1. Context

1.1 Properly manage the NFS, smb, and nmb daemons

Weight 4

Linux Professional Institute Certification — 102

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1 Context

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1.113.5 Setup and configure basic DNS services [4]

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2 Objectives

Description of 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).

Key files, terms, and utilities include:

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

mount

umount

3 Resources

Properly manage the NFS, smb, and nmb daemons

NFS:

http://nfs.sourceforge.net/

Samba:

http://aul.samba.org/samba/docs/

Especially important are the two online books:

- http://aul.samba.org/samba/docs/man/Samba3-HOWTO/;
- http://aul.samba.org/samba/docs/man/Samba3-ByExample/
4 NFS

4.1 About NFS

NFS

- “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)

4.2 NFS on client

**NFS**

```
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

4.3 NFS: server configuration

**NFS**

/etc/exports controls what gets exported to where

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

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

**Note:** No whitespace is allowed between client and client options
(showmount(8) will query this information from a server)

5 Samba

5.1 About Samba

Samba

- 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

6 smb.conf

Samba

**[global]** Global configuration

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

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

6.1 smb.conf sections

Samba

```
www.ini-eseque 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))

6.2 Web configuration with swat

Samba

- “Samba Web Administration Tool”
- Usual install is `http://localhost:901/`
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- Easy to use, links to relevant documentation, etc.
- Rewrites smb.conf, loses comments, reorders and destroys hand crafted directives such as include