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Linuxdays, 2006



Summary

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- Installing
- Basic config (defining shares, ...)
- Operating as a PDC
- Password synchronization
- Access control
- Misc items
- Samba and printing
- Conclusion



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- Samba 3.0.14a:
 - `apt-get install samba`
 - `apt-get install smbclient`



Overview

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- Sections, introduced by `[sectionName]`
- Global section: settings apply to all shares
- Share section: settings apply to one share
- Reserved sections/shares: `printers`, `netlogon`, ...
- User management



Global parameters

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- `workgroup`
- **"Guest" users:** `map to guest = Bad User`
- `printing`
 - `cups`
 - `plp`
 - `lprng`
 - ...



Share-specific parameters

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- `comment`
- `browseable`
- `public`
- `read only`
- `available`



File share

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• path



Basic User Management

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- **different passwords db for Unix and Windows clients:**
`/etc/samba/smbpasswd` **or**
`/var/lib/samba/passdb` **file (depending on**
passdb backend = smbpasswd setting)
- **Add a Windows user:** `smbpasswd -a`
- `guest account = nobody`
- **map Windows users to Unix users:**
`username map = /etc/samba/user.map`
- **Username map example:**
`root = admin administrator`
`tridge = "Andrew Tridgell"`



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- `testparm`
- `smbclient -L server -U user`
- `smbclient //server/share -U user`
- `nmblookup -U winsip -R winsname`
- **Log files in `/var/log/samba`**
- **Wins cache file in `/var/lib/samba/wins.dat`**
- **Browse cache file in `/var/cache/samba/browse.dat`**



Primary domain controller

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- Global settings
- Profile directory
- Netlogon share



Global Settings

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Conclusion

- **Enable PDC:** `domain logons = yes`
- **Workgroup parameter is interpreted as domain**
- **Script for creating machine accounts:**

```
add machine script=/usr/sbin/useradd -d / -g  
100 -s /bin/false %u
```
- **Drive letter for home directory:** `logon drive = H:`
- **Remove invalid users = root line, if present**



Profile storage

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Conclusion

- Windows NT/2000/XP: logon path
- Windows 95/98: logon home
- Make home share writable:

```
[homes]
```

```
writable = yes
```



Startup script

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Conclusion

- Define script: `logon script = STARTUP.BAT`
- Define a netlogon share: `[netlogon]`
- Sample startup script:

```
NET USE S: /PERSISTENT:NO %LOGONSERVER%\TEST <nul
```



Right to add machines to the domain

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Conclusion

- Normally only root
- You may specify more users using the `IPC$` share:

```
[IPC$]
```

```
admin users = admin root winjoin alain  
path = /ipc
```



Domain administrator

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Conclusion

- Domain user
- Has administrative privileges on all clients
- (May chose share when defining printers on server)
- No particular privileges on server
- Set up using the following command:

```
net groupmap modify ntgroup="Domain Admins" unixgroup=ntadmin
```

==> All users in ntadmin group have admin privileges
- List current entries: `net groupmap list`
- Clean up garbage entries: `net groupmap cleanup`



Password synchronization

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- Global settings
- Unix pass follows windows: `/etc/pam.d/samba`
- Windows pass follows Unix: `/etc/pam.d/passwd`



Global settings

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- `unix password sync = Yes`
- `pam password change = Yes`



Pam config

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Conclusion

- **Make Unix password follow Samba**
- **Add the following to `/etc/pam.d/samba`:**
`@include common-password`
- **Test with `smbpasswd -r localhost -U tata`**



Pam config: /etc/pam.d/passwd

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Conclusion

- Make Samba password follow Unix.
- Not supported in Debian, SuSE example:
- Change /etc/pam.d/passwd as follows:

```
auth    required pam_unix2.so    nullok
account required pam_unix2.so
password required pam_pwcheck.so nullok
password required pam_unix2.so  nullok use_first_pass use_authtok
password required pam_smbpass.so nullok try_first_pass use_authtok
session required pam_unix2.so
```

- Debian solutions:
 - Compile samba yourself
 - Symlink /usr/bin/passwd to smbpasswd



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- By user
- By IP
- **Controlling Unix rights once access is granted**



