– LPI 102 –

Properly manage the NFS, smb, and nmb daemons

(Linux Professional Institute Certification)

```
$Id: gl2.113.4.slides.tex,v 1.2 2003/12/01 12:26:07 waratah Exp $
```

Properly manage the NFS, smb and nmbs daemons

Objective

Candidate should know how to mount remote filesystems using NFS, configure NFS for exporting local filesystems, start, stop, and restart the NFS server. Install and configure Samba using the included GUI tools or direct edit of the /etc/smb.conf file (Note: this deliberately excludes advanced NT domain issues but includes simple sharing of home directories and printers, as well as correctly setting the nmbd as a WINS client).

Properly manage the NFS, smb, and nmb daemons

Key files, terms and utilities

```
/etc/exports
/etc/fstab
/etc/smb.conf
```

mount

umount

Properly manage the NFS, smb, and nmb daemons

Resources

NFS: `http://nfs.sourceforge.net/`

Samba: `http://au1.samba.org/samba/docs/`

NFS

About

- "Network File System"

- Extremely widely used protocol for sharing files between Unix machines

- Built over RPC

- Almost always uses UDP

- Unlike alternatives, the NFS protocol is **stateless**—the server can reboot and the client carries on

- NFSv2 is very simple; v3 is an evolution of v2; v4 is complex (and stateful)

NFS

Client-side usage

```
mount -o options server:/path /mnt_point

# typical /etc/fstab line - see nfs(5)
server:/exports/home /home nfs rw,intr,rsize=8192,wsize=8192
```

Some options:

rsize/wsize Read/write size

intr Allow signals to interrupt timed-out operations

soft Don't retry indefinitely

NFS

Server-side configuration

`/etc/exports` controls what gets exported to where

```
# /etc/exports.  See exports(5)
/home    10.0.128.0/24(rw,no_root_squash)
/cdrom   *(ro,all_squash)
```

Information is actually communicated to mountd and kernel NFS server via **exportfs**(8)

Note: No whitespace is allowed between client and client options

(**showmount**(8) will query this information from a server)

Samba

About

- Implementation of Windows networking protocols (SMB/CIFS, NMB) for Unix

- Samba version 3 (just released) gives PDC/BDC functionality, NT4 domain member support, much improved printing, etc

- Full suite of tools, including smbd and nmbd daemons, but also client tools: smbclient, rpcclient, net, smbstatus, nmblookup, smbtar, smbspool, etc

Samba

smb.conf

Configured through `/etc/samba/smb.conf`

`win.ini`-esque sections describing shares

```
[public]
comment = Public files
path = /home/ftp/pub
read only = yes
guest ok = yes
```

Various %X string substitutions available (see smb.conf(5))

Samba

`smb.conf` – Special sections

`[global]` Global configuration

`[homes]` Triggers creation of automatic user home directory shares

`[printers]` Triggers creation of printer shares for each system printer

Samba

SWAT

"Samba Web Administration Tool"

Usual install is `http://localhost:901/`

Easy to use, links to relevant documentation, etc.

Rewrites smb.conf, loses comments, reorders and destroys hand crafted include, etc directives.