

SAMBA on the HP e3000



Samba/iX on the HP e3000



- What is Samba?
- Why Samba/iX?
- Samba/iX Benefits
- Major components of Samba/iX
- How to ... install Samba on MPE/iX
- SWAT Samba Web Admin Tool
- Acknowledgements
- References, Samba/iX and beyond, infos













What is Samba?



- * Samba for Unix by Andrew Tridgell, Australia
- * Ported to MPE/iX by Lars Appel/HP using the Posix environment
- * Freeware implementation of the SMB protocol
- * SMB (server message block) defined by Microsoft
- * Provides file and print sharing for PC networks (Platform interoperability)
- * Microsoft LanManager and compatible products
- * SMB is "built-in" with Win98, WinME, WinNT, Win 2000
- * Samba provides server and client functionality
- * Bundled and supported with MPE/iX 6.0



Why Samba/iX? (1)



- * HP e3000 serves LaserROM/iX manuals to PC's
 - no direct CD access at present
 - use CDCOPY or drag & drop
- * Using PC to maintain web server doc's on the 3000
 - HoTMetaL Free, Netscape Gold, MS FrontPage...
- * Using PC to edit/maintain source files on the 3000
 - PFE freeware editor can write CRLF/LF files
 - only bytestream files, not MPE record text files
- * Java Dev Kit on PC with files/applets on the 3000
 - maintain source and compile on the PC
 - files reside on 3000, applets ready-to-run







- * PC can print to MPE/iX spooled printers
 - like DTC, JetDirect or SCSI
- * HP e3000 sends WinPopup messages to PC users
 - similar to MPE TELL command
 - PC user does not need to be logged on
- * Some host app's can output data in PC file formats
 - for example dBase, Lotus123, Excel
- * HP e3000 can send Postscript files to NT print server
 - spoolfiles with CCTL need pre-processing
- * PC can use HP e3000 share for backup (to server disk)
 - with XCOPY or PC backup tools



Samba/iX Benefits



- * File server and Print server
- * Remote file system appears as drive letter or icon
- * Click and access MPE/iX file system
- * Long_name_space feature
- * Accounts, groups, files seen as folders and files in the explorer



Major components of Samba/iX(1)



SMBD (SMB Daemon)

- •Provides SMB services
- •File and Print server for clients
- •Clients get a session
- •Configuration file: smb.conf

<u>NMBD</u> (NMB Daemon = NetBios Name server):

- •Understand Net Bios name service requests
- •Advertises Samba server
- •Clients locate server
- •Controls "Browsing" -Viewing the resources on windows





Major components of Samba/iX(2)



SMB.CONF

Run time configuration file

[global] : global config options eg: security policy of the server

[homes]: Access to users's home directories

[printers] : Print services

SMBCLIENT

Client program on the HP e3000

Allows HP e3000 as a client for SMB servers

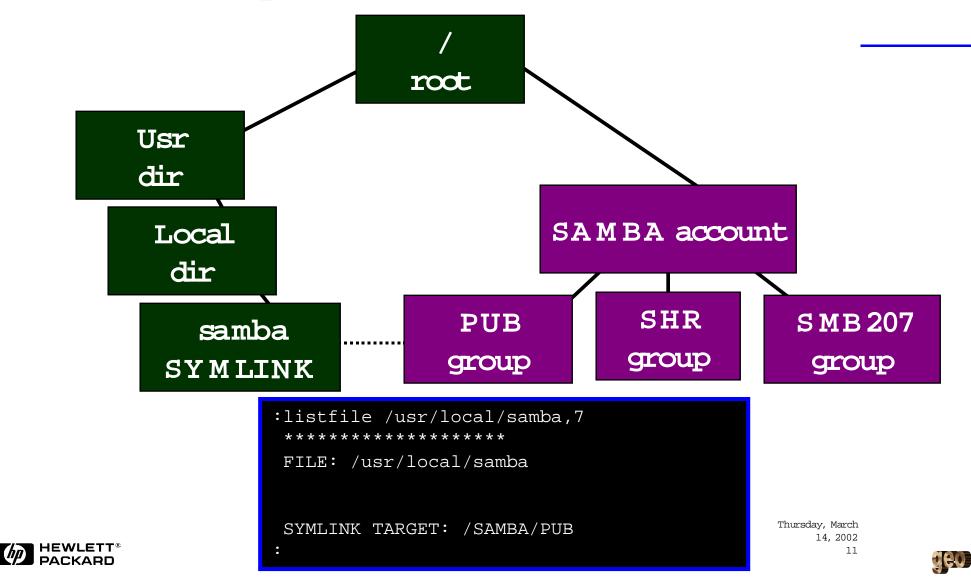
Command line and FTP like interface Eg: get,put, retrieving directory info



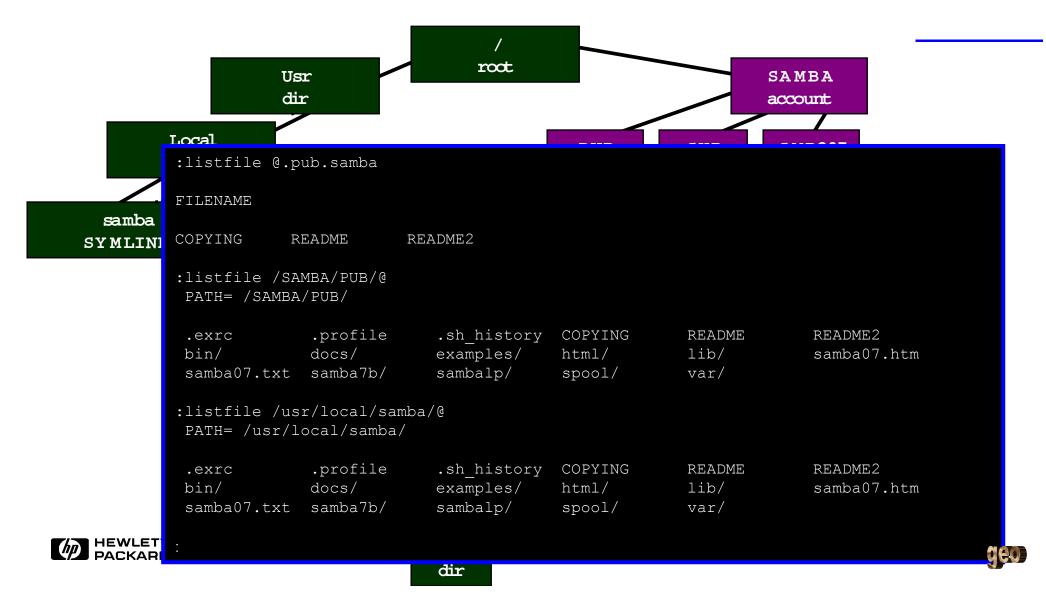
How to ... install SAMBA on MPE/iX



What do you get to start with?



What do you get to start with?



Pre-Requisites

As MANAGER.SYS:

TPC/IP Network has to be up and running

(nmmgr, netcontrol start, nscontrol start)

HPPXUDC.PUB.SYS should be enabled

(setcatalog HPPXUDC.PUB.SYS;system;append)



```
MPE/iX:hello george,manager.sys
HP3000
      Release: C.70.01 User Version: C.70.01 WED, AUG 1, 2001, 3:12
PM
MPE/iX HP31900 C.39.06 Copyright Hewlett-Packard 1987. All rights
reserved.
This system is the property of Hewlett-Packard
Commercial Systems Division.
:showcatalog
No user-defined command catalogs in use. (CIERR 1931)
:setcatalog hppxudc.pub.sys;system;append
:showcatalog
HPPXUDC.PUB.SYS
  PLISTF
                 SYSTEM
                 SYSTEM
  FINDDIR
  FINDFILE
                 SYSTEM
  LISTDIR
                 SYSTEM
  DISCUSE
                 SYSTEM
  _{
m SH}
                 SYSTEM
  HPMPETOHFS
                 SYSTEM
  HPLISTFCLEANUP
                 SYSTEM
  HPPARSEFEQ
                 SYSTEM
```





nmmgr

NMMGR/3000 (B.07.00) #1 Open Configuration/Directory File Enter a file or directory name and press the corresponding function key. Command: Logon as MANAGER SYS and enter the command NNIMGR This is the tool for displaying or modifying net work parameters Configuration file name [NMCONFIG.PUB.SYS Press F1 (Open Config) Backup configuration file name [NMCBACK.PUB.SYS Network directory file name [NSDIR.NET.SYS If a write access password has been assigned, you must enter the password to modify the configuration file. Write access password

nmmgr

```
NMMGR/3000 (B.07.00) #2 Main
                                                                        Data: Y
Type in the node name and press Save Data; then press the desired function key.
Command:
Local HP 3000 node name [CSYLE14.CUP.HP
                             (node.domain.organization)
Are you using OpenView DTC Manager?
                                      [N] (Y/N)
Do you have X.25 system-to-system or PAD connections? [N] (Y/N)
         - Configuration of DTC device connections, links, & profiles.
DTS
         - Configuration of ARPA Network: Logging, LAN (802.3/Ethernet),
NS
          NS/Token Ring (802.5), X.25 (WAN), Point-to-Point, FDDI
                                                                              Select NS
          100VGLAN, 100BT.
        - Configuration of OSI network:
OSI
           OSI Transport & Session (OTS) and OSI FTAM services.
         - Configuration of the IBM network:
IBM
          Logging, SNA node, NRJE, RJE, IMF, DHCF, APPC, & SNADS.
UTILITY - Utility functions: output, compress, validate, & copy subtree.
```





nmmgr

```
NMMGR/3000 (B.07.00) #166 NS Configuration
                                                                       Data: Y
Select the next screen and press the corresponding function key.
Command:
                                                                                   Select.
Guided
         - Use this function to define or modify your network, network
                                                                                 "Guided
Config
           directory, or logging configuration.
                                                                                 Config"
Unguided - You only need to use unguided (manual) configuration if you
           need to modify default network performance parameters not
Config
           accessible through quided configuration.
Local domain name: If your network uses domain names, enter the domain name
in the field below and press the Save Data key before selecting the guided
or unguided option. Otherwise, leave the local node name in this field.
[CSYLE14.CUP.HP.COM
File: NMCONFIG.PUB.SYS
```





NMMGR/3000 (B.07.00) #42 Network Transport Configuration Enter the information required; then press the desired function, Command: Enter the name of your network Config - To create or modify a network here, and press F1 Enter a network interface: Network (Config Network). Enter a network type: If you don't know the name... Half = Gate = Token ng 7 = FDDIThen press the Config Network key. Modify - To modify default logging configuration: Press the Modify Logging key (note that logging is Logging created with defaults when the first network type is configured). File: NMCONFIG.PUB.SYS Press F5 ("List Config Modify List Networks Network Logging Networks") instead





NMMGR/3000 (B.07.00) #112 Network Interface Configuration Press Prior Screen when finished viewing screen. Command: Path: NETXPORT.NI N, LOOP, Read the name of your Network interface name [LAN1 TOKEN, New name (for rename) network interface... Configured Network Interfaces NI Name NI Type Link Type NI Name NI Type Link Type [LAN1 [LAN [BT100 [LOOP [LOOP File: NMCONFIG.PUB.SYS And go back Help Prior Next Prev Rename to the prior Page Page Screen screen





NMMGR/3000 (B.07.00) #42 Network Transport Configuration Enter the information required; then press the desired function key. Command: Fill in the name of your Config - To create or modify a network Enter a network interface: Network [lan1 network Enter a network type: 2 = Roux r(Pt-Pt)3 = X.255 = Gateway Half 6 = Token Ring 7 = FDDIThen press the Config Network key. - To modify default logging configuration: Modify Press the Modify Logging key (note that logging is Logging created with defaults when the first network type is configured). File: NMCONFIG.PUB YS Config List Prior Help And press "config Networks Network Screen network"





```
NMMGR/3000 (B.07.00) #41 LAN Configuration
                                                                       Data: Y
Fill in the required information; then press the Save Data key.
Command:
Node name (First 50 chars) CSYLE14.CUP.HP.COM
Network Interface (NI) name [LAN1
                                                     Here's the IP address of
                [A 015 028.089.209]
  IP address
                                                          your hp e3000
                                  ] (optional)
  IP subnet mask
  Proxy node
                [N]
                     (Y/N)
Link name [BTLINK ]
Link type [BT100 ] (LAN, VG100LAN, BT100)
  Physical path of LANIC [0/2/0/0
  Enable Ethernet?
                         [Y] (Y/N)
                         [Y] (Y/N)
  Enable IEEE802.3?
Press Neighbor Gateways to configure neighbor gateways, if any.
If done configuring, press the Validate Netxport key.
Type "open" on the command line and press enter to configure the directory.
File:
      NMCONFIG.PUB.SYS
                                                   Validate
              Delete
                         Read
                                 Neighbor
                                                                Save
                                                                          Help
                                                                                   Prior
     List
                       Other NI Gateways
                                                   Netxport
     NIS
                NI
                                                                Data
                                                                                   Screen
```





OR — Displaying Your e3000's IP address (the easy way)

and enter the :netcontrol status;net=lan1 NETCONTROL command NETWORK STATUS: WED, AUG 1, 2001, 5:35 PM as shown PROTOCOL STARTED: MON, JUL 30, 2001, 5:34 PM PROTOCOL NAME : IP PROTOCOL ID : \$00000500 PROTOCOL FLAGS : \$00000000 Here's your net work na ne : \$00000000 TRACE MASK PCB ADDR INFO : ENTRY \$467D3548 TRACE INFO : ID : \$0000000 : \$FFFFFEE3 PORT ID NETWORK NAME : LAN1 Here's your IP address and NETWORK IP ADDRESS : \$0F1C59D1 15.28.89.209 subnetmask : \$FF000000 NETWORK SUBNET MASK 255.0.0.0





Logon as MANAGER.SYS

It never hurts to read the manual

Configuring and Managing MPE/iX Internet Services

HP e3000 MPE/iX Computer Systems
Edition 5

If you're updating to 7.0, be sure to get the latest version of the manual, because some things have changed a little...



