

# Client Configuration

All Sesam client installations require the following:

1. Proper forward name resolution of it's own hostname (sepclient)
2. Proper reverse name resolution of the server's ip address(192.168.1.1/sepserver)
3. Proper reverse name resolution of any other media server's ip address(192.168.2.1/septrs)
4. You must run **sm\_setup set\_client sepserver** as root or Administrator

We also recommend:

1. Hostnames in all lower case, containing no periods or blank space
2. All systems available in both full forward and reverse dns with proper fqdn

Quick Tests on the client:

1. **hostname**  
sepclient
2. **nslookup sepclient.dom.tld**  
192.168.1.3
3. **nslookup 192.168.1.3**  
sepclient.dom.tld
4. **ping -c 1 sepclient**  
response from sepclient.dom.tld
5. **ping -c 1 sepserver.dom.tld**  
response from sepserver.dom.tld

SEP sesam Clients

All Versions

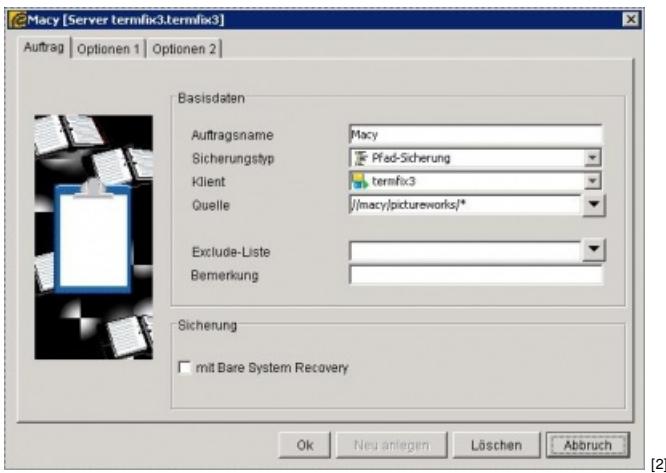
Attachment	Size
<a href="#">Client Configuration.pdf</a> [1]	142.2 KB

## Apple

Macintosh computers can be backed up with a local backup-task on the **SEP sesam** server under Windows. Requirements

- **SEP sesam** server v 3.4 or later for **Windows**
- Share of the desired directories on the Macintosh computer
- "Windows File Sharing" must be installed and running on the MAC
- You can use a UNIX Sesam Server with a single windows client as the "datamover"

Configuration Configure a corresponding backup-task on **SEP sesam** server with the GUI.



Choose Path Backup as task type.

In the example (task name Macy) backup source is the area "pictureworks" which is set in the sourceline. The backup source is shown like this in the network \\macy\\pictureworks. In **SEP sesam** it's inserted like this //macy/pictureworks/\*. Please note that the special Mac data attributes can not be saved using this method.

Products  
4.0

## Linux Distributions

Installation:

- DEB Packages can be installed manually with dpkg -i sesam\_package-os-version.deb
- RPM Packages can be installed with rpm -Uvh sesam\_package-os-version.rpm
- TAR Packages can be installed by extracting the sesam\_package-os-version.tar file and running ./sm\_setup and selecting /opt as the installation path

APT installation (Debian/Ubuntu)

To install Sesam by APT you should insert the followin line in to your /etc/apt/sources.d/sesam file:

deb <http://download.sep.de/linux/debian> [3] stable non-free

Installation or update is started by:

```
apt-get update
apt-get install sesam-package
```

Client Configuration:

```
root@client:~# /opt/sesam/bin/sesam/sm_setup set_client sesam_server_hostname.domain.tld
```

Products  
All Versions

## Microsoft Products

1. Download and open [Sesam Server](#) [4]; (sesam\_srv-VERSION#BIT#.exe) from the [downloads section](#) [5].
2. Follow the on screen directions.

\*If you want to use a tape library on Windows 2000/2003 or Windows XP you must deactivate the "Removable Storage Service" service on your system!

# Volume Shadow Copy Service (VSS)

Please see the new official document here:

[http://sepusa.com/getwiki/SEP\\_sesam\\_Volume\\_Shadow\\_Copy\\_Service\\_\(VSS\)\\_for\\_Windows](http://sepusa.com/getwiki/SEP_sesam_Volume_Shadow_Copy_Service_(VSS)_for_Windows) [6]

Attachment	Size
VSS Plugin for sesam 3.4.xx [7]	142.96 KB

## Novell Products

Novell Products: OES/Linux systems are fully supported for server and client use. OES/Netware systems are fully supported as TSA clients (with Linux based Sesam Server or Linux based Sesam client).

## Sesam on Novell SLES / OES Linux

Sesam Client:

### Required Packages from SEP

- sesam\_cli ( Sesam Client / Agent Application )
- sesam-novell-client ( Sesam<->Novell TSA Proxy )

Sesam Server:

### Required Packages from SEP

- sesam\_srv ( Sesam Server Application )
- sesam-novell-client ( Sesam<->Novell TSA Proxy )

### Required Packages from SLES10/11 ( all 64 bit and some 32 bit if package name contains pg)

- postgresql
- postgresql-server

### Required Packages from Sun/Oracle (Required for all Sesam Server and Gui Installations -srv and -gui packages)

- Java2 JRE 1.6 or later (rpm version)

Install the package as root and accept the license, if you receive \_any\_ errors run "rpm -e jre" and try again.

