8         0   8388608 sda
 8         1   104391 sda1
 8         2   8281507 sda2
 8         8  7340032 sdb
 9         2   8281408 md2
 9         1   104320 md1
253        0   5013504 dm-0
253        1   3244032 dm-1
[root@nfs-serveur ~]#
```

Ci-dessus, le nouveau disque a bien été détecté.

Ci-dessous, il n'a pas été détecté. C'est le cas avec certain logiciel de virtualisation après l'ajout d'un nouveau disque sans réamorcer.

```
[root@nfs-serveur ~]# cat /proc/partitions
major minor #blocks name
 8         0   8388608 sda
 8         1   104391 sda1
 8         2   8281507 sda2
 9         2   8281408 md2
 9         1   104320 md1
253        0   5013504 dm-0
253        1   3244032 dm-1
[root@nfs-serveur ~]#
```



On peut alors forcer le serveur à refaire un balayage pour découvrir le nouveau disque.

On commence par chercher le contrôleur hôte du bus des disques.

```
[root@nfs-serveur ~]# ls /sys/class/scsi_host/
host0
[root@nfs-serveur ~]#
```

Dans ce cas-ci c'est **host0** qui connecte les disques SCSI au système.

On lance le balayage de **host0**.

```
[root@nfs-serveur ~]# echo "- - -" > /sys/class/scsi_host/host0/scan
[root@nfs-serveur ~]#
```



Les trois paramètres utilisés entre les " " sont pour le **canal**, l'**ID** de la cible **SCSI** et le **LUN**. L'utilisation de "--" signifie d'utiliser des caractères génériques donc, de tout balayer.

On vérifie si le serveur a détecté le nouveau disque.

```
[root@nfs-serveur ~]# cat /proc/partitions
major minor #blocks name
8 0 8388608 sda
8 1 104391 sda1
8 2 8281507 sda2
8 16 7340032 sdb
9 2 8281408 md2
9 1 104320 md1
253 0 5013504 dm-0
253 1 3244032 dm-1
[root@nfs-serveur ~]#
```

2.1. Création de la partition

Le seul résultat, **sdb**, de la commande ci-dessus indique que le nouveau disque ne contient pas de partitions.

On lance **fdisk** pour créer une nouvelle partition.

```
[root@nfs-serveur ~]# fdisk /dev/sdb
Le périphérique ne contient ni une partition ni une étiquette DOS, Sun, SGI ou OSF
Création d'une nouvelle étiquette DOS. Les modifications resteront en mémoire
jusqu'à ce qu'elles soient écrites. Après quoi, bien sûr, le contenu précédent
ne sera pas récupérable.

AVERTISSEMENT: fanion 0x0000 invalide de la table de partitions 4 sera corrigé par
w(écriture)

Commande (m pour l'aide):
```

On peut taper **m** (*menu*) pour afficher les commandes disponibles.

```
Commande (m pour l'aide): m
Commande action
a bascule le fanion d'amorce
b éditer l'étiquette BSD du disque
c basculer le fanion de compatibilité DOS
d détruire la partition
l lister les types de partitions connues
m afficher ce menu
n ajouter une nouvelle partition
o créer une nouvelle table vide de partitions DOS
p afficher la table de partitions
q quitter sans faire de sauvegarde
s créer une nouvelle étiquette vide pour disque de type Sun
t modifier l'identificateur de la partition système
u modifier l'affichage et la saisie des unités
v vérifier la table de partitions
w écrire la table sur le disque et quitter
x fonctionnalité additionnelle (pour experts seulement)

Commande (m pour l'aide):
```

SME-8.0 sauvegarde NFS

- **n** pour créer une nouvelle partition
- **p** pour une partition primaire
- **1** pour la première partition
- **ENTRÉE** pour accepter le numéro du premier cylindre par défaut
- **ENTRÉE** pour accepter le numéro du dernier cylindre par défaut.

```
Commande (m pour l'aide): n
Action de commande
  e  étendue
  p  partition primaire (1-4)
p
Numéro de partition (1-4): 1
Premier cylindre (1-913, par défaut 1):
Utilisation de la valeur par défaut 1
Dernier cylindre ou +taille or +tailleM ou +tailleK (1-913, par défaut 913):
Utilisation de la valeur par défaut 913

Commande (m pour l'aide):
```

- **p** (*print*) pour afficher les valeur de la nouvelle partition créée.

```
Commande (m pour l'aide): p

Disque /dev/sdb: 7516 Mo, 7516192768 octets
255 heads, 63 sectors/track, 913 cylinders
Unités = cylindres de 16065 * 512 = 8225280 octets

Périphérique Amorce   Début       Fin         Blocs      Id Système
/dev/sdb1             1           913        7333641   83 Linux

Commande (m pour l'aide):
```

On écrit la table sur le disque et on quitte en tapant **w** (*write*).

```
Commande (m pour l'aide): w
La table de partitions a été altérée!

Appel de ioctl() pour relire la table de partitions.
Synchronisation des disques.
[root@nfs-serveur ~]#
```

On vérifie.