Thursday, March



Samba for MPE/iX Services Starting and Stopping Samba for MPE/iX

Starting Samba for MPE/iX Under the INETD Control

If you choose to run SMBD and NMBD processes under control of INETD, you should have new entries in SERVICES.NET.SYS and INETDCNF.NET.SYS. You will then have to create symbolic links to SERVICES.NET.SYS link to /etc/services and INETDCNF.NET.SYS symbolic links to /etc/inetd.conf respectively. Perform the following steps:

- Logon as manager.sys.
- Copy SERVSAMP.NET.SYS file to SERVICES.NET.SYS if SERVICES.NET.SYS doesn't exist. The following two entries should exist in file SERVICES.NET.SYS:

```
nmbp 137/udp
smbp 139/tcp
```

 Copy INCNFSMP.NET.SYS file to INETDCNF.NET.SYS if INETDCNF.NET.SYS doesn't exist. If you run the Samba for MPE/iX version 1.9.16p9, the following two entries should exist in file INETDCNF.NET.SYS:

```
nmbp dgram udp wait MGR.SAMBA /SYS/SAMBA/NMBD nmbd
smbp stream tcp nowait MGR.SAMBA /SYS/SAMBA/SMBD smbd
```

If you run the version of Samba for MPE/iX 2.0.7, the following two entries should exist in file INETDONF.NET.SYS:

```
nmbp dgram udp wait MGR.SAMBA /SYS/SAMBA/NMBD207 nmbd
smbp stream tcp nowait MGR.SAMBA /SYS/SAMBA/SMBD207 smbd
```

4. Use the following two commands to create symbolic links to make

It Never Hurts to Read the Manual....

- 2 Ways to Run Samba:
- 1) as a separate batch job
- 2) under control of INETD

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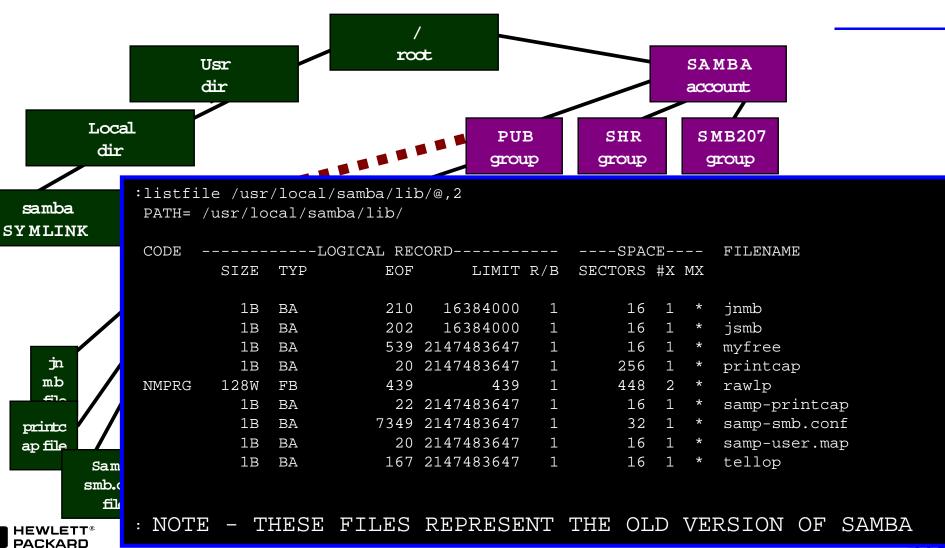




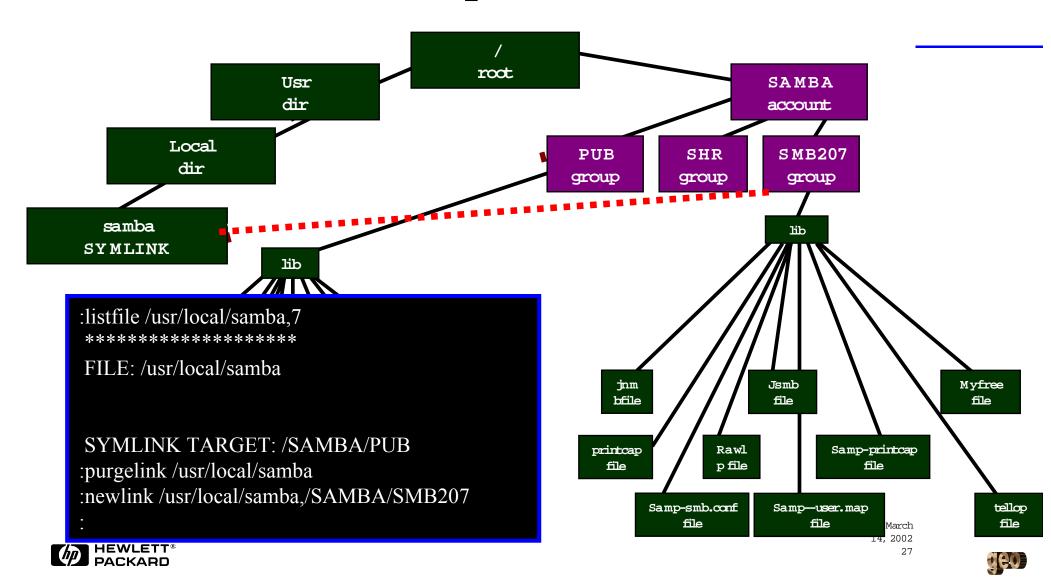
Add PM Capability to SAMBA Acct & to the user MGR.SAMBA

```
:listacct samba
*****
                                      :ALTACCT SAMBA;
ACCOUNT: SAMBA
                             CAP=AM, AL,GL, ND,SF,IA,BA,PH,PM
DISC SPACE: 135504(SECTORS)
CPU TIME : 2(SECONDS)
                                 TTR: $00000000
CONNECT TIME: 29(MINUTES)
                            SECURITY--READ
                                             : AC
DISC LIMIT: UNLIMITED
                                             : AC
                                     WRITE
CPU LIMIT : UNLIMITED
                                     APPEND : AC
                                     LOCK
CONNECT LIMIT: UNLIMITED
                                             : AC
MAX PRI : 150
                                     EXECUTE : AC
GRP UFID : $05640001 $48D6E8A0 $00315CC6 $768234A8 $4E161D74
CAP: AM, AL, GL, ND, SF, BA, IA, PH
altacct samba; cap=am, al, gl, nd, sf, ba, ia, ph, pm
:listuser mgr.samba
******
USER: MGR.SAMBA
HOME GROUP: PUB
                            PASSWORD: **
MAX PRI : 150
                            LOC ATTR: $0000000
LOGON CNT: 0
CAP: AM, AL, GL, ND, SF, BA, IA, PH
:altuser mgr.samba;cap=am,al,ql,nd,sf,ba,ia,ph,pm
```

Contents of /usr/local/samba/lib



What version do you want to run?



Enable SAMBA Config Files

As MGR.SAMBA:

copy the SAMBA sample files to valid configuration files

copy /SAMBA/SMB207/lib/samp-smb.conf,/SAMBA/SMB207/lib/smb.conf copy /SAMBA/SMB207/lib/samp-user.map,/SAMBA/SMB207/lib/user.map copy /SAMBA/SMB207/lib/samp-printcap,/SAMBA/SMB207/lib/printcap

(it is easier to use the shell than the CI in this case)



Copying the sample configuration files

```
USER: #S9, MANAGER.SYS, SAMBA (NOT IN BREAK)
RELEASE: C.70.01 MPE/iX HP31900 C.39.06 USER VERSION: C.70.01
CURRENT: WED, AUG 1, 2001, 6:08 PM
                                               POSI X shall is OK too ..
LOGON: WED, AUG 1, 2001, 6:06 PM
CPU SECONDS: 2 CONNECT MINUTES: 2
:sh
shell/iX> cd /usr/local/samba/lib
shell/iX> ls
                            samp-printcap
jnmb
              myfree
                                          samp-user.map
jsmb
              rawlp
                            samp-smb.conf tellop
shell/iX> cp samp-smb.conf smb.conf
shell/iX> cp samp-user.map user.map
shell/iX> cp samp-printcap printcap
```

Vi samp-smb.conf

```
# Sample config file for Samba/iX 0.7 and later
# Version 1.1 by Lars Appel, 04-May-1997 / 14-Aug-97
# Copy this file to /usr/local/samba/lib/smb.conf and adjust as needed.
# You must at least adjust the "interfaces" directive to match
# your IP address and subnet mask (if used) as the current version
# of Samba/iX is unable to retrieve the NMMGR configured values.
# Some of the directives in this sample file are redundant because
# they explicitly specify hardcoded default values that would also
# be in effect if the directives were omitted. They are nevertheless
# included here to document their availability for customization.
# IMPORTANT WARNING: Some of the configuration options do have serious
# security implications and can cause risks or security holes if used
# improperly, especially when you decide to run the SMBD job under a
# user with PM (or even SM) capabilities or even select an SM capable
# user in the "guest account" directive.
# The documentation for smb.conf (available as man page in ../docs as
```

Modify File "smb.conf"

As MGR.SAMBA:

5 - modify "smb.conf" (best is to use the "vi" under the shell)



Vi samp-smb.conf

```
# GLOBAL section (general parms and defaults for other sections)
[qlobal]
# you MUST supply IP address and subnet mask of your 3000 here
 interfaces = 12.34.56.78/255.0.0.0
                                             Before
                      Sending Connect and Disconnect messages to the console
              If you want to keep track of who is connecting to your defined Samba/iX
# GLOBAL sec
           shares, you can use the PREEXEC & POSTEXEC parameters to emulate the
             job/session LOGON/ LOGOFF console messages. Place these lines in the
[qlobal]
                                          [Global] section:
# you MUST s
             postexec = callci 'TELLOP SMB disconnected from %S from %m at %I'
 interfaces
                  preexec = callci 'TELLOP SMB connect to %S from %m at %I'
```

smb.conf

```
# We set a separate log file for each machine that connects
log file = /usr/local/samba/var/log.%m
# mapping of incoming usernames is possible and may e.g. be used
# to allow clients using Unix or PC style names like root or lappel
# instead of MPE style names like manager.sys or lars.appel
# multiple alias names are possible e.g. lars.appel = lappel lars
 username map = /usr/local/samba/lib/user.map
# printcap file lists printer names for use by [printers] section
 printcap name = /usr/local/samba/lib/printcap
# how much detail you want in the logfile (try 3 or 5 or higher)
 debug level = 1
# The default security for Samba/iX version 2.0.7 is user security.
# If you have no "security" line in the [global] section of your old
# smb.conf and you update to Samba/iX 2.0.7, you need to add the
# line:
 security = share
```

smb.conf-defining shares

```
# OTHER sections (explicit definitions of file or printer shares)
# The writable shares are placed under an MPE group with space limit
[temp]
# multiple users share one server directory but independent file
# ownership is maintained so that they might be able to "see" other
# users' files but still be unable to get read or write access
 comment = Shared temp space for non-guest users
 quest ok = no
 write ok = yes
 path = /SAMBA/SHR/temp
```

smb.conf-defining shares

```
Here is a sample configuration share that only allows the system
manager like manager.sys to access the entire system files
   comment = share for system manager to access the entire system
   [root]
                              Making hidden shares.
   path = /
   browseable = no
   quest ok = no
   read only = no
   user = manager.sys
```

only user = yes

Allowing CM ugara to bypaga UEC file googrity

Most of the time, you'll want the shared resources to

be visible to your users via the DOS *NET VIEW* command, from within the *Network Neighborhood*, or when *Mapping a Network Drive*. There are probably some shares though that you would rather not allow people to even know they exist, such as those sessions that have an admin user defined for them. To hide these shares, add browseable = no to that session's defintion section.