### Required Packages from Novell OES/Linux

Novell TSAs and dependencies: (Novell OES/Linux License Required)

- nici
  - novell-filesystem
  - novell-ntls
  - novell-sms-interface-libs
  - novell-sms
- 
- To quickly install these packages you may be able to run a command like this but expect errors that can be ignored: cd to the oes cd mountpoint and run "find .|grep rpm|egrep -i 'nici|novell-filesystem|novell-ntls|novell-sms'|xargs -n1 rpm -ivh"
  -

Required TSA configuration for backup of eDirectory, NSS Volumes, Ifolder, GroupWise and clusters: You may have to customize the tsafsgw line to match your GroupWise installation and post office path.

Edit Configuration File: **/etc/opt/novell/sms/smdrd.conf**

## **Online eDirectory** with single leaf restore

- autoload: tsands
- You should exclude `\_\_admin$` from the all or / filesystem backup

## **Online GroupWise 8** with single message restore

- autoload: tsafs --EnableGW

Modify the paths below to match Domain and Post Office locations

- autoload: tsafsgw --home /media/nss/GW --home /media/nss/GWPO --home /media/nss/GWPO2

## **Online Groupwise 12** add " --EnableGW option to tsafs"

- autoload: tsafs --EnableGW

## **Data Mover** enable support for netware 6.5

- Mode=Dual or Mode=NetWare
- On the netware side you may need to update to this tsa version <http://www.sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware> [8]

## **Virtual Platforms** Disable TSA caching file: `/etc/opt/novell/sms/tsafs.conf`

- cachingmode=disable

## **Restart the TSAs**

- `/etc/init.d/novell-smdrd restart`

Advanced Performance Tuning information

<http://www.sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware/novell-tsa-tuning> [9]

[Additional Documentation](#) [10]

SEP sesam Servers  
All Versions

# **Sesam on SLES 11**

Please refer to the SLES 10 document for baseline configuration, this document only covers differences between SLES10/OES2-3 and SLES11/OES11

`~/.gvfs` folder causes backup error

The Problem is the following: if a user is logged on to the gnome or kde session and makes use of the GVFS layer, the directory `~/.gvfs` is created.

This directory cannot be entered by any other user (even root), unfortunately this is not the only problem: the system call "stat" also errors out on this directory.

This is also the reason it can't be excluded, because while creating the file list and looking at the excludes, `sbc_find` once does a "stat()" call on the directory and receives an error.

Create a new file named `/etc/profile.local` with the contents below

```
GVFS_DISABLE_FUSE=1
export GVFS_DISABLE_FUSE
```

Run the following command for each affected folder

```
fusermount -u /home/$USER/.gvfs
```

test with **stat /home/\$USER/.gvfs**

SEP sesam Clients  
All Versions

## Novell GroupWise - Linux

The SEP sesam Database Online Module for Novell GroupWise [11] enables a consistent backup of the GroupWise environment via the Novell TSA layer. The backup of the data occurs using an Open Enterprise Server on Linux with a SEP sesam backup client (including failover). This method also supports backup of GroupWise Cluster environments. Installation of client software on each groupwise server is not necessary (client free solution). Restoration of mailboxes and mail is supported (indirect). SEP sesam Database Online Module for Novell Groupwise is the optimal way (or methodology) to secure your Novell GroupWise environment. Sesam backs up not only small files but performs a complete backup of the GroupWise server, as well.

- Operating system: Linux - Debian 3.1, Fedora Core 4,
- Netware 5.x/6.0, SUSE 9/10, SLES 9/10, OES Linux, glibc 2.1-2.3
- Database version: 6.0, 6.5, 7.0
- Server system: Intel x86 / AMD64
- Expandability: with further Novell GroupWise Online modules

## Advanced Configuration

The following options are available to help mitigate warning conditions on certain configurations

These entries go in the "save options" and / or "restore options" of the task with the warning

(-o options):

Save Options:

```
OPEN_READ_DENY_WRITE    # deny write
USE_LOCK_MODE_IF_DW_FAILS # lock if deny write failed
NO_LOCK_NO_PROTECTION   # no lock and not protection
OPEN_READ_ONLY          # dirty read
```

TSA specific open modes:

```
PRESERVE_ACCESS_TIME # allow HSM solutions
```

Restore options:

```
skip_data      # process only ACL (Trustees)
noacl         # process without ACL (Trustees)
```

SEP sesam Clients

# Advanced TSA Debugging

## Tsafs Debug Mode

1. cd to /opt/novell/sms/bin/
2. Unload TSA with the following command:  
./smsconfig -u tsafs
3. Reload the TSA with the following command:  
./ smsconfig -l tsafs --smsdebug ffffffc --smsdebug2 ffffffc
4. Run any test that causes the failure that you want the debug log on.
5. Unload the TSA with the following command:  
./smsconfig -u tsafs
6. Collect or view the log at /var/opt/novell/log/sms/tsafs\_debug\_xxxx.log (the xxxx represents some number)
7. Reload the TSA with the following command:  
smsconfig -l tsafs

## Smdrd Debug Mode

Smdrd can be loaded in debug mode on Linux:

Stop the smdrd daemon:  
rcnovell-smdrd stop

Restart the smdrd with debug by doing the following:  
/opt/novell/sms/bin/smrd --smsdebug ffffffc --smsdebug2 ffffffc

The debug data can be seen in standard out and is also written to /var/opt/novell/log/sms/smrd\_debug\_xxxx.log (xxxx is the process id).