```
[root@nfs-serveur ~]# cat /proc/partitions
major minor #blocks name
 8      0   8388608 sda
 8      1   104391 sda1
 8      2   8281507 sda2
 8     16   7340032 sdb
 8     17   7333641 sdb1
 9      2   8281408 md2
 9      1   104320 md1
253     0   5013504 dm-0
253     1   3244032 dm-1
[root@nfs-serveur ~]#
```


2.2. Création du système de fichiers

On crée un système de fichiers ext3 sur le nouveau disque.

```
[root@nfs-serveur ~]# mkfs.ext3 /dev/sdb1
mke2fs 1.39 (29-May-2006)
Étiquette de système de fichiers=
Type de système d'exploitation : Linux
Taille de bloc=4096 (log=2)
Taille de fragment=4096 (log=2)
917504 i-noeuds, 1833410 blocs
91670 blocs (5.00%) réservés pour le super utilisateur
Premier bloc de données=0
Nombre maximum de blocs du système de fichiers=1879048192
56 groupes de blocs
32768 blocs par groupe, 32768 fragments par groupe
16384 i-noeuds par groupe
Superblocs de secours stockés sur les blocs :
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632

Écriture des tables d'i-noeuds : complété
Création du journal (32768 blocs) : complété
Écriture des superblocs et de l'information de comptabilité du système de
fichiers : complété

Le système de fichiers sera automatiquement vérifié tous les 22 montages ou
après 180 jours, selon la première éventualité. Utiliser tune2fs -c ou -i
pour écraser la valeur.
[root@nfs-serveur ~]#
```

2.3. Montage du nouveau disque

On crée un répertoire de montage pour le nouveau disque.

```
[root@nfs-serveur ~]# mkdir /nfs
[root@nfs-serveur ~]#
```

On vérifie.

```
[root@nfs-serveur ~]# ls -alsd /nfs
4 drwxr-xr-x 2 root root 4096 déc.  8 10:18 /nfs
[root@nfs-serveur ~]#
```

On monte le nouveau disque dans le répertoire /NFS.

```
[root@nfs-serveur ~]# mount /dev/sdb1 /nfs
[root@nfs-serveur ~]#
```

On vérifie.

```
[root@nfs-serveur ~]# df -T
Sys. de fich. Type      1K-blocs      Occupé Disponible Capacité Monté sur
/dev/mapper/main-root
    ext3      4856348      2265196      2340480      50% /
/dev/md1      ext3      101018      25340      70462      27% /boot
tmpfs        tmpfs      1557688      0      1557688      0% /dev/shm
/dev/sdb1    ext3      7218432      147324      6704428      3% /nfs
[root@nfs-serveur ~]#
```

On vérifie si on peut écrire sur le nouveau disque.

```
[root@nfs-serveur ~]# touch /nfs/toto
```

SME-8.0 sauvegarde NFS

```
[root@nfs-serveur ~]#
```

On vérifie.

```
[root@nfs-serveur ~]# ls -als /nfs
total 24
 4 drwxr-xr-x  3 root root  4096 déc.  8 10:23 .
 4 drwxr-xr-x 25 root root  4096 déc.  8 10:18 ..
16 drwx-----  2 root root 16384 déc.  8 10:13 lost+found
 0 -rw-r--r--  1 root root    0 déc.  8 10:23 toto
[root@nfs-serveur ~]#
```

2.4. Modification de /etc/fstab

Si on veut que le nouveau disque soit monté à chaque amorçage du serveur, il faut ajouter la ligne suivante, indiquée ci-dessous en **rouge gras**, à /etc/fstab.

On lance l'édition de **fstab**.

```
vim /etc/fstab
```

```
#-----
# BE CAREFUL WHEN MODIFYING THIS FILE! It is updated automatically
# by the SME server software. A few entries are updated during
# the template processing of the file and white space is removed,
# but otherwise changes to the file are preserved.
# For more information, see http://www.e-smith.org/custom/ and
# the template fragments in /etc/e-smith/templates/etc/fstab/.
#
# copyright (C) 2002 Mitel Networks Corporation
#-----
/dev/main/root      /                ext3      usrquota,grpquota 1 1
/dev/md1            /boot           ext3      defaults            1 2
tmpfs               /dev/shm        tmpfs     defaults            0 0
devpts              /dev/pts        devpts    gid=5,mode=620     0 0
sysfs               /sys            sysfs     defaults            0 0
proc                /proc           proc      defaults            0 0
/dev/sdb1           /nfs            ext3      defaults            1 2
/dev/main/swap      swap            swap      defaults            0 0
```

2.4.1. Vérification

On démonte **sdb1** et on remonte toutes les partitions pour vérifier la nouvelle entrée dans /etc/fstab.

```
[root@nfs-serveur ~]# umount /dev/sdb1
[root@nfs-serveur ~]#
```

On vérifie le démontage de **sdb1**.