smb.conf-defining shares

```
# Here is a sample configuration share to allow the user to
 to access his or her home account
       comment = share for user to access his or her home account
      [qstachni]
     path = /STACHNIK
                                 The default security scheme for Windows 95 and NT clients is share
     quest ok = no
                                 level which means that the user must know the password which has
     read only = yes
                                 been assigned to a particular shared resource. Samba/iX ignores the
     user=george.stachnik
                                 Windows UserID passed to it during connection attempts (if one is
     only user = yes
                                 passed at all), and attempts to validate the password sent to it with the
       [anishimo]
                                 password of the user it thinks it is meant for. You can help Samba/iX
       path = /
                                 out here by specifying the MPE user and account that the particular
       guest ok = no
                                 share should logon with by specifying the username=mpe
       read only = yes
                                 <u>userid.account</u> in the particular shares defintion section. When setting
       user=MANAGER.SYS
                                 up shared resources in this way, you should also place the revalidate
       only user = yes
                                 = true parameter in the [Global] section to make sure your users are
                                 always required to specify the password for each session they attempt
                                 to log onto, regardless of where they have been.
```

smb.conf-defining shares

```
[public]
# multiple users share one server directory but file ownership is
# forced to the guest logon identity resulting in every user being
# able to "see" as well as read or write the other users's files

comment = Shared space with all users forced to guest

guest ok = yes
guest only = yes
write ok = yes
path = /SAMBA/SHR/public
```

Modify "usermap", "printcap"

As MGR.SAMBA:

6 - modify "user.map" (best is to use the "vi" under the shell)

rainer.schulze = raschulz

7 - modify "printcap" (best is to use the "vi" under the shell)

LP|6|HP3000 System LP



User.map - mapping MPE accounts to microsoft networking accts...

```
shell/iX> cat user.map
lars.appel = lappel
george.stachnik = gstachni
manager.sys = root
manager.sys = anishimo
shell/iX>
```

Test the Config Settings

As MGR.SAMBA:

To test your settings of the smb.conf file for correctness

(default path being used is usr/local/samba/lib/smb.conf):

shell/iX>testparm

 α

:/SAMBA/PUB/bin/testparm

is the same as

shell/iX>testparm /usr/local/samba/lib/smb.conf or :/SAMBA/PUB/bin/testparm /SAMBA/PUB/lib/smb.conf



Testing Your Configuration File

```
shell/iX> ./testparm /usr/local/samba/lib/smb.conf
Load smb config files from /usr/local/samba/lib/smb.conf
Loaded services file OK.
                                                                       We're Go for
Press enter to see a dump of your service definitions
                                                                         Samba...
Global parameters:
                                             [temp]
                                                    comment = Shared temp space for non-guest users
         debuglevel: 1
                                                    path = /SAMBA/SHR/temp
         syslog: 1
                                                    writeable = Yes
         syslog only: No
                                             [root]
         protocol: 5
                                                    path = /
         security: 0
                                                    username = manager.sys
         printing: 3
                                                    writeable = Yes
                                                    only user = Yes
         max disk size: 0
                                                    browseable = No
         lpg cache time: 10
         encrypt passwords: No
                                             [qstachni]
                                                    path = /STACHNIK
         getwd cache: Yes
                                                    username = george.stachnik
                                                    only user = Yes
                                             [anishimo]
                                                    path = /
            Testparm also
                                                    username = MANAGER.SYS
                                                    only user = Yes
             prints your
                                             [public]
                shares
                                                    comment = Shared space with all users forced to quest
                                                    path = /SAMBA/SHR/public
```

writeable = Yes
quest only = Yes

Enable Networking

As MANAGER.SYS:

2 - enable DNS and ARPA services:

copy rslvsamp.net.sys,reslvcnf.net.sys copy hostsamp.net.sys,hosts.net.sys copy servsamp.net.sys,services.net.sys copy protsamp.net.sys,protocol.net.sys copy incnfsmp.net.sys,inetdcnf.net.sys copy insecsmp.net.sys,inetdsec.net.sys Don't replace files if they already exist!

not necessary but useful
necessary if "inetd" is used
necessary if "inetd" is used

and modify the files appropriate to your environment and given network parameters (IP address, nameserver, services, allowed IP access, ...)



Reslvanf.net.sys

```
:print reslvcnf.net.sys
#resolv.conf file
#Note 1: Change the domain entry on the last line of this file to your
         actual domain.
#Note 2: The search entry is optional. Add one if users on this system will
         commonly try to connect to nodes in other domains.
#Note 3: Add one to three (typically 2 or 3) nameserver entries at the end
        of this file. Make sure they are each an IP-address where a server
        resides. If you have no server, do not add any nameserver entry,
        so the resolver will not time-out trying to connect to a server
        that does not exist; rather, it will immediately revert to the
        file HOSTS.NET.SYS instead.
#example (replace 'hp' with your company's name):
#domain local-domain.hp.com
                             Put your do main na me in
#search local-domain.hp.com other-domain.hp
#nameserver 192.1.1.1
                                   rest vont. net. sys
#nameserver 192.1.2.1
                                                 Also, the ip addresses of
domain cup.hp.com
                                                   your company's dns
search cup.hp.com hp.com
nameserver 15.13.192.172
                                                      servers (if any).
nameserver 15.13.192.134
nameserver 15.27.217.36
```

HOSTS.NET.SYS

```
:print hosts
# This file contains information regarding the known hosts.
                                                                  NOTE: leading zeroes are
# Copy this file to HOSTS.NET.SYS if that file does not already exist.
                                                                         significant!!!!
# The form for each entry is:
# <host IP address>
                     <official host name>
                                            <host aliases>
# For example:
# 128.128.128.128 hostname hostalias hostalias.domain.com
# N.B.: the entries cannot be preceded by a blank space.
# N.M.: each IP address is of the form a.b.c.d, where a, b, c and d are as
       follows: a leading 0x or 0X implies hexadecimal; A LEADING 0 IMPLIES
       OCTAL; otherwise, the number is interpreted as decimal. Thus, for
       example, 015.072.060.037 is really OCTAL 15.72.60.37, which is
       DECIMAL 13.58.48.31. Also, omission of any of the 3 dots (".") is
       non-standard and should not be done here. So if entries are being
       copied from an MPE utility such as the NSDIR file, be sure to delete
       any leading 0's and fill in any missing dots; otherwise, networking
       software will function improperly.
                                                            Put your IP address and
127.0.0.1 localhost loopback me myself local
                                                          the name of your system in
15.28.89.209 csyle14
                                                                  hosts.net.sys
```



SERVICES.NET.SYS Starting and Stopping Samba for MPE/iX

Starting Samba for MPE/iX Under the INETD Control

If you choose to run SMBD and NMBD processes under control of INETD, you should have new entries in SERVICES.NET.SYS and INETDCNF.NET.SYS. You will then have to create symbolic links to make SERVICES.NET.SYS link to /etc/services and INETDCNF.NET.SYS symbolic links to /etc/inetd.conf respectively. Perform the following steps:

- Logon as manager.sys.
- Copy Servsamp.net.sys file to Services.net.sys if SERVICES.NET.SYS doesn't exist. The following two entries should exist in file SERVICES.NET.SYS:

nmbp 137/udp smbp 139/tcp

SERVICES.NET.SYS

```
:print services
# This file contains the information about the services provided.
# Copy this file to SERVICES.NET.SYS if that file does not already exist.
# The form for each entry is:
# <official service name>
                            <port number/protocol name>
                                                            <aliases>
# See the Configuring and Managing MPE/iX Internet Services Manual
# for more information (HP Part No. 32650-90835).
# Note: The entries cannot be preceded by a blank space.
              7/tcp
echo
                                     # Echo
echo
              7/udp
                                     # Trivial File Transfer Protocol
tftp
             69/udp
            987/tcp
DAServer
                              Tell the system what ports
nmbp
            137/udp
                                are to be used for nmbp
smbp
            139/tcp
shell
            514/tcp cmd
                                                                Note: these port numbers
                                  and smbp services
                                                                   are pre-configured -
                                                                usually no need to change
            123/udp
ntp
                                                                          them.
kerberos5
              88/udp
                     kdc
           3000/tcp
ans
           1788/tcp
psmond
```

PROTOCOL.NET.SYS

Note: these protocol numbers are pre-assigned usually no need to change them.

```
:print protocol.net.sys
# Copy this file to PROTOCOL.NET.SYS if that file does not already exist.
# This file associates protocol numbers with official protocol names and
# aliases. This allows the user to refer to a protocol by a symbolic
# name instead of a number. For each protocol a single line should be
 present with the following information:
                              otocol number>
 <official protocol name>
                                                   <aliases>
 See the Configuring and Managing MPE/iX Internet Services Mar al
 for more information (HP Part No. 32650-90835).
                                                                 Associates protocol
# Note: The entries cannot be preceded by a blank space.
                                                               numbers with protocol
                        # transmission control protocol
tcp
        6
               TCP
                                                              names. Not required, but
udp
       17
               UDP
                        # user datagram protocol
                                                                      useful...
```



Thursday, March 14, 2002

INETDCNF.NET.SYS

 Copy INCNFSMP.NET.SYS file to INETDCNF.NET.SYS if INETDCNF.NET.SYS doesn't exist. If you run the Samba for MPE/iX version 1.9.16p9, the following two entries should exist in file INETDCNF.NET.SYS:

```
nmbp dgram udp wait MGR.SAMBA /SYS/SAMBA/NMBD nmbd
smbp stream tcp nowait MGR.SAMBA /SYS/SAMBA/SMBD smbd
```

If you run the version of Samba for MPE/iX 2.0.7, the following two entries should exist in file INETDONF.NET.SYS:

```
nmbp dgram udp wait MGR.SAMBA /SYS/SAMBA/NMBD207 nmbd
smbp stream tcp nowait MGR.SAMBA /SYS/SAMBA/SMBD207 smbd
```



```
:print INETDCNF.NET.SYS
                      Note that these entries are in the sample file,
########################
                     but they are 'com mented out'. All you need
# sample inetd configur
                      to do is remove the "#" and make sure to
# For information on ho
 and Managing Internet
                      reference the right version
# Note: The entries can
# and lines beginning with a pound sign(#) are ignored.
                        :listfile smbd207.samba.sys,2
##########################
                        ACCOUNT = SYS
                                            GROUP = SAMBA
# Internet server configur
                                       FILENAME CODE
                                         SIZE
                                              TYP
                                                        EOF
                                                                 LIMIT R/B SECTORS #X MX
echo
           stream tcp no
echo
            dgram udp no
           stream tcp no SMBD207 * NMPRG
                                         128W FB
                                                        6892
                                                                  6892
                                                                              6896 1 *
daytime
daytime
           dgram udp no
time
            stream tcp no
           dgram udp nowait MANAGER.SYS internal
time
           stream tcp nowait MANAGER.SYS internal
discard
           dgram udp nowait MANAGER.SYS internal
discard
           stream tcp nowait MANAGER.SYS internal
chargen
chargen
           dgram udp nowait MANAGER.SYS internal
telnet
           stream tcp nowait MANAGER.SYS internal
#bootps
            dgram udp wait MANAGER.SYS /SYS/NET/BOOTPD bootpd
                                                                       Reference the
tftp
           dgram udp wait
                            USER.TFTP /SYS/NET/TFTPD tftpd
                                                                     program file that
nmbp
       dgram udp wait
                         MGR.SAMBA /SYS/SAMBA/NMBD207 nmbd
smbp
       stream tcp nowait MGR.SAMBA /SYS/SAMBA/SMBD207 smbd
                                                                     provides services
            stream tcp nowait MANAGER.SYS /SYS/ARPA/FTPSRVR ftpsrvr
ftp
```