CTRL C to end smdrd process when the applicable debug information has been gathered.

# Cluster Backup

This document covers clustered nss volumes and clustered groupwise on Linux:

### 1. **slptool findsrvs smdr.novell**

This document covers clustered nss volumes and clustered groupwise on Linux:

### 1. **slptool findsrvs smdr.novell**

- Make sure you get the same results on all cluster members
- Make sure there are no 127.x.x.x entries
- Make sure all desired resources are registered on the same port (NSS Volumes, GroupWise)
- Make sure the backup server (datamover) is included
- Make sure the ports are all the same

### 2. **host CLUSTER\_RESOURCE\_HOSTNAME** (from slp output)

- The resulting ip has to match the slptool registration ip
- Check all resources

### 3. **/opt/novell/sms/bin/smsconfig -t**

- Check that tsafs is loaded in the following mode:
- tsafs --EnableGW --cluster

Additional Resources:

- [Advanced TSA Troubleshooting Guide from SEP](#) [12]
- [Novell TSA Documentation](#) [13]

# Discontinued Novell Products

Some older products require special configuration.

## NetWare to OES 2 Migration

Power Point slideshow now available [here](#) [14]. All NetWare systems after Version 6.5 with the requisite patches are eligible for a migration. Experience for the possible migration from older versions of NetWare, with the exception of NetWare 5.1 SP 6, is not available. The target OES 2 Linux System (32/64) must have all current SLES10 and OES2 patches installed. In addition, they must be at the current revision levels. Please confirm the status of all versions and patches before initiating a test! In General we recommend setting up and performing a test migration in a controlled, non-critical environment. Afterward, the accumulated experience will ease the migration on the production systems. The installation of SEP sesam Client software is not required on the NetWare system that will be transferred to OES2! The access to the system uses the TSA/SMS interface from Novell, and does not impact the operating NetWare environment. **Step by Step:**

- Target OES 2 Server Linux SP1 with TSAFS in dual mode -> allows the access to the NetWare File System structure without additional adaption after the migration
- Using the SEP sesam GUI add the Target Server for the migration (OES Linux) as a client
- Using the SEP sesam GUI select the NetWare server that is to be migrated to OES2 (This does not require the installation of client software on the NetWare server)
- Configure the NSS volume(s) as backup source via the client browser
- Backup to a selected Disk or Tape using SEP sesam
- Prepare the selected NSS Volumes with the appropriate capacity on the target system (OES2) **A successful migration of NetWare including Trustees is only possible for/to NSS Volumes;** ext3 and other files systems do not support the expanded permissions structure.
- Restore of the migrating data volumes is accomplished using the SEP sesam Restore Wizard which is contained within the SEP sesam GUI ->Choose the backup path and Restore with Level FULL
- Select the Source Server (OES Server shown as NetWare) and the Target Server, set the migration target in UNIX notation (e.g. ./media/nss/DATA')
- The data will now be migrated to the new OES2 System

**More detailed technical information regarding migration can be found at:**

[http://wiki.sepsoftware.com/wiki/index.php/Sesam\\_README\\_for\\_Novell\\_OES\\_L...](http://wiki.sepsoftware.com/wiki/index.php/Sesam_README_for_Novell_OES_L...) [15] **How To for the migration from NetWare to OES 2 SP1:** [http://wiki.sepsoftware.com/wiki/index.php/NetWare\\_migration\\_NetWare\\_to\\_...](http://wiki.sepsoftware.com/wiki/index.php/NetWare_migration_NetWare_to_...) [16]

**Attachment** **Size**

[SEPsesam\\_Migration\\_NetWare-OES2\\_en.pdf](#) [17] 189.24 KB

## Upgrading From OES1 to OES2

Problem: Sun Java Package replaced by IBM Package - Causes the Sesam-RMI service to fail Some customers have had their custom installed Sun JVM automatically replaced by the IBM JVM. Symptoms: Can't connect with GUI after OES1 to OES2 upgrade #> . /var/opt/sesam/var/ini/sesam2000.profile ; sm\_main status shows all services up except RMI Solution: Install the sun JVM again and make a symlink to show sesam the location and restart sesam: Example: #> ln -s /opt/java/jvm-version/bin/java /opt/sesam/bin/sesam/java ; /etc/init.d/sesam restart Check: \$> /opt/sesam/bin/sesam/java -version |grep HotSpot;

## OES Novell Directory 1.0

Linux: Make a symlink from /opt/novell/eDirectory/bin/ndsbackup to /opt/sesam/bin/sesam/ndsbackup. Create a backup task of type OES Novell Directory. Edit the task options and add "-a user=USERNAME, pass=PASSWORD" to both the save options

and restore options. Netware: load tsands with "load tsands", remember to add it to autoexec so it starts automatically. Use the source browser in the add backup task window to select "Entire Directory Backup".

## NetWare

Full Cluster and Node level support and capabilities for NetWare systems with the latest versions of nss/sms/smdr.