By user

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Conclusion

- Users who can/cannot access:
 - valid users
 - invalid users
 - invalid users takes precedence
- Users who can/cannot write:
 - write list
 - read list
 - write list takes precedence
- All-mighty users:
 - admin users



By Ip

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- `hosts deny`
- `hosts allow`
- `allow` takes precedence



Unix rights

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- **User/group**
 - force user
 - force group
- **Permission bits on creation**
 - maximal [AND]: `(directory|create) mask`
 - minimal [OR]: `force (directory|create) mode`
- **Permission bits for chmod:**
 - `[directory] security mask`
 - `force [directory] security mode`
- **Write access implies chmod access:**
 - `dos filemode = yes`



Printer Share

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- `printable = yes`
- `printer = hp4550`
- `path`



Global “Printers” Share

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Conclusion

- Enable with: `load printers = yes`
- Name: `[printers]`
- Template for all printer shares
- There still may be individual printer shares



Foreign cups server

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● cups server =



Windows print drivers on server

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Conclusion

- Goal: Facilitate installation of server's printers on clients by supplying driver
- Methods:
 - Use cupsaddsmb to install postscript drivers
 - Install proprietary windows drivers
- Basic Steps:
 - 1 Define printer admin(s) on server: `printer admin = joe`
Deprecated in later samba versions
 - 2 Add a `[print$]` share to store the drivers
 - 3 Use one Windows machine to "prepare" driver
 - 4 Install driver on server
 - 5 leverage this setup to facilitate installation of all the *other* windows machines



cupsaddsmb

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Conclusion

- Install driver (such as Adobe: Driver supplied by Cups **does not** work)
- Copy files from `%WINDOWS%\SYSTEM32\SPOOL\DRIVERS\W32X86\3` to `/usr/share/cups/drivers`
(or get tar file from <http://www.lln.lu/Presentations/LinuxDay2006>)
- Add drivers using `cupsaddsmb`
 - `cupsaddsmb -v -a` : add all known cups printers
 - `cupsaddsmb -v Printer` : add just one printer
 - `cupsaddsmb -U user -v Printer` : run command as the given user. User must be a printer admin and have write rights on the `[print$]` share.
 - Use new entry to install printer on the other windows machines!



Use the add printer wizard

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- Goal: Add “proprietary” drivers to server
- Set up the server:
 - `add printer` command: script to add a printer to `smb.conf`
 - `enumports` command: script listing all current ports (optional, for example, printers in `printcap`)
 - `show add printer wizard = yes` (default)
- Use one windows machine to install a printer
- User must:
 - Be domain admin (groupmap...)
 - Be global printer admin
 - Have write (admin) rights on `[print$]` share
- Printer share must have `cups options = raw`



Use the add printer wizard

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Example scripts at
<http://www.lln.lu/Presentations/LinuxDay2006>



Misc gimmicks

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- Samba variables
- User monitoring
- Time service
- Veto/hide files
- Include/override config files



Samba variables

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Conclusion

- `%U` user name requested
- `%u` user name granted (after force)
- `%G` primary group of `%U`
- `%g` primary group of `%u`
- `%H` home directory of `%u`
- `%m` NetBIOS name of client machine
- `%I` IP of client
- `%a` Win variant of client (WfWg, Win95, WinNT, Win2k, ...)
- `%L` name of the server
- **Example:**

```
logon path = \\%L\%U\profile.%a
```




User monitoring/logging

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Conclusion

- `smbstatus` displays currently active sessions
- Account samba sessions in `wtmp` (last): Define following on share

```
root preexec = /usr/X11R6/bin/sessreg -l %m -h %M -a %u
root postexec = /usr/X11R6/bin/sessreg -l %m -h %M -d %u
```



Time service

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- In global config: `time server = yes`
- On client (or startup script):
`net time \\server /set`



Hiding files

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Conclusion

- In share config
- Hides files (by setting hidden bit):
`hide files = *.exe/*.scr/`
- Hides files completely:
`veto files = *.exe/*.scr/`



Include/override config

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- **Override:**

- `config file = /etc/samba/lib/smb.conf.%m`
- replaces current config
- ignored if file does not exist

- **Include:**

- `include = /etc/samba/lib/smb.conf.%m`
- supplements current config
- ignored if file does not exist (TBC)



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