INETDSEC. NET.SYS

```
:print inetdsec.net.sys
# The lines in the file contain a service name, permission field and
# the Internet addresses or names of the hosts and/or networks
# allowed to use that service in the local machine.
# The form for each entry in this file is:
 <service name>
                  <allow/deny> <host/network addresses, host/network names>
# For example:
# telnet
                allow
                        10.3-5 192.34.56.5 ahost anetwork
# The above entry allows the following hosts to attempt to access your
# using telnet:
                                                                             Use this file to
               hosts in subnets 3 through 5 in network 10,
               the host with Internet Address of 192.34.56.5,
                                                                          allow/deny services
               the host by the name of "ahost",
                                                                         to specific addresses
               all the hosts in the network "anetwork"
                   192.23.4.3
# tftp
           deny
# The tftp entry denies host 192.23.4.3 to access your system using tftp
# Hosts and network names must be official names, not aliases.
# See the Configuring and Installing Internet Services Manual for more
# information.
```

Enable File Links

<u>As MANAGER.SYS:</u>

3 - enable the symbolic links from /etc/... to /SYS/NET/...:

```
continue
newlink /etc/hosts,HOSTS.NET.SYS
continue
newlink /etc/resolv.conf,RESLVCNF.NET.SYS
continue
newlink /etc/services, SERVICES. NET. SYS
continue
newlink /etc/protocol,PROTOCOL.NET.SYS
                                             # not necessary but useful
continue
newlink /etc/inetd.conf,INETDCNF.NET.SYS
                                              # necessary if "inetd" is used
continue
newlink /etc/inetd.sec,INETDSEC.NET.SYS
                                             # necessary if "inetd" is used
```



Samba Jobs

```
:print jsmb
!job jsmbstrt,mgr.samba
! xeq smbd.samba.sys "-D -p 139"
!eoj
                                        For running Samba
                                       under the control of a
:print jsmb207
!job jsmbstrt,mgr.samba
                                              batch job
! xeq smbd207.samba.sys "-D -p 139"
!eoj
:print jnmb207
!job jnmbstrt,mgr.samba
! xeq nmbd207.samba.sys "-D -p 137"
!eoj
:print jinetd.net
!job jinetd, manager.sys
!comment - create the FTPSRVR log file if it doesn't already exist
!continue
!build ftplog.arpa.sys;rec=-256,,f,ascii;disc=4096
!continue
!altsec ftplog.arpa.sys;NEWACD=(R,W,A:@.@)
!run inetd.net.sys;pri=cs
!eoj
```

Start SAMBA

Or, if you're using other internet services (like ftp, for example), stream
JINETD.NET.SYS

As MGR.SAMBA:

Now SAMBA is ready to be started

:sh

>smbstart # streams the JSMB.SAMBA.PUB job

>nmbstart # streams the JNMB.SAMBA.PUB job

In case of errors, the errorlogs give very good hints:

>cd var

>tail -100 log.smb # errorlog is at: /SAMBA/PUB/var/log.smb

>tail -100 log.nmb # errorlog is at: /SAMBA/PUB/var/log.nmb



Reminders when Using the "inetd" (1)

The default installation and the "smbstart, nmbstart" scripts stream listener jobs called SMBMON, MGR.SAMBA and NMBMON, MGR.SAMBA

If the "inetd" is used to start the SAMBA listener, then two new entries should be added to files "inetdonf.net.sys" and "services.net.sys".

The following has to be added to the file inetdonf.net.sys (/etc/inetd.conf):

nmbp dgram udp wait MGR.SAMBA /SYS/SAMBA/NMBD207 nmbd smbp stream top nowait MGR.SAMBA /SYS/SAMBA/SMBD207 smbd



Using the "inetd" (2)

The following has to be added to the file "services.net.sys" (/etc/services):

```
nmbp 137/udp
smbp 139/tcp
```

and then the "inetd" daemon has to be started stream jinetd.net.sys or the "inetd" daemon has to be notified about the config change: inetd.net.sys-c # to accept new config



Use SMBCLIENT to test Samba

shell/iX> cd /usr/local/samba/bin
shell/iX> ./smbclient -L csyle14
Failed to set socket option TCP_NODELAY
)

rror Operation not supported on socket

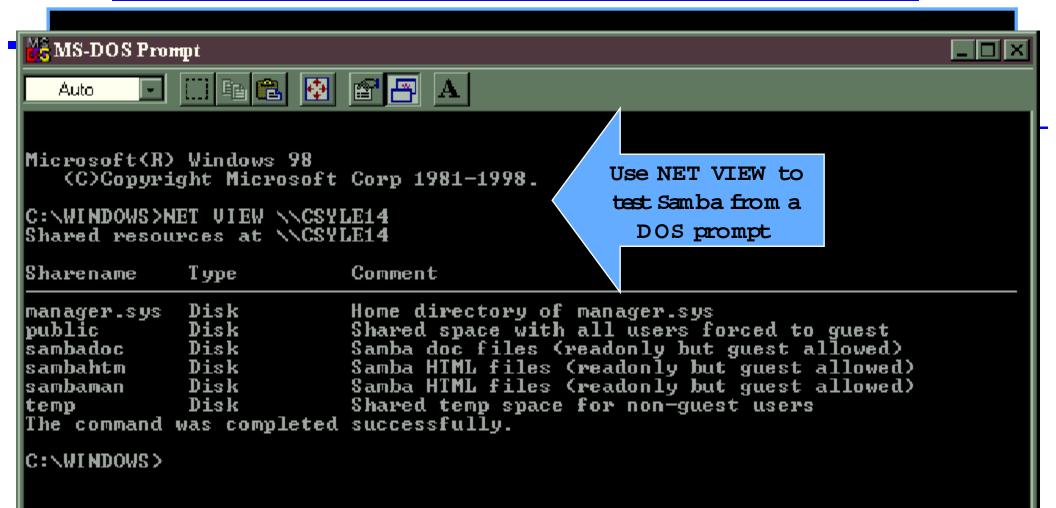
Password:

Domain=[SAMBAIX] OS=[MPE/iX] Server=[Samba 2.0.7]

Sharename	Type	Comment
temp gstachni	Disk Disk	Shared temp space for non-guest users
anishimo	Disk	
public	Disk	Shared space with all users forced to guest
sambadoc	Disk	Samba doc files (readonly but guest allowed)
sambahtm	Disk	Samba HTML files (readonly but guest allowed)
sambaman	Disk	Samba HTML files (readonly but guest allowed)
IPC\$	IPC	IPC Service (Samba 2.0.7)
MANAGER.SYS	Disk	Home directory of MANAGER.SYS

Server	Comment
CSYLE14	Samba 2.0.7
SNOVA35	Samba 2.0.7
Workgroup	Master
SAMBATX	SNOVA35

shell/iX>



Windows/NT clients

SYMPTOMS

Connecting to SMB servers (such as Samba) with unencrypted password fails after upgrading to Windows NT 4.0 service pack 3 version 1.76.

CAUSE

The SMB redirector in Windows NT 4.0 service pack 3 version 1.76 handles unencrypted passwords differently than previous version of Windows NT. Beginning with this version, the SMB redirector will not send an unencrypted password unless you add a registry entry to enable them.

RESOLUTION

To enable unencrypted (plain text) passwords modify the registry in this way. WARNING: Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows NT to correct them. Microsoft cannot guarantee that any problems resulting from the use of Registry Editor can be solved. Use this tool at your own risk.

- 1. Run Registry Editor (REGEDT32.EXE).
- 2. From the HKEY_LOCAL_MACHINE subtree, go to the following key: \system\currentcontrolset\services\rdr\parameters
- 3. From the Edit menu, select Add Value.
- 4. Add the following: Value Name: EnablePlainTextPassword Data Type: REG_DWORD Data: 1
- 5. Choose OK and quit Registry Editor.
- 6. Shutdown and restart Windows NT.

Windows 95 (and Windows 98) and encypted passwords

Microsoft's network improvements make it impossible to connect to Samba without using encrypted passwords. There is a workaround for NT4.0 (SP3) by changing a registry entry. This has been published by Microsoft in their knowledge-base. With WIN95 OSR2.1 and the vredir patch (vredir.vxd and vnetsup.vxd dated June, 2nd 1997 or later) the behaviour is very similar to NT with SP3. If you want WIN95 to work with unencrypted passwords, you have to change the registry as with NT.

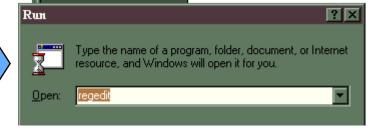
HKEY LOCAL MACHINE\System\CurrentControlSet\Services\VxD\VNETSUP

Add a new DWORD value named EnablePlainTextPassword and give it a value of 1.

This does not only affect Win 95 OSR2, but also any version of Windows 95 that has been patched with updated **vredir.vxd** and **vnetsup.vxd** files.

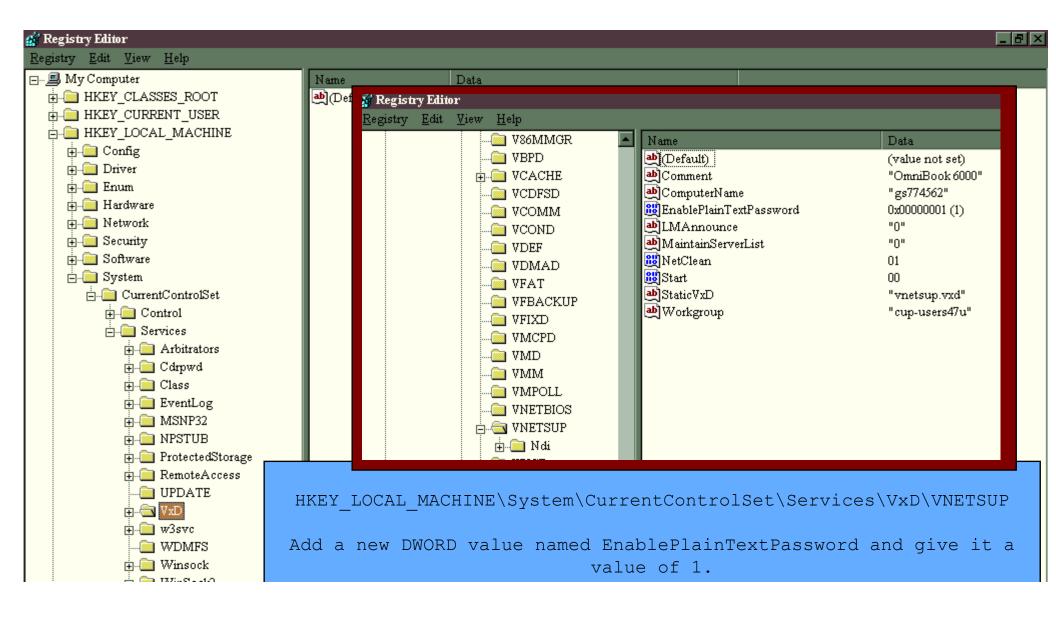
Additional Note: This tch has also been confirmed to work on the initial versions of Windows 98.