Required : TSA Update v 6.5-sp8

[http://download.novell.com/Download?buildid=7MTChD\\_Wxco~\[18\]](http://download.novell.com/Download?buildid=7MTChD_Wxco~[18])

SEP sesam Clients  
All Versions

## Netware System / TSA Performance Tuning

Tuning possibilities for tsafs should be applied in the order listed.

**System:** (double the ram)

- Make sure to use 2-4GB or more ram
- Disable HT/Logical Processors in bios

**Network:** (double the network speed)

- Enable load sharing with load balancing and confirm with interface statistics that it is actually working correctly.
- The tx and rx of each nic included in the team should be similar.
- Switch port utilization should be similar/within 5-30%.
- Use 802.3ad trunking with layer3+4 hash policy
- enable fast on the trunked ports
- disable stp on the trunked ports
- check /proc/net/bonding/bond0 and make sure layer3+4 is enabled!

**Storage:** (double os <=> hardware throughput)

- Turn off adaptive read-ahead on the raid controller. (set NORA)
- You will need the vendor management utility
- 
- Configure os readahead settings on all devices to match underlying topology
- Persistent setting file list: /etc/init.d/boot.local, /etc/rc.local, autoexec.ncf
- First check performance 3x for each test
- ex:  
hdparm -tf --direct /dev/sda  
hdparm -tf --direct /dev/dm-0  
hdparm -tf --direct /dev/dm-1
- Ex: single disk or raid0/1 on linux as sda with lvm on sda2 and lvs on data/dm-0 data/dm-1  
blockdev --setra 1024 /dev/sda  
blockdev --setra 1024 /dev/dm-0  
blockdev --setra 1024 /dev/dm-1
- Ex: 4 disk raid 5 on linux as sda with lvm on sda2 and lvs on data/dm-0 data/dm-1  
blockdev --setra \$((1024\*3)) /dev/sda  
blockdev --setra \$((1024\*3)) /dev/dm-0  
blockdev --setra \$((1024\*3)) /dev/dm-1
- Ex: 4 disk raid 10 on linux as sda with lvm on sda2 and lvs on data/dm-0 data/dm-1

- blockdev --setra \$((1024\*4)) /dev/sda
- blockdev --setra \$((1024\*4)) /dev/dm-0
- blockdev --setra \$((1024\*4)) /dev/dm-1
- Repeat performance tests above and compare
- 

**Advanced RAID Storage \*\*\*\*\* Only \*\*\*\*\*** turn on WB caching if all of the following items are true and you fully understand the consequences of WB caching:

- System has dual physically independent power supplies  
Power supplies physically connected to different power sources
- System has a ups configured for auto-shutdown
- System has battery backed raid controller
- Raid battery has full voltage
- 
- Always disable WB caching on all individual drives

**Novell TSAs:** (double the number of threads ) (/etc/opt/novell/sms/tsafs.conf or SYS:\ETC\SMS\TSA.CFG)

*Restart SMS:*

rcnovell-smdrd restart (or smsstop smsstart)

### This configuration expects 4GB of ram and at least 2 cores and hardware raid. This also won't make much if any difference unless at least 3 of the above configurations are already complete.

Custom configuration of tsafs:

```
cachememorythreshold=20
readaheadthrottle=8
readbuffersize=65536
readthreadallocation=25
readthreadsperjob=16
cachingmode=disable
#only enable the following option if the mean file size is =>1MB
#readbuffersize=131072
```

SEP sesam Clients All Versions 3.4 3.6 4.0
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## Error Translation

9.3 Target Service Return Values This section lists the return values returned by the TSAPI and SMDR, and TSANDS return values that directly map to the NDS return values, see TSANDS Return Values.

9.3.1 TSAPI and SMDR Return Values The following table lists completion codes for the TS API and SMDR. (completion codes beginning with 0xFFFFD, 0xFFFFE, and 0xFFFFF). Value Error String Description

0xFFFFDFFAC	NWSMTS_OUT_OF_QUOTA_SPACE	A file or directory cannot be restored. The user or directory quota limit is exceeded.
0xFFFFDFFAD	NWSMTS_UNSUPPORTED_OPTION	One of the selected options is not supported by the target service
0xFFFFDFFAE	NWSMTS_CLUSTER_TARGET_HAS_NO_VOLUMES	The cluster pool does not contain any resources
0xFFFFDFFAF	NWSMTS_CLUSTER_TARGET_DOES_NOT_EXIST	Cluster target does not exist
0xFFFFDFFB0	NWSMTS_INVALID_MESSAGE_NUMBER	Message number is invalid
0xFFFFDFFB1	NWSMTS_INTERNAL_ERROR	An internal TSA error occurred, see the error log for more details
0xFFFFDFFB2	NWSMTS_COMPRESSION_CONFLICT	Attempted to put compressed data on a noncompressed resource
0xFFFFDFFB3	NWSMTS_MAX_CONNECTIONS	All available connections to the TSA are in use
0xFFFFDFFB4	NWSMTS_REDIRECT_TRANSPORT	Indicates reconnection requirement
0xFFFFDFFB5	NWSMTS_WRITE_ERROR	An error occurred while writing to a file
0xFFFFDFFB6	NWSMTS_WRITE_ERROR_SHORT	An error occurred while writing to a file. Could not write all of the data of current request
0xFFFFDFFB7	NWSMTS_WRITE_EA_ERR	Unable to write the extended