```
[root@nfs-serveur ~]# df -T
Sys. de fich. Type 1K-blocs Occupé Disponible Capacité Monté sur
/dev/mapper/main-root
ext3 4856348 2265200 2340476 50% /
/dev/md1 ext3 101018 25340 70462 27% /boot
tmpfs tmpfs 1557688 0 1557688 0% /dev/shm
[root@nfs-serveur ~]#
```

On monte toutes les partitions contenues dans /etc/fstab.

```
[root@nfs-serveur ~]# mount -a
```

Serveur NFS

```
[root@nfs-serveur ~]#
```

Aucune erreur n'est affichée.

On vérifie si le nouveau disque est monté.

```
[root@nfs-serveur ~]# df -T
Sys. de fich. Type      1K-blocs      Occupé Disponible Capacité Monté sur
/dev/mapper/main-root
                        ext3          4856348      2265204   2340472   50% /
/dev/md1                ext3          101018       25340    70462    27% /boot
tmpfs                   tmpfs        1557688      0        1557688   0% /dev/shm
/dev/sdb1               ext3          7218432      147324   6704428   3% /nfs
[root@nfs-serveur ~]#
```

3. Installation de smeserver-nfs

Référence: <http://wiki.contribs.org/NFS>

On installe `smeserver-nfs` et ses dépendances sur le serveur.

```
[root@nfs-serveur ~]# yum install smeserver-nfs --enablerepo=smecontribs
Loaded plugins: fastestmirror, protect-packages, smeserver
Loading mirror speeds from cached hostfile
...
Trying other mirror.
smeaddons | 2.5 kB | 00:00
smecontribs | 2.5 kB | 00:00
smecontribs/primary_db | 493 kB | 00:01
smeextras | 2.5 kB | 00:00
smeos | 2.7 kB | 00:00
smeupdates | 2.5 kB | 00:00
...
Excluding Packages from CentOS - os
Finished
Excluding Packages from CentOS - updates
Finished
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package smeserver-nfs.noarch 0:1.0.0-1.el5.sme set to be updated
--> Processing Dependency: portmap for package: smeserver-nfs
--> Processing Dependency: nfs-utils for package: smeserver-nfs
--> Running transaction check
---> Package nfs-utils.i386 1:1.0.9-66.el5 set to be updated
--> Processing Dependency: nfs-utils-lib for package: nfs-utils
--> Processing Dependency: librpcsecgss.so.2 for package: nfs-utils
--> Processing Dependency: libnfsidmap.so.0 for package: nfs-utils
--> Processing Dependency: libgssapi.so.2(libgssapi_CITI_2) for package: nfs-utils
--> Processing Dependency: libgssapi.so.2 for package: nfs-utils
--> Processing Dependency: libgssapi for package: nfs-utils
--> Processing Dependency: libevent-1.4.so.2 for package: nfs-utils
--> Processing Dependency: libevent for package: nfs-utils
---> Package portmap.i386 0:4.0-65.2.2.1 set to be updated
--> Running transaction check
---> Package libevent.i386 0:1.4.13-1 set to be updated
---> Package libgssapi.i386 0:0.10-2 set to be updated
---> Package nfs-utils-lib.i386 0:1.0.8-7.9.el5 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved
```

```
=====
Package Arch Version Repository Size
=====
```

SME-8.0 sauvegarde NFS

```
Installing:
 smeserver-nfs      noarch      1.0.0-1.el5.sme      smecontribs      18 k
Installing for dependencies:
 libevent           i386        1.4.13-1             smecontribs      112 k
 libgssapi          i386        0.10-2               smecontribs      22 k
 nfs-utils          i386        1:1.0.9-66.el5      smecontribs      402 k
 nfs-utils-lib      i386        1.0.8-7.9.el5       smecontribs      64 k
 portmap            i386        4.0-65.2.2.1        smecontribs      37 k

Transaction Summary
=====
Install      6 Package(s)
Upgrade     0 Package(s)

Total download size: 654 k
! Is this ok [y/N]: y
Downloading Packages:
(1/6): smeserver-nfs-1.0.0-1.el5.sme.noarch.rpm      | 18 kB    00:00
(2/6): libgssapi-0.10-2.i386.rpm                    | 22 kB    00:00
(3/6): portmap-4.0-65.2.2.1.i386.rpm                 | 37 kB    00:00
(4/6): nfs-utils-lib-1.0.8-7.9.el5.i386.rpm          | 64 kB    00:00
(5/6): libevent-1.4.13-1.i386.rpm                   | 112 kB   00:00
(6/6): nfs-utils-1.0.9-66.el5.i386.rpm               | 402 kB   00:00
-----
Total                                           310 kB/s | 654 kB    00:02
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : portmap                               1/6
  Installing      : libgssapi                             2/6
  Installing      : libevent                              3/6
  Installing      : nfs-utils                             4/6
  Installing      : smeserver-nfs                         5/6
  Installing      : nfs-utils-lib                         6/6
Migrating existing database networks
Migrating existing database spamassassin
Migrating existing database yum_updates
Migrating existing database accounts
Migrating existing database yum_available
Migrating existing database configuration
Migrating existing database domains
Migrating existing database hosts
Migrating existing database yum_repositories
Migrating existing database backups
Migrating existing database yum_installed
Migrating existing database mailpatterns

Installed:
  smeserver-nfs.noarch 0:1.0.0-1.el5.sme

Dependency Installed:
  libevent.i386 0:1.4.13-1          libgssapi.i386 0:0.10-2
  nfs-utils.i386 1:1.0.9-66.el5     nfs-utils-lib.i386 0:1.0.8-7.9.el5
  portmap.i386 0:4.0-65.2.2.1

Complete!