Click on "start",
"run" and type
"regedit"





Using REGEDIT



Connect a PC to the HP 3000:

ON THE PC (Windows95, Windows/NT):

Go to Windows Explorer:

-> tools

-> map network drive

Drive: H:

Path: \\name-of-your-samba-server\public

Path: \ip-address-of-your-samba-server\public

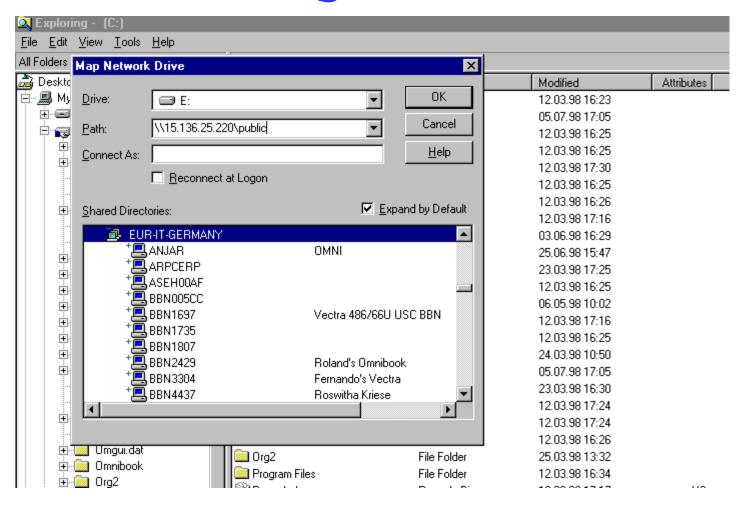
Connect as:

=> Now you are using Samba on the HP 3000



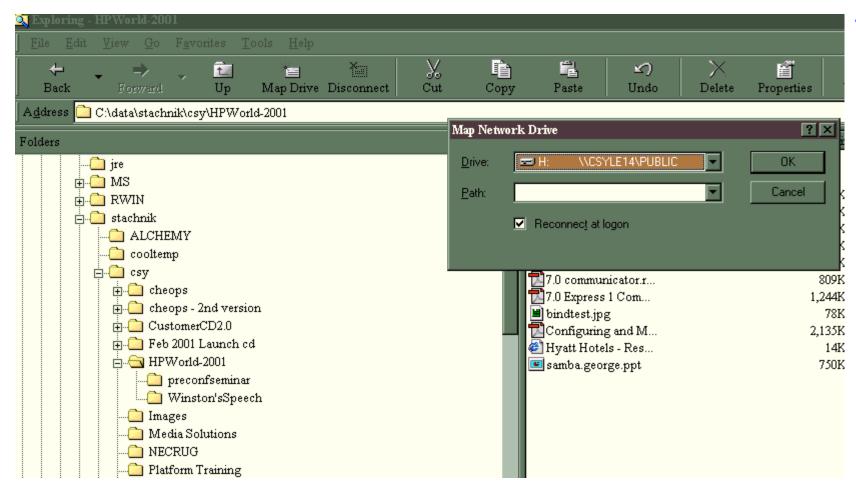
or

Connecting a PC to the HP 3000



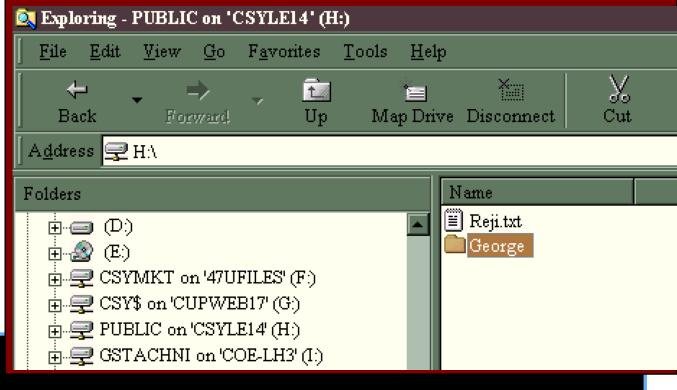


Connecting a PC to the HP 3000





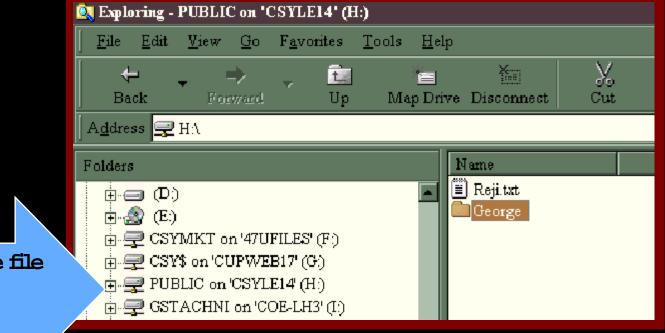
Exploring a directory



```
shell/iX> cd /SAMBA/SHR/public shell/iX> ls
George Reji.txt
shell/iX> l1
total 2
drwxr-xr-x 2 MGR.SAMBA SAMBA 224 Aug 3 14:54 George
-rwxr--r-- 1 MGR.SAMBA SAMBA 18 Aug 3 03:01 Reji.txt
shell/iX>
```



One thing to be aware of - if you create a file or a directory on shell/iX> mkdir this_is_a_new_directory your 3000 shell/iX> ll total 3 drwxr-xr-x 2 MGR.SAMBA SAMBA 224 Aug 3 14:54 George 18 Aug 3 03:01 Reji.txt -rwxr--r-- 1 MGR.SAMBA SAMBA drwxrwx--- 2 MANAGER.SYS SAMBA 224 Aug 3 15:00 this_is_a_new_dir ectory shell/iX>



... you won't "see" the file on your client PC automatically.

shell/iX> mkdir this_is_a_new_directory shell/iX> ll

total 3

ectory

drwxrwx---

shell/iX>

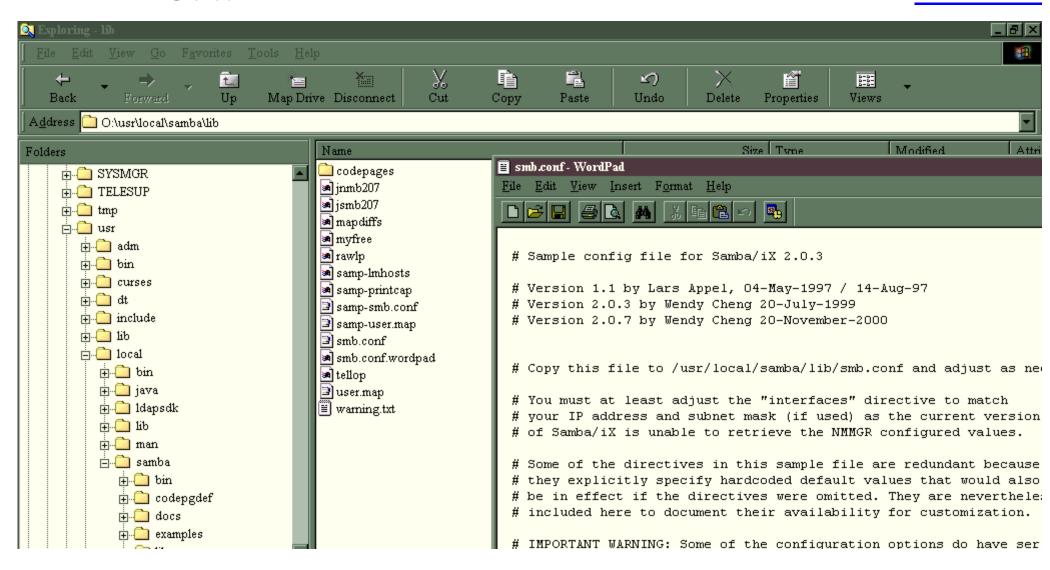
drwxr-xr-x 2 MGR.SAMBA SAMBA 224 Aug 3 14:54 George

18 Aug 3 03:01 Reji.txt -rwxr--r--1 MGR.SAMBA SAMBA

> 2 MANAGER.SYS SAMBA 224 Aug 3 15:00 this_is_a_new_dir

💽 Exploring - PUBLIC on 'CSYLE14' (H:) File Edit View Go Favorites Tools Help χ Toolbars **+ *** ✓ Status Bar Back Iap Drive Disconnect Cut Сору Paste Explorer Bar A<u>d</u>dress 룾 as Web Page Name Folders <u>□</u>George ⊕ (D:) Large Icons 🗋 this is a new dir... ±...................................(E:) Small Icons ■ Reji.txt List Details Customize this Folder ... 🕁 🚅 нра ... clicking on VIEW and Arrange Icons REFRESH will force the Refresh Windows Explorer to take a Ė...⊋ DRd Java Console ÷ ... second look. Folder Options... insd1stwed in aircom Printers Control Panel

Editing files on your 3000 using your PC...



Pitfalls of editing from your PC

```
shell/iX> vi /usr/local/samba/lib/smb.conf
 ^M
# Sample config file for Samba/iX 2.0.3^M
^M
# Version 1.1 by Lars Appel, 04-May-1997 / 14-Aug-97^M
# Version 2.0.3 by Wendy Cheng 20-July-19
                                            A file editor which knows when to save files with
# Version 2.0.7 by Wendy Cheng 20-November
^M
                                            either <lf> or <cr><lf> line terminators.
^M
                                            Programmers File Editor (PFE) by Alan Phillips of
# Copy this file to /usr/local/samba/lib/
                                            Lancaster University is an all around text editor that is
^M
# You must at least adjust the "interface
                                            suited for both the DOS/Windows environment, and
# your IP address and subnet mask (if use
                                            Unix (MPE/iX's HFS) environments as well. The editor
# of Samba/iX is unable to retrieve the N
                                            looks at the termination character of the file when it is
^M
# Some of the directives in this sample f
                                            brought in, and automatically saves the file back out with
# they explicitly specify hardcoded defau
                                            the same termination character, Files can also be easily
# be in effect if the directives were omi
                                            converted from one type to the other. Check out
# included here to document their availab
ΛM
                                            http://www.lancs.ac.uk/people/cpaap/pfe/ for more
# IMPORTANT WARNING: Some of the configur
                                            information. This package is Freeware.
# security implications and can cause ris
# improperly, especially when you decide
# user with PM (or even SM) capabilities
```



What Samba can NOT do...

- You can use Samba to read and write ordinary MPE files (text files) from your PC.
- You cannot use Samba to read or write privileged files (such as TurboIMAGE databases) on your HP e3000.
 - If you need to access TurboIM AGE databases from your PC, you should be looking at one of the database connectivity protocols (ODBC, JDBC), not SMB.

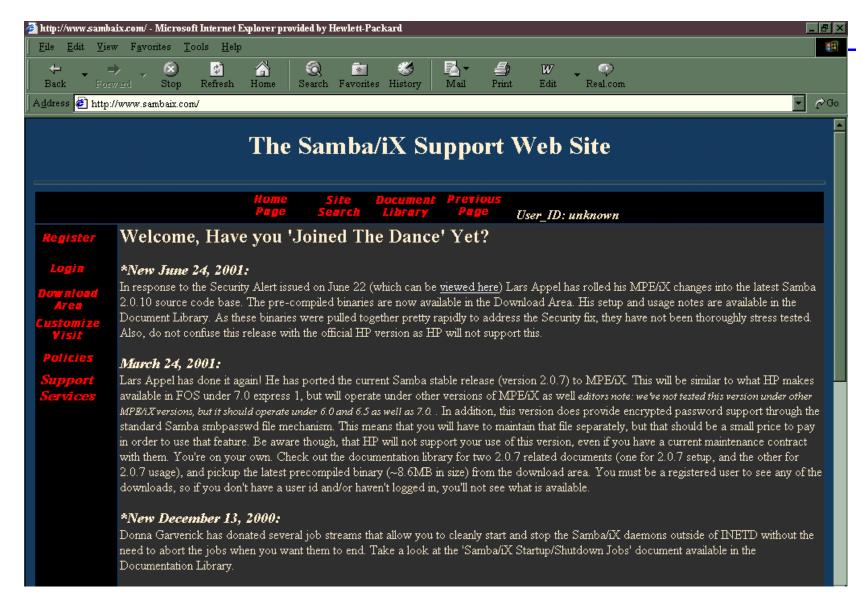


What Samba can NOT do (cont.)

- Editing MPE files with a record structure, (I.E. "flat files" –
 not bytestream files) can also be dangerous, because PC
 editors have no concept of a record limit.
 - Adding records to a file and then writing the file back to the 3000 can result in errors.