attribute information 0xFFFFDFFB8 NWSMTS\_VALID\_PARENT\_HANDLE A valid parent handle was created 0xFFFFDFFB9  
NWSMTS\_UNSUPPORTED\_FUNCTION The requested function is not supported by this TSA 0xFFFFDFFBA  
NWSMTS\_TSA\_NOT\_FOUND Invalid or inactive TSA specified 0xFFFFDFFBB  
NWSMTS\_TRANSPORT\_PACKET\_SIZE\_ER The read/write request exceeds 128K 0xFFFFDFFBC  
NWSMTS\_TRANSPORT\_FAILURE The transport mechanism failed 0xFFFFDFFBD NWSMTS\_SET\_FILE\_INFO\_ERR  
Unable to set file information 0xFFFFDFFBE NWSMTS\_SELECTION\_TYPE\_NOT\_USED Selection type is not used  
0xFFFFDFFBF NWSMTS\_SCAN\_TYPE\_NOT\_USED Scan type is not used 0xFFFFDFFC0  
NWSMTS\_SCAN\_TRUSTEE\_ERR Unable to scan for the trustees information. Running DSRepair may resolve the issue  
0xFFFFDFFC1 NWSMTS\_SCAN\_NAME\_SPACE\_ERR Unable to scan name-space specific information 0xFFFFDFFC2  
NWSMTS\_SCAN\_IN\_PROGRESS Cannot alter the resource list while a scans is in progress 0xFFFFDFFC4  
NWSMTS\_SCAN\_ERROR The scan failed; the probable cause is an invalid path 0xFFFFDFFC3  
NWSMTS\_SCAN\_FILE\_ENTRY\_ERR Unable to scan file entry information 0xFFFFDFFC5  
NWSMTS\_RESOURCE\_NAME\_NOT\_FOUND No resource name is found or all resource names have been found  
0xFFFFDFFC6 NWSMTS\_READ\_ERROR Cannot read the file 0xFFFFDFFC7 NWSMTS\_READ\_EA\_ERR Unable to read the  
extended attributes 0xFFFFDFFC8 NWSMTS\_OVERFLOW A UINT64 value overflowed 0xFFFFDFFC9  
NWSMTS\_OUT\_OF\_MEMORY The file server is out of memory or the memory allocation failed 0xFFFFDFFCA  
NWSMTS\_OUT\_OF\_DISK\_SPACE Cannot restore the data, because the target service is out of disk space 0xFFFFDFFCB  
NWSMTS\_OPEN\_MODE\_TYPE\_NOT\_USED The open mode option is not used 0xFFFFDFFCC NWSMTS\_OPEN\_ERROR  
Cannot open a file 0xFFFFDFFCD NWSMTS\_OPEN\_DATA\_STREAM\_ERR The possible instances when TSA500 can  
encounter this error are: Returning the meta data information for the file object. Returning the directory base information for a  
specified file path. Opening a file. In either case, the engine should continue with the next data set that it can backup. The  
possible instance when TSA600 can encounter this error is from the file system open call while opening a file system object. In  
this case, the engine should continue with the next data set that it can backup. 0xFFFFDFFCE  
NWSMTS\_NO SUCH PROPERTY No such property. 0xFFFFDFFCF NWSMTS\_NO\_SEARCH\_PRIVILEGES No search  
privilege on the client service 0xFFFFDFFD0 NWSMTS\_NO\_MORE\_NAMES No more entries in the list or name space does  
not exist 0xFFFFDFFD1 NWSMTS\_NO\_MORE\_DATA\_SETS There are no more data sets to scan 0xFFFFDFFD2  
NWSMTS\_NO\_MORE\_DATA No more data exists 0xFFFFDFFD3 NWSMTS\_NO\_CONNECTION The specified connection is  
invalid or does not exist 0xFFFFDFFD4 NWSMTS\_NOT\_READY The specified server is unable to service the request at this  
time 0xFFFFDFFD5 NWSMTS\_NAME\_SP\_PATH\_NOT\_UPDATED The name space path has not been updated  
0xFFFFDFFD6 NWSMTS\_LOGOUT\_ERROR Unable to logout 0xFFFFDFFD7 NWSMTS\_LOGIN\_DENIED Login denied  
0xFFFFDFFD8 NWSMTS\_INVALID\_SEQUENCE\_NUMBER The sequence number is invalid 0xFFFFDFFD9  
NWSMTS\_INVALID\_SELECTION\_TYPE Invalid selection type. The selection type was either less than zero or greater than  
thirty one 0xFFFFDFFDA NWSMTS\_INVALID\_SEL\_LIST\_ENTRY An invalid selection list entry was passed 0xFFFFDFFDB  
NWSMTS\_INVALID\_SCAN\_TYPE Invalid scan type was used. The scan type was either less than zero or greater than thirty  
one 0xFFFFDFFDC NWSMTS\_INVALID\_PATH An invalid path was used 0xFFFFDFFDD NWSMTS\_INVALID\_PARAMETER  
One or more of the parameters are NULL or invalid 0xFFFFDFFDE NWSMTS\_INVALID\_OPEN\_MODE\_TYPE Invalid open  
mode option type. The option type is less than zero or greater than 23 0xFFFFDFFDF NWSMTS\_INVALID\_OBJECT\_ID The  
object's backed up id and name does not match the current object's id and name 0xFFFFDFFE0  
NWSMTS\_INVALID\_NAME\_SPACE\_TYPE The name space type does not exist or is invalid 0xFFFFDFFE1  
NWSMTS\_INVALID\_MESSAGE\_NUMBER The message number is invalid 0xFFFFDFFE2 NWSMTS\_INVALID\_HANDLE  
The handle is tagged invalid or is set to zero 0xFFFFDFFE3 NWSMTS\_INVALID\_DATA\_SET\_TYPE Data set type is invalid  
0xFFFFDFFE4 NWSMTS\_INVALID\_DATA\_SET\_NAME The data set name is invalid 0xFFFFDFFE5  
NWSMTS\_INVALID\_DATA\_SET\_HANDLE The data set handle is invalid 0xFFFFDFFE6 NWSMTS\_INVALID\_DATA The  
data set is invalid 0xFFFFDFFE7 NWSMTS\_INVALID\_CONNECTION\_HANDL Invalid connection handle was passed  
0xFFFFDFFE8 NWSMTS\_GET\_VOL\_NAME\_SPACE\_ERR Unable to get the name space information that is supported by the  
resource 0xFFFFDFFE9 NWSMTS\_GET\_SERVER\_INFO\_ERR Unable to get the file server's information 0xFFFFDFFEA  
NWSMTS\_GET\_NAME\_SPACE\_SIZE\_ERR Unable to get name space size information 0xFFFFDFFEB  
NWSMTS\_GET\_NAME\_SPACE\_ENTRY\_ERR Unable to get the name space entry name 0xFFFFDFFEC  
NWSMTS\_GET\_ENTRY\_INDEX\_ERR Unable to get the entry index 0xFFFFDFFED  
NWSMTS\_GET\_DATA\_STREAM\_NAME\_ERR Unable to get the data stream's name 0xFFFFDFFEE  
NWSMTS\_GET\_BIND\_OBJ\_NAME\_ERR Unable to get the name of a bindery object 0xFFFFDFFEF  
NWSMTS\_EXPECTING\_TRAILER Received a Record or Subrecord Trailer, but could not locate the trailer field 0xFFFFDFFF0  
NWSMTS\_EXPECTING\_HEADER Received a Record or Subrecord Header, but could not locate the header field  
0xFFFFDFFF1 NWSMTS\_DELETE\_ERR Cannot delete a data set 0xFFFFDFFF2 NWSMTS\_DATA\_SET\_NOT\_FOUND No  
data set was found or the resource is not available. 0xFFFFDFFF3 NWSMTS\_DATA\_SET\_IS\_OPEN Attempted to open an  
already data set or attempted to alter a scan while a data set is open 0xFFFFDFFF4 NWSMTS\_DATA\_SET\_IS\_OLDER The  
existing data set on the target data set is newer the one on the media, the data set will not be restored 0xFFFFDFFF5  
NWSMTS\_DATA\_SET\_IN\_USE Data set is currently in use and cannot be accessed 0xFFFFDFFF6  
NWSMTS\_DATA\_SET\_EXECUTE\_ONLY Can only execute the file 0xFFFFDFFF7 NWSMTS\_DATA\_SET\_EXCLUDED The  
data set is excluded by the selection list 0xFFFFDFFF8 NWSMTS\_DATA\_SET\_ALREADY\_EXISTS The data set name  
already exists 0xFFFFDFFF9 NWSMTS\_CREATE\_ERROR Cannot create a file 0xFFFFDFFF9A