=====
WARNING: You now need to run BOTH of the following commands
to ensure consistent system state:

signal-event post-upgrade; signal-event reboot

You should run these commands unless you are certain that
yum made no changes to your system.
```

```
=====  
[root@nfs-serveur ~]#
```



On ne lance pas tout de suite *signal-event post-upgrade; signal-event reboot*.

4. Activation de NFS

On exécute les deux commandes suivantes pour activer NFS.

```
[root@nfs-serveur ~]# config setprop nfs status enabled  
[root@nfs-serveur ~]#
```

```
[root@nfs-serveur ~]# config setprop portmap status enabled  
[root@nfs-serveur ~]#
```

5. /etc/exports

Le fichier `/etc/exports` sert de liste de contrôle d'accès pour les systèmes de fichiers à exporter aux clients NFS.

Ici, on veut partager (*exporter*) le répertoire `/nfs`.

On édite `/etc/exports`.

```
vim /etc/esports
```

On ajoute la ligne suivante, suivi d'une ligne vide.

```
/nfs 192.168.1.0/255.255.255.0(rw,no_root_squash)
```



Il ne faut pas d'espace entre `...255.0` et `(rw..`



Il faut absolument ajouter une ligne vide à la fin du fichier.

<code>/nfs</code>	Le répertoire à exporter.
<code>192.168.1.0/255.255.255.0</code>	Toutes les machines sur le réseau 192.168.1.0 pourront utiliser ce répertoire.
<code>rw</code>	On peut lire et écrire dans le répertoire.
<code>no_root_squash</code>	Lorsque root utilisera le répertoire, au lieu d'avoir les privilèges de l'utilisateur <i>anonyme</i> , il le fera sous son vrai nom et avec tous ses privilèges.

6. Réamorçage

On réamorce avec les commandes suivantes pour que tous les changements deviennent permanents. Les deux commandes sont séparées par ";".

```
[root@nfs-serveur ~]# signal-event post-upgrade; signal-event reboot  
  
Broadcast message from root (pts/0) (Sun Dec 8 11:59:59 2013):  
  
The system is going down for reboot NOW!  
[root@nfs-serveur ~]#
```

7. Vérification

7.1. Exportation

Après le réamorçage, on vérifie si le répertoire a été exporté.

```
[root@nfs-serveur ~]# showmount -e
Export list for nfs-serveur:
/nfs 192.168.1.0/255.255.255.0
[root@nfs-serveur ~]#
```

7.2. Montage

Sur le serveur ou sur une autre machine, on vérifie en créant un répertoire de montage et en y monte le répertoire exporté par NFS.



On ne peut pas utiliser l'autre SME-8 car celui-ci n'a pas encore les programmes nécessaires à NFS.



Ici, on utilise le même serveur SME-8.

```
[root@nfs-serveur ~]# mkdir /test
[root@nfs-serveur ~]#
```

```
[root@nfs-serveur ~]# mount -t nfs -o soft,bg,timeo=120 192.168.1.60:/nfs /test
[root@nfs-serveur ~]#
```

-t nfs	Indique que le système de fichier est de type NFS.
-o soft	Le noyau va interrompre le montage si le serveur ne réponds plus.
bg	Si le montage est interrompu par un time-out, l'opération de montage est reprise en arrière-plan.
timeo=120	Temps, en secondes, pour un time-out.
192.168.1.60:/nfs	Le répertoire source, du serveur 192.168.1.60 , à monter.
/test	Le point de montage ou répertoire de destination.

On vérifie le montage.

```
[root@nfs-serveur ~]# df -T
Sys. de fich. Type 1K-blocs      Occupé Disponible Capacité Monté sur
/dev/mapper/main-root
      ext3      4856348    2270820    2334856    50% /
/dev/md1      ext3      101018      25340      70462    27% /boot
tmpfs      tmpfs      1557688      0    1557688    0% /dev/shm
/dev/sdb1      ext3      7218432    147324    6704428    3% /nfs
192.168.1.60:/nfs
      nfs      7218688    147456    6704640    3% /test
[root@nfs-serveur ~]#
```

On vérifie l'écriture.

```
[root@nfs-serveur ~]# touch /test/titi
[root@nfs-serveur ~]#
```

```
[root@nfs-serveur ~]# ls -als /test
total 24
```

Serveur NFS

```
4 drwxr-xr-x 3 root root 4096 déc. 8 12:09 .
4 drwxr-xr-x 26 root root 4096 déc. 8 12:08 ..
16 drwx----- 2 root root 16384 déc. 8 10:13 lost+found
0 -rw-r--r-- 1 root root 0 déc. 8 12:09 titi
0 -rw-r--r-- 1 root root 0 déc. 8 10:53 toto
[root@nfs-serveur ~]#
```

Le **no_root_squash** a fonctionné car le fichier appartient bien à root.

III- Client NFS

1. Installation de smeserver-nfs

On suit la même procédure d'installation sur le client que sur le serveur.

On installe les contributions **smeserver-nfs** sur le serveur client.