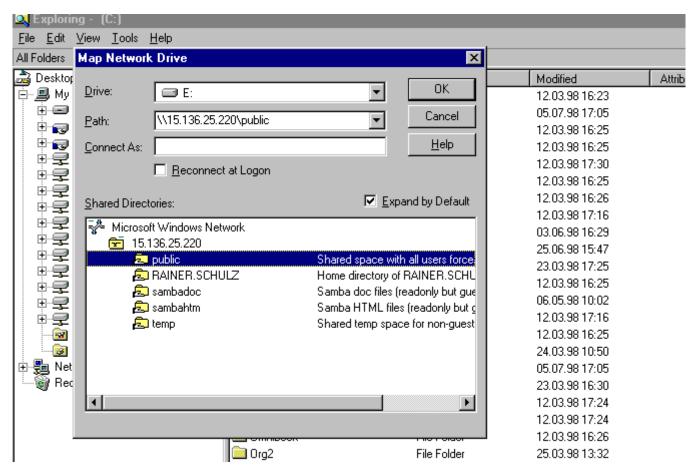


Resources: http://www.sambaix.com





\\ip-address\ (no directory)





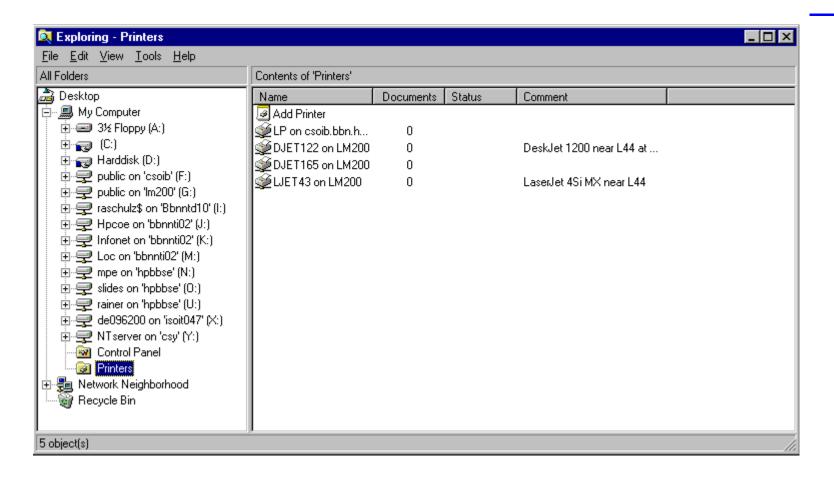
Adding a HP 3000 Printer (1)

SAMBA uses an program written by Lars Appel to access the printer on the HP 3000. The file "printcap" contains the destinations on the HP 3000 like LP, LPJET or 202 (must exist).

rawlp%s %p [file destination]

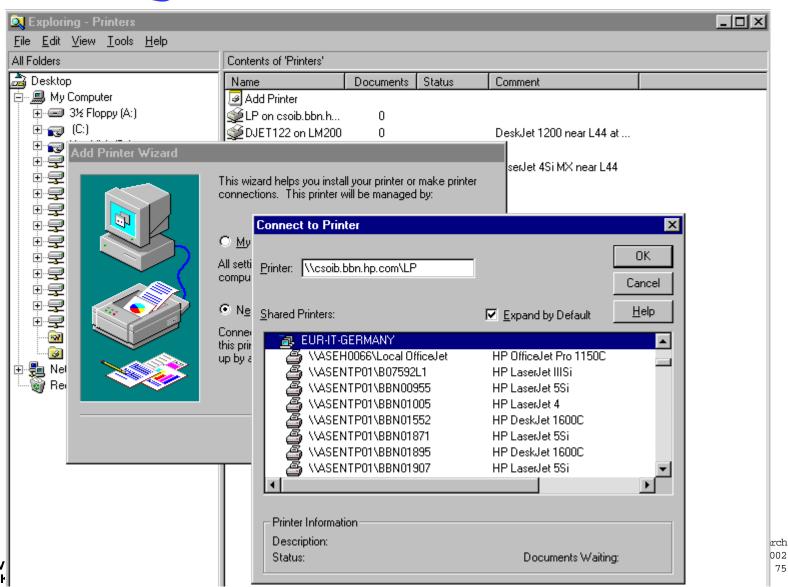


Adding a HP 3000 Printer (2)

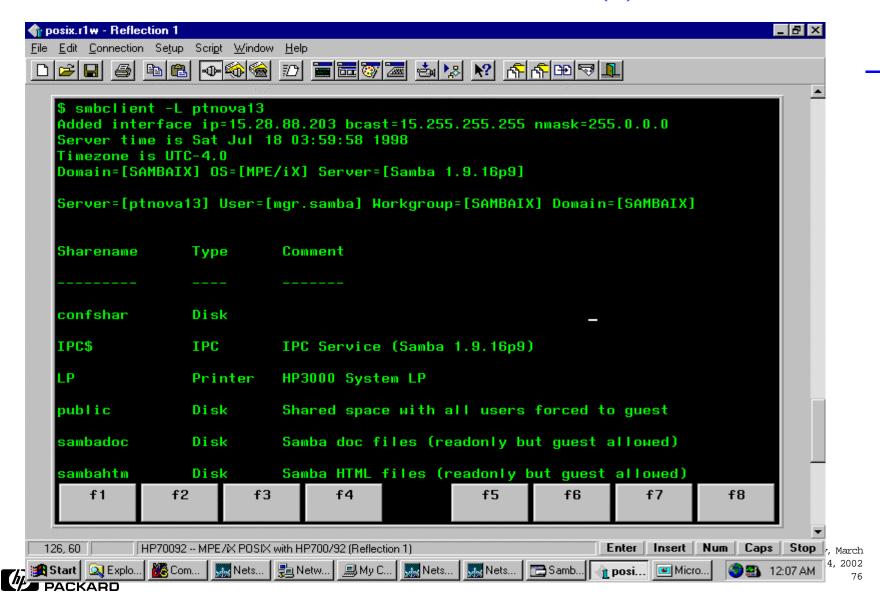




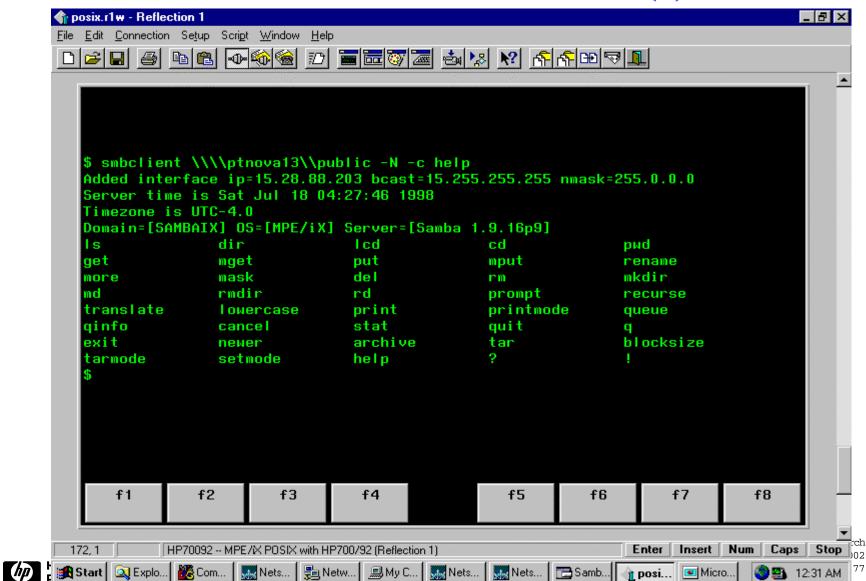
Adding a HP 3000 Printer (3)



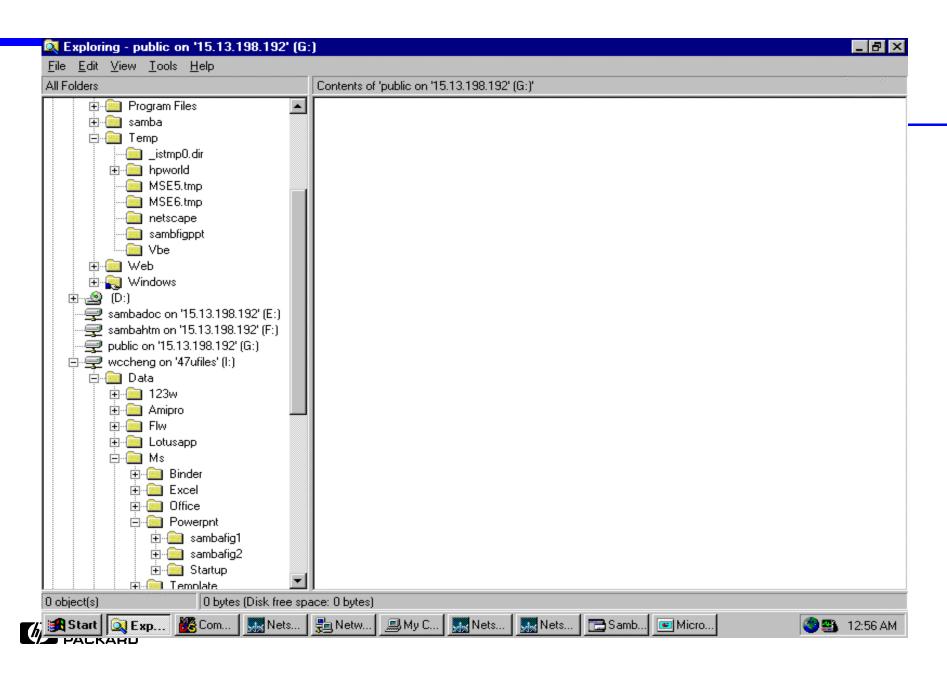
Samba Client for MPE/iX (1)



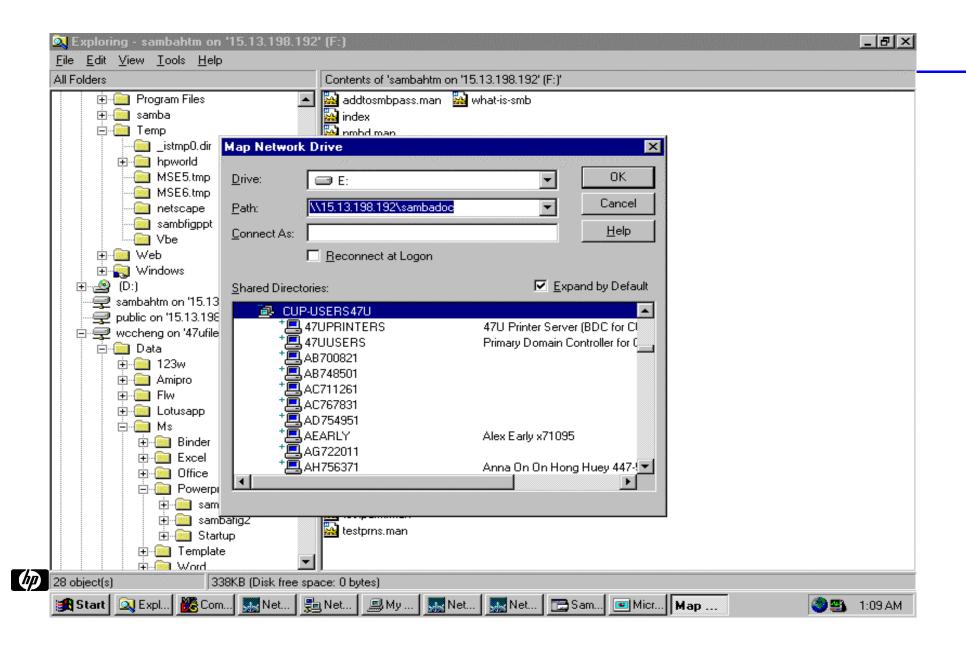
Samba Client for MPE/iX (2)