NWSMTS\_CREATE\_DIR\_ENTRY\_ERR Cannot create directory entry 0xFFFFDFFFB  
 NWSMTS\_CLOSE\_BINDERY\_ERROR Cannot close the bindery 0xFFFFDFFFC NWSMTS\_CANT\_ALLOC\_DIR\_HANDLE  
 Cannot allocate a directory handle 0xFFFFDFFFD NWSMTS\_BUFFER\_UNDERFLOW Buffer underflow, unable to get entire field 0xFFFFDFFFE NWSMTS\_BINDERY\_OBJECT\_NAME\_ERR Unable to get bindery object name 0xFFFFDFFFFF  
 NWSMTS\_ACCESS\_DENIED Invalid user name or authentication 0xFFFFEFFFFF NWSMDR\_INVALID\_CONNECTION  
 Invalid connection handle was passed to the SMDR 0xFFFFEFFF NWSMDR\_INVALID\_PARAMETER One or more of the parameters is NULL or invalid 0xFFFFEFFF NWSMDR\_OUT\_OF\_MEMORY SMDR memory allocation failed 0xFFFFEFFF  
 NWSMDR\_TRANSPORT\_FAILURE The transport mechanism has failed 0xFFFFEFFF  
 NWSMDR\_UNSUPPORTED\_FUNCTION The requested function is not supported by SMDR 0xFFFFEFFF  
 NWSMDR\_MODULE\_ALREADY\_EXPORTED The module is already exported by SMDR 0xFFFFEFFF  
 NWSMDR\_DECRYPTION\_FAILURE The decryption mechanism of the SMDR failed 0xFFFFEFFF  
 NWSMDR\_ENCRYPTION\_FAILURE The encryption mechanism of the SMDR failed 0xFFFFEFFF  
 NWSMDR\_TSA\_NOT\_LOADED The requested TSA is not loaded 0xFFFFEFFF NWSMDR\_NO SUCH\_SMDR The specified SMDR does not exist 0xFFFFEFFF NWSMDR\_SMDR\_CONNECT\_FAILURE SMDR connection failure. Load the SMDR on the remote server and try again 0xFFFFEFFF NWSMDR\_NO\_MORE\_DATA No more data to process  
 0xFFFFEFFF NWSMDR\_NO\_SOCKETS No more sockets available 0xFFFFEFFF NWSMDR\_INVALID\_PROTOCOL The specified protocol does not exist 0xFFFFEFFF NWSMDR\_NO\_MORE\_CONNECTIONS Unable to create another connection handle. Maximum number of connections is reached. Try to close some existing connections 0xFFFFEFFF  
 NWSMDR\_NO SUCH\_TSA Requested TSA does not exist 0xFFFFEFFF NWSMDR\_INVALID\_MESSAGE\_NUMBER Invalid message number 0xFFFFEFFF NWSMDR\_INVALID\_CONTEXT The specified context is invalid 9.3.2 TSANDS  
 Return Values The TSANDS return values directly map to the NDS return values. The following table lists the TSANDS return values. TSANDS Hexadecimal Number Constant Maps to... FFFDFEFF NWSMTS\_INSUFFICIENT\_MEMORY 0xFFFF FF6A > NDS Return Values from the Operating System FFFDFEFE NWSMTS\_REQUEST\_UNKNOWN 0xFFFF FF05 > NDS Return Values from the Operating System FFFDFEFD NWSMTS\_OF\_SOME\_SORT 0xFFFF FF01 > NDS Return Values from the Operating System TSANDS return values from FFFDFEFC to FFFDFEC8 map to NDS return values: NDS Return Values > NDS Client Return Values - 0xFFFF FED3 through 0xFFFF FE9E. TSANDS return values from FFFDFEC7 to FFFDFE1B map to NDS return values: NDS Return Values > NDS Agent return values 0xFFFF FDA7 through 0xFFFF FCFA.

