Samba 4

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Quick Introduction

• What is Samba?
  - Open Source implementation of various proprietary protocols used by Microsoft Windows
    • SMB
    • MSRPC
    • CLDAP
    • ...

• Who am I?
  - Samba developer, working mostly on the RPC and DCOM protocols in Samba 4
### The protocol

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<tr>
<th>IPX</th>
<th>TCP/IP</th>
<th>SNA</th>
<th>DECNet</th>
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<td>Browsing</td>
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Active Directory

- DNS
- Kerberos
- DHCP
- LDAP
- CIFS
- cldap

- Better scalability
- Supported only partially by Samba 3
Samba 4.0 – Goals

- Improved Architecture
- Full AD Support!
- Full coverage of the CIFS protocol
- Better layering between POSIX mappings and protocol layer
- Improved Usability
Switch to IDL

- Quicker to debug
- Easier to understand
- Less prone to bugs
- Quicker code writing

File sizes

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“LDB”

- Front-end to both LDAP and TDB
- no-schema option
- Used for all non-temporary databases in Samba4
Full Coverage of Protocol

Old interface:
```c
int fnum = cli_open(cli, "\\fosdem.dat", O_RDWR, DENY_READ);
```

New interface:
```c
NTSTATUS status;
union smb_open io;

io.generic.level = RAW_OPEN_OPENX;
io.openx.in.flags = OPENX_FLAGS_ADDITIONAL_INFO;
io.openx.in.searchAttrs = FILE_ATTRIBUTE_SYSTEM | FILE_ATTRIBUTE_HIDDEN;
io.openx.in.fileAttrs = 0;
io.openx.in.write_time = 0;
io.openx.in.open_func = OPENX_OPEN_FUNC_OPEN;
io.openx.in.size = 0;
io.openx.in.timeout = 0;
io.openx.in.fname = "\\fosdem.dat";

req = smb_raw_open_send(tree, &io);
status = smb_raw_open_recv(req, mem_ctx, &io);
```
Current Status

• POSIX mappings still very basic
  − All users run as root at the moment
• Still some important subsystems missing
• Better functionality than Samba3 in some other areas
• Has already reached "Susan" stage
Further Resources

• “Implementing CIFS” by Chris Hertel. http://www.ubiqx.org/cifs/
• http://devel.samba.org/
• prog_guide.txt in Samba4 SVN
• Slides available at http://samba.org/~jelmer/