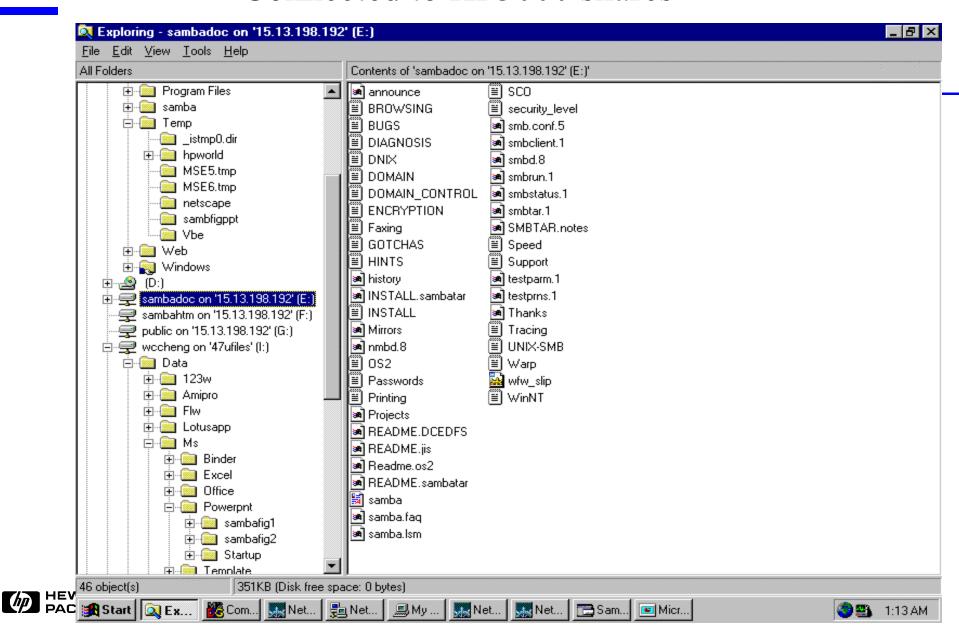
Sharing the HP3000 Disks



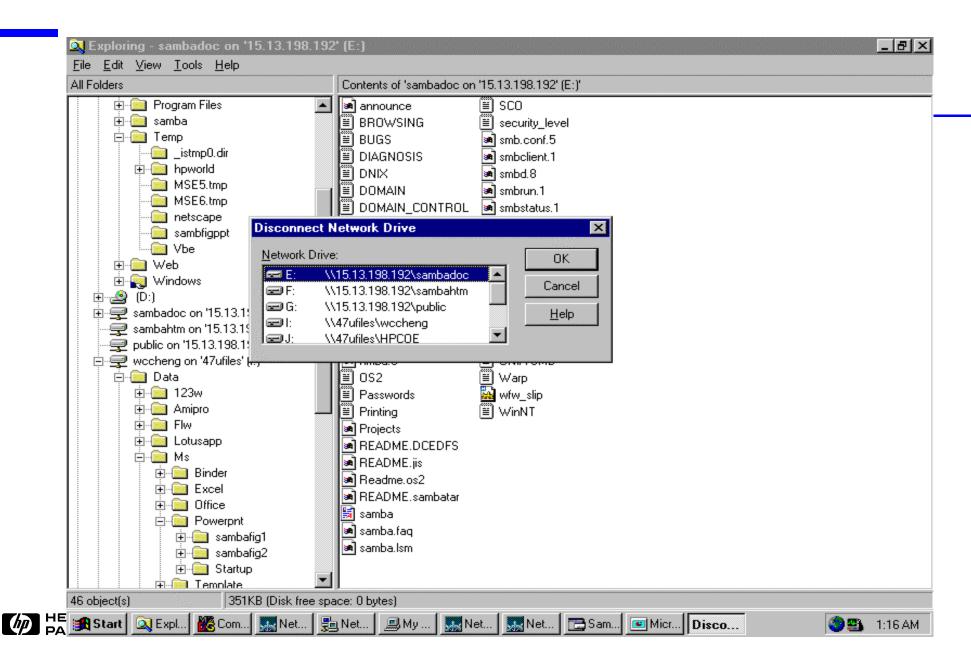
Mapping to A Share



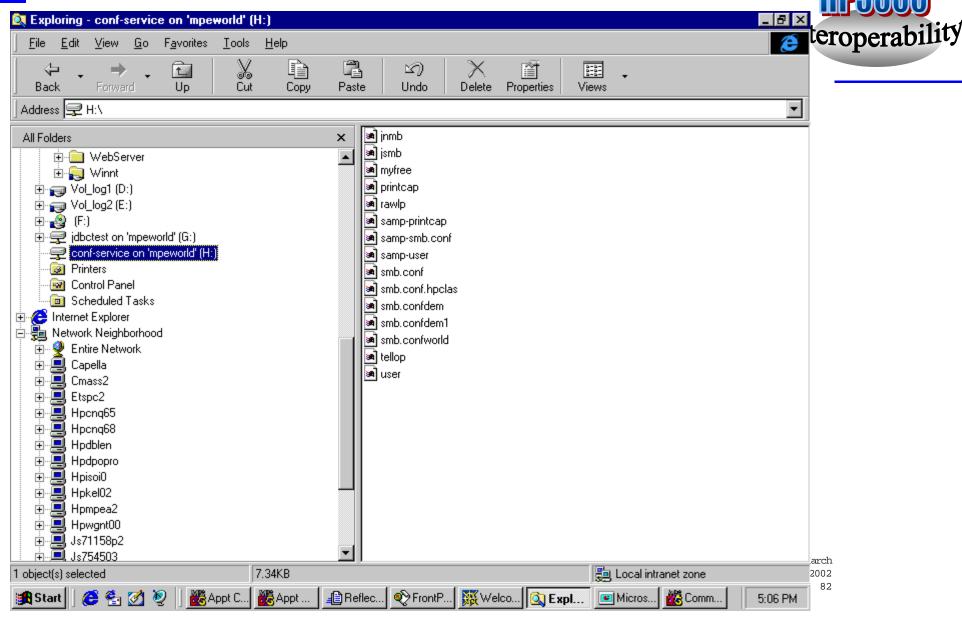
Connected to HP3000 shares

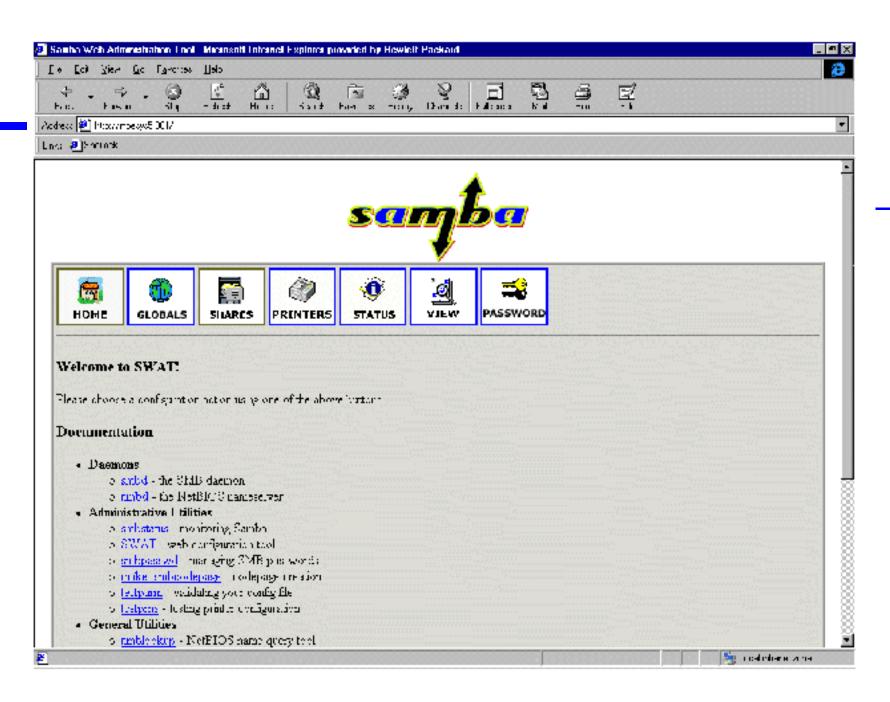


Disconnecting A Share

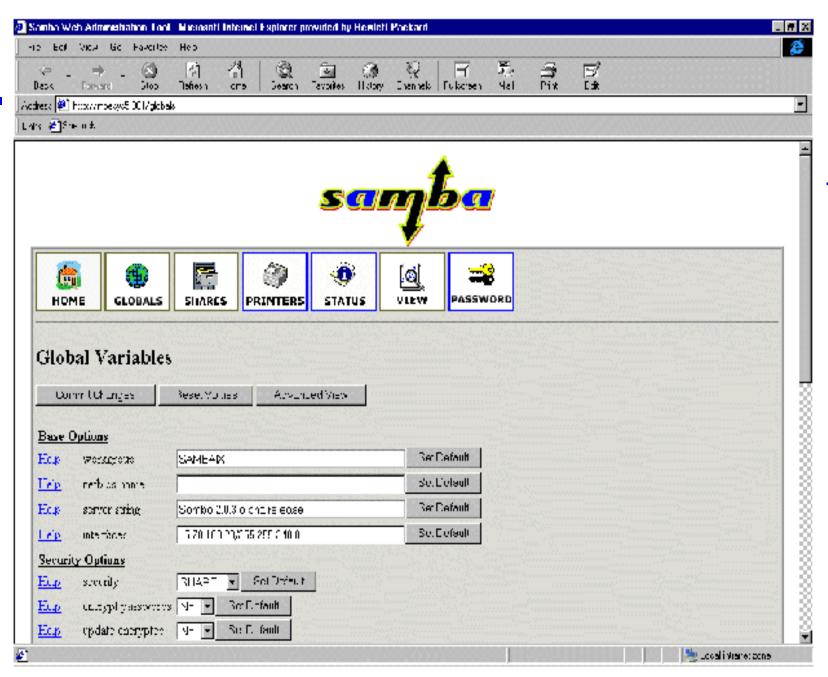


Viewing The "Conf-Service" Share

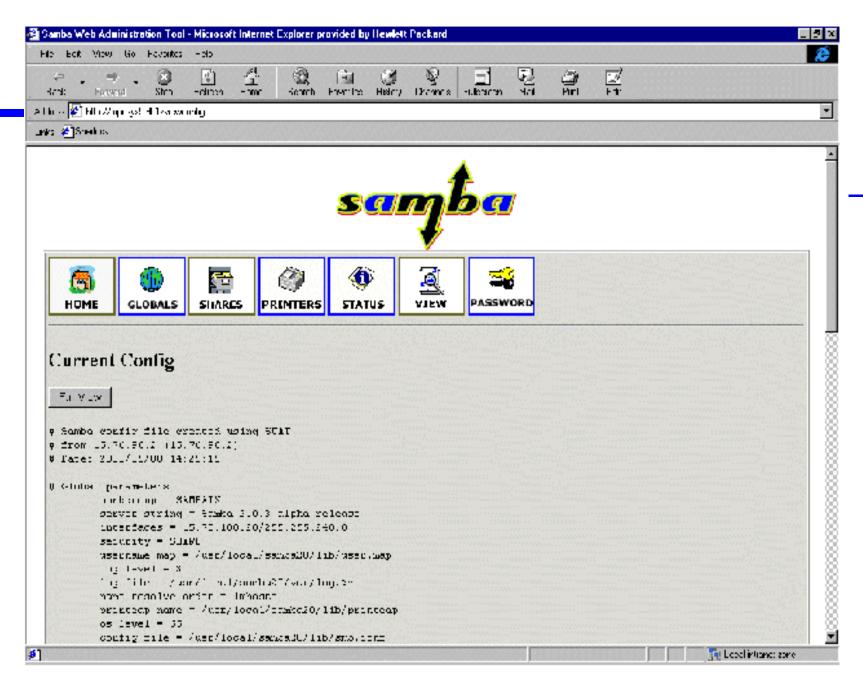




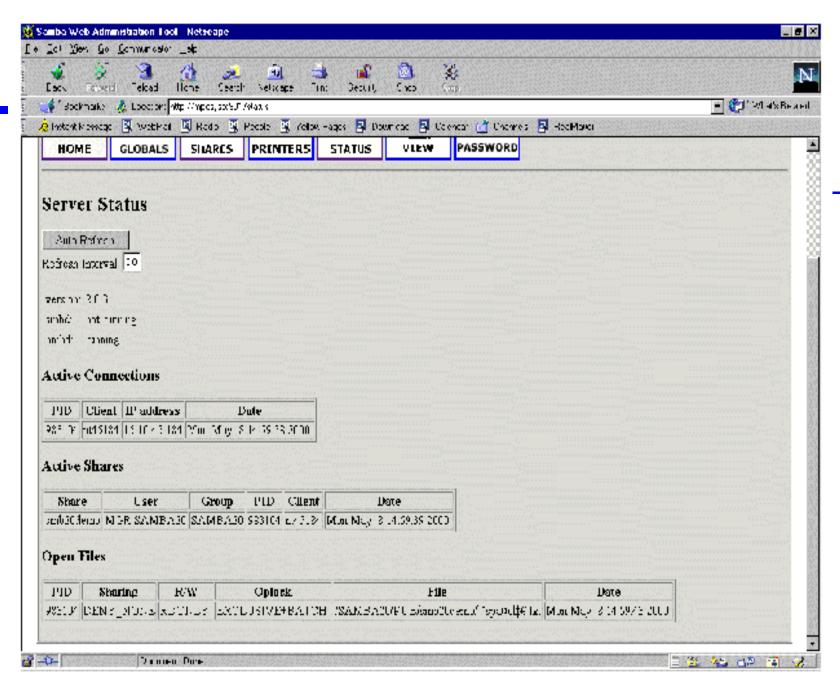














New Functionality - Samba 2.0.7

- User selectable name resolution order
- Improved share mode handling
- Western European language support
- Additional character support
- Mapdiffs utility
- Change in default security mode





References:

The book, Integrating Unix and Windows by John D Blair

http:\\www.sambaix.com maintained by Michael Gueterman





Samba/iX and beyond (1)

- * Programmer's File Editor "PFE" (A. Phillips) http://www.lancs.ac.uk/people/cpaap/pfe
- * Whisper FTP Surfer (Whisper Technology) http://www.whispertech.com
- * SpeedEdit/Win (Inclination Software) http://www.isiinc.com



Samba/iX and beyond (2)

- * Facade CoEditor (Performance Software Group) http://www.netpsg.com
- * QEdit for Windows "QWIN" (Robelle) http://www.robelle.com
- * Whisper Programmer Studio (Whisper Technology) http://www.whispertech.com
- * GUI/3000 (Pete Vickers) http://www.petevick.demon.co.uk



Swat

- Samba Web-Based Administration Tool
 - -A program to remotely configure Samba runtime configuration (smb.conf) via the web
 - Samba docs in html format.
 - -Web-based display of samba server status



Remote Configuration: Samba Web Administration Tool

(SWAT).

stream tcp nowait.400 MGR.SAMBA /usr/local/samba/bin/swat swat -a

Before invoking SWAT: Before SWAT can be run, the following

lines in the configuration files need to be updated. SWAT is available for

guest users only.