SEP sesam Clients  
 All Versions

## NetWare 6.5-8 TSAs

SMSSTART.NCF should look something like this on netware clients:

```

LOAD TSAFS.NLM /EnableGW=yes
LOAD TSANDS.NLM
LOAD TSAFSGW.NLM /home-VOL1:\gwise\dom /home-VOL1:\gwise\po /home-VOL2:\gwise\po2
  
```

A "Datamover" is required and can be any oes/linux system with sesam-client and sesam-novell-client installed. The TSAs need to be set to either dual or netware mode on the oes/linux system.

You need to use the TSA version at this link:

<http://www.sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware> [19]

SEP sesam Clients  
 All Versions

## Disaster Recovery

Linux:

- [http://sepusa.com/getwiki/Disaster\\_Recovery\\_for\\_Linux\\_2.0\\_en](http://sepusa.com/getwiki/Disaster_Recovery_for_Linux_2.0_en) [20]

Windows

- [http://sepusa.com/getwiki/SEP\\_sesam\\_BSR\\_for\\_Windows](http://sepusa.com/getwiki/SEP_sesam_BSR_for_Windows) [21]

Replacement platform:

- boot the DR iso in the new system (with the same or larger storage)
- assign hostname recover
- assign ip (or dhcp) enter ip and hostname into hosts file on the sesam server

Sesam Server:

- add recover as a client, make sure the connection verifies correctly
- restore disk\_info task

Replacement platform:

- /opt/sesam/bin/sesam/sbc\_disk\_info\_restore /var/opt/sesam/var/work/disk\_info/ auto
- use mount to check that volume(s) are mounted under /mnt/disk

\* grub 0.97 requires 128 bit inode size on /boot volumes ( tune2fs -l /dev/sda1 | grep -i 'inode size' ) and ( mkfs -l 128 /dev/sda1 )

Sesam Server:

- restore the filesystem\_all task at /mnt/disk add the expert option -a bootmgr
- check restore log for Grub installation with no errors
- It's likely that the eth0 entry in /etc/udev/rules.d/70-persistent-network-configuration needs to be removed

Replacement platform:

- reboot
- restore any online databases or groupware

SEP Appliance  
4.2

## P2V,V2V and V2P Migration (SEP ISO)

This document applies to all system migrations using the SEP ISO Image.

This document applies to Citrix XenServer,OSS XEN, VMware and VirtualBox.

Using the [SEP ISO image](#) [22] to boot a recovery vm:

Before Boot

- Start downloading the ISO image
- Use the "Other or Manual" template to create the vm
- Create the VM with the same number of disks as the original system
- Each virtual disk must be the same size or larger then the original disk
- Beware of hardware raid adapters which often present each array as a unique disk
- The number of vcpus should be 1 for single/dual core hosts or 2 for quad+
- After recovery install and configure the vm managment tools for a higher vm performance with lower host load
- Start the virtual machine

After logging in as root to the restored system:

- You may have to re-configure the network interfaces because mac addresses may have changed.  
You may be able to avoid this step by editing a file in the /etc/udev\* folder and removing entries for both eth0 and eth1, more specifically the file that contains the rules, not a generator of rules.  
**Location hint: egrep -r eth0 /etc/udev\***
- If the system won't boot you need to change the device names or virtual disk controller card type (IDE->SCSI/AHCI)  
If this doesn't work and you have repeated the dr restore you may need to fix /etc/fstab and /boot/grub/menu.lst manually.