```
[root@nfs-client ~]# yum install smeserver-nfs --enablerepo=smecontribs
Loaded plugins: fastestmirror, protect-packages, smeserver
Loading mirror speeds from cached hostfile
...
Trying other mirror.
smeaddons | 2.5 kB | 00:00
smecontribs | 2.5 kB | 00:00
smecontribs/primary_db | 493 kB | 00:01
smeextras | 2.5 kB | 00:00
smeos | 2.7 kB | 00:00
smeupdates | 2.5 kB | 00:00
...
Excluding Packages from CentOS - os
Finished
Excluding Packages from CentOS - updates
Finished
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package smeserver-nfs.noarch 0:1.0.0-1.e15.sme set to be updated
--> Processing Dependency: portmap for package: smeserver-nfs
--> Processing Dependency: nfs-utils for package: smeserver-nfs
--> Running transaction check
---> Package nfs-utils.i386 1:1.0.9-66.e15 set to be updated
--> Processing Dependency: nfs-utils-lib for package: nfs-utils
--> Processing Dependency: librpcsecgss.so.2 for package: nfs-utils
--> Processing Dependency: libnfsidmap.so.0 for package: nfs-utils
--> Processing Dependency: libgssapi.so.2(libgssapi_CITI_2) for package: nfs-utils
--> Processing Dependency: libgssapi.so.2 for package: nfs-utils
--> Processing Dependency: libgssapi for package: nfs-utils
--> Processing Dependency: libevent-1.4.so.2 for package: nfs-utils
--> Processing Dependency: libevent for package: nfs-utils
---> Package portmap.i386 0:4.0-65.2.2.1 set to be updated
--> Running transaction check
---> Package libevent.i386 0:1.4.13-1 set to be updated
---> Package libgssapi.i386 0:0.10-2 set to be updated
---> Package nfs-utils-lib.i386 0:1.0.8-7.9.e15 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
smeserver-nfs noarch 1.0.0-1.e15.sme smecontribs 18 k
Installing for dependencies:
libevent i386 1.4.13-1 smecontribs 112 k
=====
```


Client NFS

```
libgssapi          i386          0.10-2          smecontribs      22 k
nfs-utils          i386          1:1.0.9-66.el5 smecontribs      402 k
nfs-utils-lib     i386          1.0.8-7.9.el5  smecontribs      64 k
portmap           i386          4.0-65.2.2.1   smecontribs      37 k

Transaction Summary
=====
Install           6 Package(s)
Upgrade           0 Package(s)

Total download size: 654 k

! Is this ok [y/N]: Y
Downloading Packages:
(1/6): smeserver-nfs-1.0.0-1.el5.sme.noarch.rpm | 18 kB 00:00
(2/6): libgssapi-0.10-2.i386.rpm | 22 kB 00:00
(3/6): portmap-4.0-65.2.2.1.i386.rpm | 37 kB 00:00
(4/6): nfs-utils-lib-1.0.8-7.9.el5.i386.rpm | 64 kB 00:00
(5/6): libevent-1.4.13-1.i386.rpm | 112 kB 00:00
(6/6): nfs-utils-1.0.9-66.el5.i386.rpm | 402 kB 00:00
-----
Total                                     310 kB/s | 654 kB 00:02
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : portmap                               1/6
  Installing      : libgssapi                             2/6
  Installing      : libevent                               3/6
  Installing      : nfs-utils                              4/6
  Installing      : smeserver-nfs                         5/6
  Installing      : nfs-utils-lib                          6/6
Migrating existing database networks
Migrating existing database spamassassin
Migrating existing database yum_updates
Migrating existing database accounts
Migrating existing database yum_available
Migrating existing database configuration
Migrating existing database domains
Migrating existing database hosts
Migrating existing database yum_repositories
Migrating existing database backups
Migrating existing database yum_installed
Migrating existing database mailpatterns

Installed:
  smeserver-nfs.noarch 0:1.0.0-1.el5.sme

Dependency Installed:
  libevent.i386 0:1.4.13-1          libgssapi.i386 0:0.10-2
  nfs-utils.i386 1:1.0.9-66.el5     nfs-utils-lib.i386 0:1.0.8-7.9.el5
  portmap.i386 0:4.0-65.2.2.1

Complete!

=====
WARNING: You now need to run BOTH of the following commands
to ensure consistent system state:

signal-event post-upgrade; signal-event reboot

You should run these commands unless you are certain that
yum made no changes to your system.
=====
[root@nfs-client ~]#
```

2. Activation de NFS

On exécute les deux commandes suivantes pour activer NFS.