In the file SERVICES.NET.SYS, the following line should be added to include SWAT service:

swat 901/tcp #SWAT Tool

In the file INETDCNF.NET.SYS, the following line should be added to include SWAT service:

swat stream tcp nowait.400 MGR.SAMBA /SAMBA/SMB20/bin/swat swat -a

How to invoke SWAT:

SWAT can be invoked by starting your favorite web browser with the following arguments in the "go to" field: http://sambaservername: 901/. Here 901 is the port where SWAT operates, refer to Figure 7-9.



swat

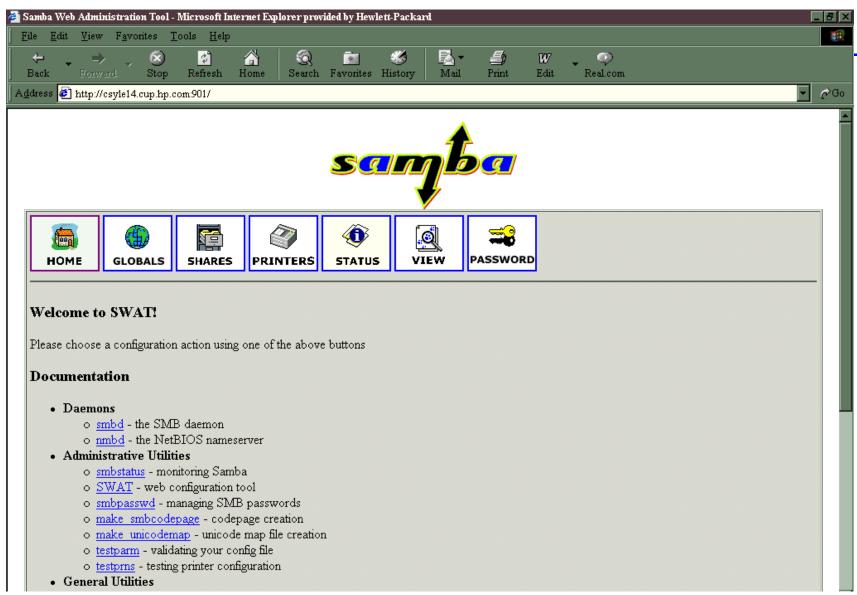
Who is allowed to use swat?

- Define users allowed to use swat in inetdsec
- Note ip address shown is the address of the client PC
 - This means there cannot be a proxy server between the client pc and the samba server.

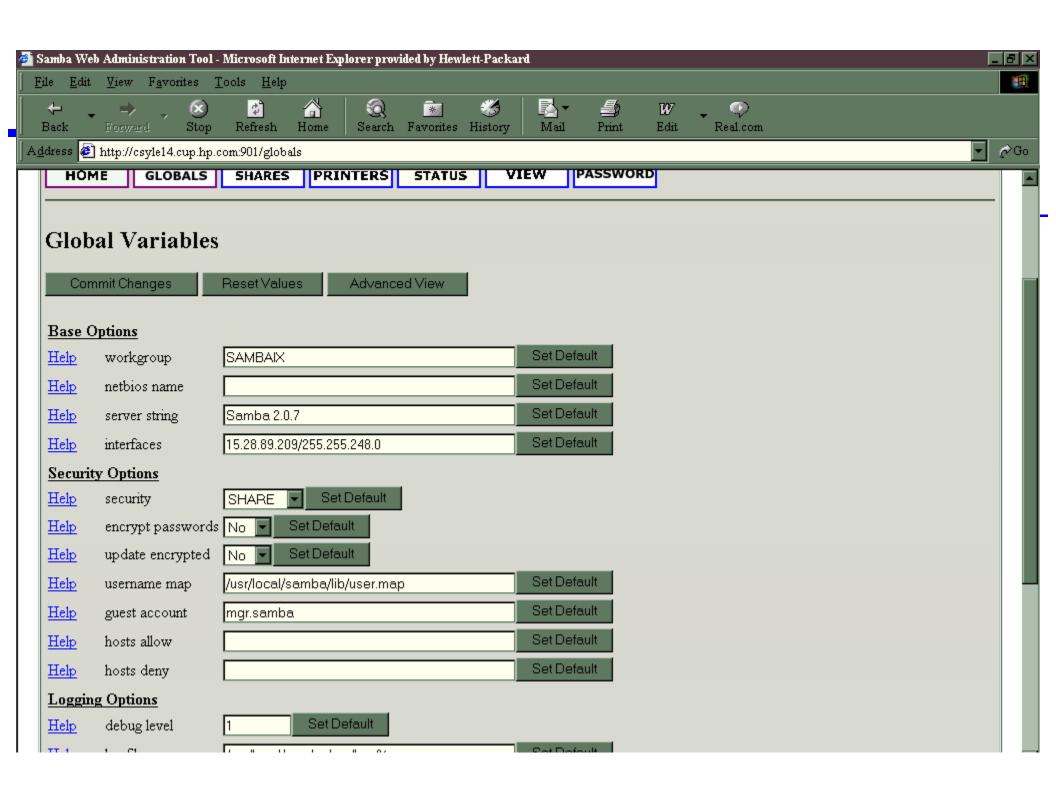
```
:print inetdsec.net.sys ;start=-3
# added by lars appel on 13.aug.01
   to restrict swat access to only one PC
       allow 15.139.204.220
swat.
```

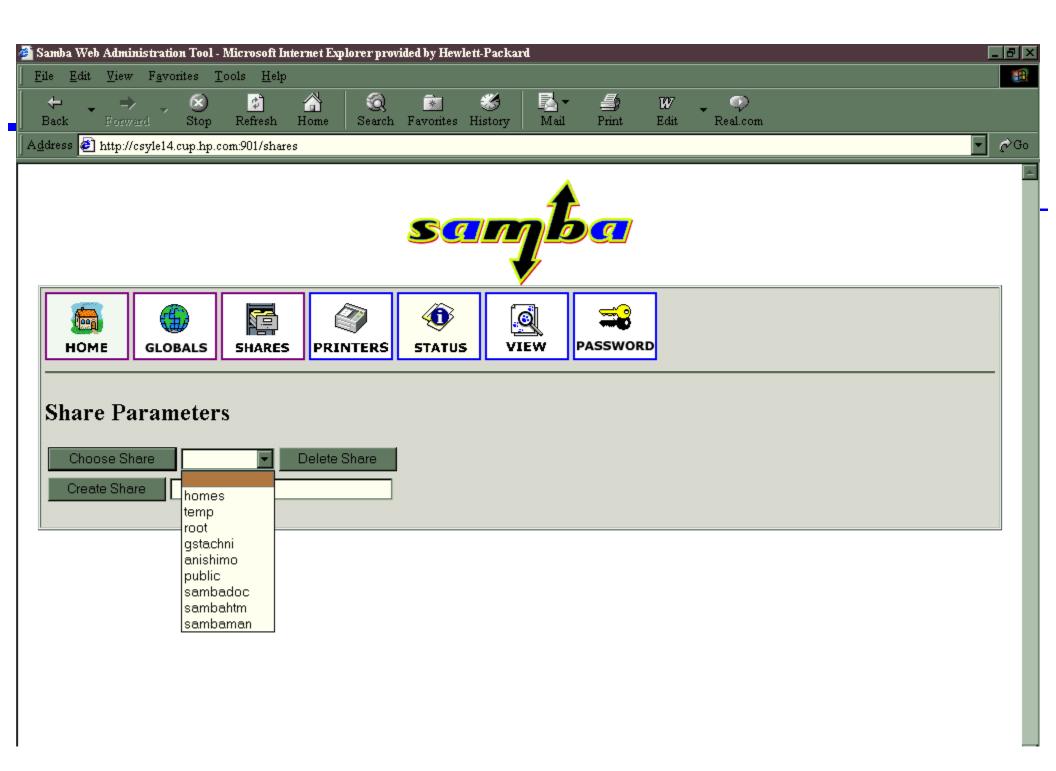


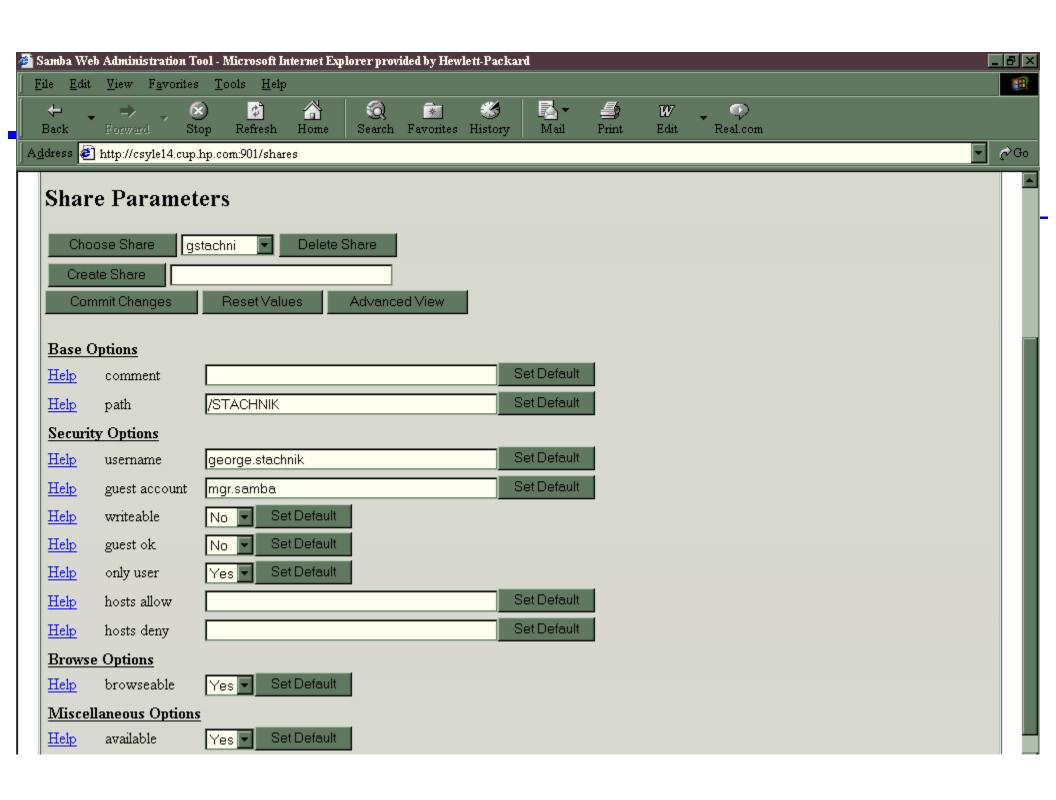
To invoke SWAT: http://yourserver.com:901

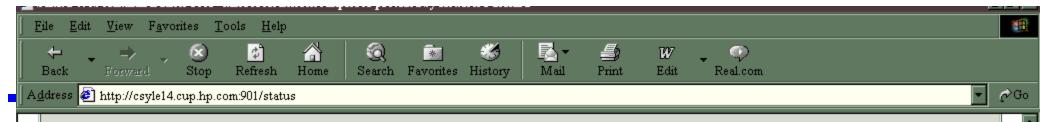












Server Status

Auto Refresh

Refresh Interval: 30

version: 2.0.7 smbd: running

nmbd: running

Active Connections

PID	Client	IP address	Date		
1704020	gs774562	15.61.195.67	Mon Aug 13 12:24:51 2001		
1507393	an756494	15.61.195.253	Mon Aug 13 12:30:28 2001		

Active Shares

Share	User	Group	PID	Client	Date
gstachni	GEORGE.STACHNIK	STACHNIK	1704020	gs774562	Mon Aug 13 12:24:51 2001
public	MGR.SAMBA	SAMBA	1704020	gs774562	Mon Aug 13 12:24:51 2001
root	MANAGER.SYS	SYS	1704020	gs774562	Mon Aug 13 12:24:51 2001
anishimo	MANAGER.SYS	SYS	1704020	gs774562	Mon Aug 13 12:24:51 2001
public	MGR.SAMBA	SAMBA	1507393	an756494	Mon Aug 13 12:30:28 2001

Open Files