- Linux Kernel v2.6.32+ or the xen domu kernel is required to use PV
- How To Migrate Physical SLES to Citrix in PV mode [23]

Disaster Recovery  
All Versions

## Pre/Post Task scripts

### Using the pre/post interface manually

login to sesam server:

```
client=CLIENT_HOSTNAME
chmod 744 /opt/sesam/skel/templates/sbc_p*
scp /opt/sesam/skel/templates/sbc_p* root@$client:/opt/sesam/bin/sesam
```

If you are working with a Windows Client you will need to transfer the files to:

C:\Program Files\SEPsesam\bin

You can now edit the /opt/sesam/bin/sesam/sbc\_pre and /opt/sesam/bin/sesam/sbc\_post on the client to suit your environment.

## Solaris / \*BSD / \*NIX

TGZ Package Installation Procedure

```
# Download package
$system-cli-version.tgz

# Unpack Archive
cd /tmp > gunzip -c system-cli.version.tgz | tar xvf -

# Start Installer
./sm_setup

# Package type [srv|cli|rds]
client

# Installation directory
/opt/sesam

# FQDN of backup server
sesam-srv.domain.tld
```

SEPsesam Clients  
All Versions

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Source URL (retrieved on Dec 23 2013 - 8:53am): <https://www.sepusa.com/node/836>

#### Links:

- [1] [https://www.sepusa.com/sites/www.sepusa.com/files/Client Configuration.pdf](https://www.sepusa.com/sites/www.sepusa.com/files/Client%20Configuration.pdf)
- [2] <http://wiki.sepsoftware.com/wiki/index.php/Image:Mac-Sicherung.jpg>
- [3] <http://download.sep.de/linux/debian>
- [4] <https://www.sepusa.com/catalog/products/sesam-server>
- [5] <https://www.sepusa.com/sitemap/download-trial>
- [6] [https://www.sepusa.com/getwiki/SEP\\_sesam\\_Volume\\_Shadow\\_Copy\\_Service\\_\(VSS\)\\_for\\_Windows](https://www.sepusa.com/getwiki/SEP_sesam_Volume_Shadow_Copy_Service_(VSS)_for_Windows)
- [7] [https://www.sepusa.com/sites/www.sepusa.com/files/SEP\\_sesam\\_vss.zip](https://www.sepusa.com/sites/www.sepusa.com/files/SEP_sesam_vss.zip)
- [8] <http://sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware>
- [9] <https://www.sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware/novell-tsa-tuning>
- [10] [https://www.sepusa.com/getwiki/Sesam\\_README\\_for\\_Novell\\_OES\\_Linux\\_and\\_OES\\_Netware](https://www.sepusa.com/getwiki/Sesam_README_for_Novell_OES_Linux_and_OES_Netware)
- [11] <http://www.novell.com/partnerguide/company/10599001601.html>

- [12] [https://www.sepusa.com/getwiki/Troubleshooting\\_for\\_Netware](https://www.sepusa.com/getwiki/Troubleshooting_for_Netware)
- [13] <http://www.novell.com/documentation/oes/smsadmin/?page=/documentation/oes/smsadmin/data/am8mern.html>
- [14] <https://www.sepusa.com/documentation/novell-oesnetware-oes2linux-migration-sep-sesam>
- [15] [http://wiki.sepsoftware.com/wiki/index.php/Sesam\\_README\\_for\\_Novell\\_OES\\_Linux\\_%26\\_OES\\_Netware](http://wiki.sepsoftware.com/wiki/index.php/Sesam_README_for_Novell_OES_Linux_%26_OES_Netware)
- [16] [http://wiki.sepsoftware.com/wiki/index.php/NetWare\\_migration\\_NetWare\\_to\\_OES2\\_SP1](http://wiki.sepsoftware.com/wiki/index.php/NetWare_migration_NetWare_to_OES2_SP1)
- [17] [https://www.sepusa.com/sites/www.sepusa.com/files/SEPsesam\\_Migration\\_NetWare-OES2\\_en.pdf](https://www.sepusa.com/sites/www.sepusa.com/files/SEPsesam_Migration_NetWare-OES2_en.pdf)
- [18] [http://download.novell.com/Download?buildid=7MTChD\\_Wxco~](http://download.novell.com/Download?buildid=7MTChD_Wxco~)
- [19] <https://www.sepusa.com/documentation/client-configuration/novell-products/discontinued-novell-products/netware>
- [20] [http://sepusa.com/getwiki/Disaster\\_Recovery\\_for\\_Linux\\_2.0\\_en](http://sepusa.com/getwiki/Disaster_Recovery_for_Linux_2.0_en)
- [21] [http://sepusa.com/getwiki/SEP\\_sesam\\_BSR\\_for\\_Windows](http://sepusa.com/getwiki/SEP_sesam_BSR_for_Windows)
- [22] <http://download.sep.de/bsr/linux>
- [23] <http://support.citrix.com/article/CTX121908>