```
[root@nfs-client ~]# config setprop nfs status enabled
[root@nfs-client ~]#
```

```
[root@nfs-client ~]# config setprop portmap status enabled
[root@nfs-client ~]#
```

3. Signalement

On signale l'installation et les activations.

```
[root@nfs-client ~]# signal-event post-upgrade; signal-event reboot

Broadcast message from root (pts/0) (Sun Dec  8 16:04:24 2013):

The system is going down for reboot NOW!
[root@nfs-client ~]#
```

Après le réamorçage on peut vérifier si **nfs-utils** a bien été installé.

```
[root@nfs-client ~]# rpm -qa |egrep nfs
nfs-utils-lib-1.0.8-7.9.el5
smeserver-nfs-1.0.0-1.el5.sme
nfs-utils-1.0.9-70.el5
[root@nfs-client ~]#
```

4. Montage du répertoire NFS



Pour s'assurer que, lors de la sauvegarde, le client pourra monter le partage en provenance du serveur NFS, on vérifie manuellement que le client peut le monter.

On crée un point de montage pour NFS sur le serveur client.

```
[root@nfs-client ~]# mkdir /client
[root@nfs-client ~]#
```

On vérifie.

```
[root@nfs-client ~]# ls -alsd /client
4 drwxr-xr-x 2 root root 4096 déc.  8 16:12 /client
[root@nfs-client ~]#
```

On monte le répertoire de partage NFS du serveur dans le répertoire **/client**.

```
[root@nfs-client ~]# mount -t nfs -o soft,bg,timeo=120 192.168.1.60:/nfs /client
[root@nfs-client ~]#
```

On vérifie.

```
[root@nfs-client ~]# df -T
Sys. de fich. Type      1K-blocs      Occupé Disponible Capacité Monté sur
/dev/mapper/main-root
ext3      4856348      2223496      2382180      49% /
/dev/md1   ext3         101018       25340        70462        27% /boot
tmpfs     tmpfs        1557688      0            1557688      0% /dev/shm
192.168.1.60:/nfs
```

Client NFS

```
nfs 7218688 147456 6704640 3% /client
[root@nfs-client ~]#
```

On vérifie l'écriture.

```
[root@nfs-client ~]# touch /client/tutu
[root@nfs-client ~]#
```

```
[root@nfs-client ~]# ls -als /client/
total 24
 4 drwxr-xr-x  3 root root  4096 déc.  8 16:55 .
 4 drwxr-xr-x 26 root root  4096 déc.  8 16:30 ..
16 drwx-----  2 root root 16384 déc.  8 10:13 lost+found
 0 -rw-r--r--  1 root root     0 déc.  8 16:26 titi
 0 -rw-r--r--  1 root root     0 déc.  8 10:53 toto
 0 -rw-r--r--  1 root root     0 déc.  8 16:54 tutu
[root@nfs-client ~]#
```

Le `no_root_squash` a fonctionné car le fichier appartient bien à root.

IV- Fichiers de sauvegarde

1. Introduction

Référence: http://wiki.contribs.org/Backup_with_dar



La longueur par défaut des fichiers de sauvegarde est de **700Mo** pour pouvoir les copier sur un **CD**. Cette longueur par défaut peut aussi être modifier à **4.7Go** pour accommoder un **DVD**.

À titre d'exemple nous allons modifier, sur le serveur client, la longueur par défaut pour que celle-ci devienne **1024Mo** car notre serveur client n'a qu'environ **1200Mo** de données à sauvegarder.

2. Fragment du gabarit sur mesure



Pour modifier la longueur par défaut et que celle-ci devienne permanente, il faut créer un *gabarit sur mesure* et indiquer à **SME** d'enregistrer ce nouveau gabarit.

Affichage du fichier qui indique la longueur par défaut.

```
[root@nfs-client ~]# cat /etc/e-smith/templates/etc/dar/DailyBackup.dcf/90slice
{
($backupwk{Slice} || '700M') eq '700M' ? "--slice 700M\n" : "--slice $backupwk{Slice}\n"
}
[root@nfs-client ~]#
```

Création du répertoire du nouveau gabarit (**DailyBackup.dcf**).

```
[root@nfs-client ~]# mkdir -p /etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf
[root@nfs-client ~]#
```

On vérifie.

```
[root@nfs-client ~]# ls -alsd /etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf
4 drwxr-xr-x 2 root root 4096 déc.  8 19:02 /etc/e-smith/templates-
custom/etc/dar/DailyBackup.dcf
[root@nfs-client ~]#
```

Pour pouvoir le modifier, on copie le fragment du fichier par défaut dans le nouveau répertoire.



Le **"\"** à la fin de la première ligne est obligatoire car il indique que la commande se poursuit sur la ligne suivante.

```
[root@nfs-client ~]# cp /etc/e-smith/templates/etc/dar/DailyBackup.dcf/90slice \
/etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf
[root@nfs-client ~]#
```

On vérifie.

```
[root@nfs-client ~]# ls -als /etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf
total 12
4 drwxr-xr-x 2 root root 4096 déc.  8 19:04 .
```

```
4 drwxr-xr-x 3 root root 4096 déc.  8 19:02 ..
4 -rw-r--r-- 1 root root   94 déc.  8 19:04 90slice
[root@nfs-client ~]#
```

3. Modification de la longueur par défaut.

On édite le fichier.

```
vim /etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf/90slice
```

On indique la nouvelle valeur (*1024 i.e. 1Go*) et on sauvegarde.

```
{
($backupwk{Slice} || '1024') eq '1024M' ? "--slice 1024\n" : "--slice $backupwk{Slice}\n"
}
```

On vérifie.

```
[root@nfs-client ~]# cat /etc/e-smith/templates-custom/etc/dar/DailyBackup.dcf/90slice
{
($backupwk{Slice} || '1024M') eq '1024M' ? "--slice 1024M\n" : "--slice $backupwk{Slice}\n"
}
[root@nfs-client ~]#
```

Puis on "**expand**" le gabarit pour que **SME** enregistre les modifications.

```
[root@nfs-client ~]# expand-template /etc/dar/DailyBackup.dcf
[root@nfs-client ~]#
```

La prochaine fois que la sauvegarde se la lancée, elle sera répartie en fichiers de **1024Mo**.

V- Sauvegarde

1. Introduction

On lance une sauvegarde pour vérifier que tout fonctionne bien.

2. Configuration de la sauvegarde

On se logue sur **server-manager** du serveur **nfs-client**.

<https://192.168.1.61/server-manager/> | Administration | Sélectionnez une action :

Sélectionnez une action : Configurer les sauvegardes sur un ordinateur distant

Exécuter

On choisit NFS comme type de partage.

nfs Suivant

Le nom d'hôte est le serveur-nfs: **192.168.1.60**.

Le dossier partagé de sauvegarde est: **nfs**

On choisit l'heure, etc... et on clique **mettre à jour**.

Configurer les sauvegardes sur un ordinateur distant

Vous pouvez fixer le nombre de jeux de sauvegarde successifs à conserver sur l'ordinateur distant, avec rotation automatique. Chaque jeu peut contenir les données sauvegardées sur plusieurs jours consécutifs. Dans ce cas, la première sauvegarde d'un jeu est une sauvegarde complète, les autres sauvegardes quotidiennes étant incrémentales. Vous pouvez aussi imposer une durée maximale pour chaque session de sauvegarde ou seulement pour les sauvegardes incrémentales. Quand cette limite de temps est atteinte, la sauvegarde est arrêtée proprement et la sauvegarde incrémentale suivante redémarrera de façon fiable pour les données non encore sauvegardées et celles modifiées entre temps.

Activer les sauvegardes sur un ordinateur distant

Paramètres de la sauvegarde sur ordinateur distant

IP ou nom d'hôte de l'ordinateur distant 192.168.1.60

Dossier partagé de sauvegarde nfs

Paramètres de la sauvegarde sur ordinateur distant

Nombre de jeux de sauvegarde tournants Sauvegardes quotidiennes dans chaque jeu

Heure de la sauvegarde sur un ordinateur distant (heure/min)

Durée maximale d'une session de sauvegarde (heures) Pas de limitation de durée pour les sauvegardes complètes

Niveau de compression de la sauvegarde [0-9] La sauvegarde complète est autorisée sur

Mettre à jour

Mitel Networks server 8.0
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L'activation de la sauvegarde a réussie.

Mise à jour de la configuration de la

Activation réussie des sauvegardes sur un ordinateur distant
Heure de la sauvegarde :19:08

Mitel Networks server 8.0
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3. Vérification

La première sauvegarde a créé les répertoire **tmp_dir** et **nfs-client.micronator.org**.

tmp_dir est le répertoire temporaire des fichiers de sauvegarde.

```
[root@nfs-serveur ~]# ls -als /nfs/
total 32
 4 drwxr-xr-x  5 root root  4096 déc.  8 19:08 .
 4 drwxr-xr-x 26 root root  4096 déc.  8 12:08 ..
16 drwx-----  2 root root 16384 déc.  8 10:13 lost+found
 4 drwxr-xr-x  3 root root  4096 déc.  8 19:11 nfs-client.micronator.org
 0 -rw-r--r--  1 root root    0 déc.  8 16:26 titi
 4 drwxr-xr-x  2 root root  4096 déc.  8 19:11 tmp_dir
 0 -rw-r--r--  1 root root    0 déc.  8 10:53 toto
 0 -rw-r--r--  1 root root    0 déc.  8 16:54 tutu
[root@nfs-serveur ~]#
```

nfs-client.micronator.org est le répertoire des différentes sauvegardes i.e. **set0**, **set1**...

```
[root@nfs-serveur ~]# ls -als /nfs/nfs-client.micronator.org/
total 16
 4 drwxr-xr-x  3 root root  4096 déc.  8 19:11 .
 4 drwxr-xr-x  5 root root  4096 déc.  8 19:08 ..
 0 -rw-r--r--  1 root root  2614 déc.  8 19:11 dar-catalog
 4 drwxr-xr-x  2 root root  4096 déc.  8 19:11 set0
[root@nfs-serveur ~]#
```

La première sauvegarde, **set0**, contient les fichiers (*slices*) de la première sauvegarde.

```
[root@nfs-serveur nfs]# ls -alsh nfs-client.micronator.org/set0/
total 1,2G
4,0K drwxr-xr-x  2 root root  4,0K déc.  8 19:11 .
4,0K drwxr-xr-x  3 root root  4,0K déc.  8 19:11 ..
1,1G -rw-r--r--  1 root root  1,0G déc.  8 19:10 full-201312081908.1.dar
125M -rw-r--r--  1 root root  124M déc.  8 19:11 full-201312081908.2.dar
[root@nfs-serveur nfs]#
```

Comme on le voit, le premier fichier est bien de **1024Mo** ou **1Go**. Le deuxième fichier, le reste de la sauvegarde, est de **124Mo**.



Victoire totale.

Crédits

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Auteur: **Michel-André Robillard CLP**

Remerciement: **Tous les contributeurs GNU/GPL.**

Intégré par: **Michel-André Robillard CLP**

Contact: **michelandre at micronator.org**

Répertoire de ce document: E:\000_DocPourRF232_general\RF-232_SME-8.0_Sauvegarde-NFS\RF-232_SME-8.0_Sauvegarde-NFS_2013-12-10_17h45.odt

Historique des modifications:

<i>Version</i>	<i>Date</i>	<i>Commentaire</i>	<i>Auteur</i>
0.0.1	2013-12-07	Début.	M.-A. Robillard
0.0.2	2013-12-10	Enlever le quota dans fstab pour le disque NFS.	M.-A. Robillard

Index

1	DVD.....	20	nfs status enabled.....	13
1200Mo.....	20	E	nfs-client.micronator.org.....	23
192.168.1.0/255.255.255.0.....	13	étape.....	nfs-client.micronator.org/set0/.....	23
192.168.1.60:/nfs.....	14	expand-template.....	nfs-utils.....	18
4		Exportation.....	nfs-utils-lib.....	18
4.7Go.....	20	ext3.....	no_root_squash.....	13, 19
7		F	non-complété.....	5
700Mo.....	20	fdisk.....	non-vérifié.....	5
9		Fichiers de sauvegarde.....	note.....	5
90slice.....	20	fstab.....	Note au lecteur.....	5
A		FTP.....	nouveau disque.....	6
activation de la sauvegarde.....	23	full-201312081908.1.dar.....	P	
Activation de NFS.....	13, 18	full-201312081908.2.dar.....	portmap status enabled.....	13
Administration.....	22	G	post-upgrade.....	13
ajouter une nouvelle partition.....	7	gabarit sur mesure.....	procédure.....	5
astuce.....	5	GFDL.....	R	
Avertissement.....	2	H	Réamorçage.....	13
AVIS DE NON-RESPONSABILITÉ.....	2	host0.....	recommandation.....	5
B		I	Recommandation.....	6
bg.....	14	i-noeuds.....	répertoire NFS.....	18
C		ID de la cible SCSI.....	rw.....	13
canal.....	7	Introduction.....	S	
CD.....	20	L	Sauvegarde.....	22
Client NFS.....	16	Licence.....	sdb.....	6
Commentaire.....	25	longueur par défaut.....	sdb1.....	10
config.....	13	lost+found.....	Sélectionnez une action :.....	22
Configuration de la sauvegarde.....	22	LUN.....	server-manager.....	22
Conventions.....	5	M	Serveur NFS.....	6
Crédits.....	25	m pour l'aide.....	set0.....	23
D		Manipulation.....	set1.....	23
DailyBackup.dcf.....	20	mettre à jour.....	setprop.....	13
dar-catalog.....	23	mkdir -p.....	showmount -e.....	14
Dependencies Resolved.....	11	mkfs.ext3.....	signal-event.....	13
Description générale.....	5	mount -a.....	signal-event post-upgrade.....	13
df -T.....	9, 18	N	signal-event reboot.....	13
			Signalement.....	18
			slice.....	5
			SME-8.....	5
			smeserver-nfs.....	11, 16, 18
			système de fichiers.....	9
			T	
			timeo=120.....	14

SME-8.0 sauvegarde NFS

tmp_dir.....23	- l.....8	/
touch /test/titi.....14	- ENTRÉE.....8	/client/tutu.....19
V	- n.....8	/dev/sdb.....7
Victoire.....23	- p.....8	/etc/e-smith/templates.....20
	- p (print).....8	/etc/exports.....13
	--enablerepo=smecontribs.....11	/etc/fstab.....10
	-o soft.....14	/nfs.....9, 13
W	-T.....9	/nfs/toto.....9
w (write).....8	-t nfs.....14	/proc/partitions.....6
	"	/sys/class/scsi_host/.....6
Y	"- - -".....7	/sys/class/scsi_host/host0/scan.....7
yum install.....11		/test.....14
-	(©
- - -.....7	(rw,no_root_squash).....13	© RF-232.....2

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