

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

IPX	TCP/IP UDP/IP	SNA	DECNet				
NetBIOS				NetBEUI		TCP/IP	
SMB							
SMB Pipes							Mailslots
RAP			RPC				Browsing
User Admin	Printing	...	Printing	Registry	User Admin	...	



Active Directory

- DNS
- Kerberos
- DHCP
- LDAP
- CIFS
- cldap
- Better scalability
- Supported only partially by Samba 3



Samba 4.0 – Goals

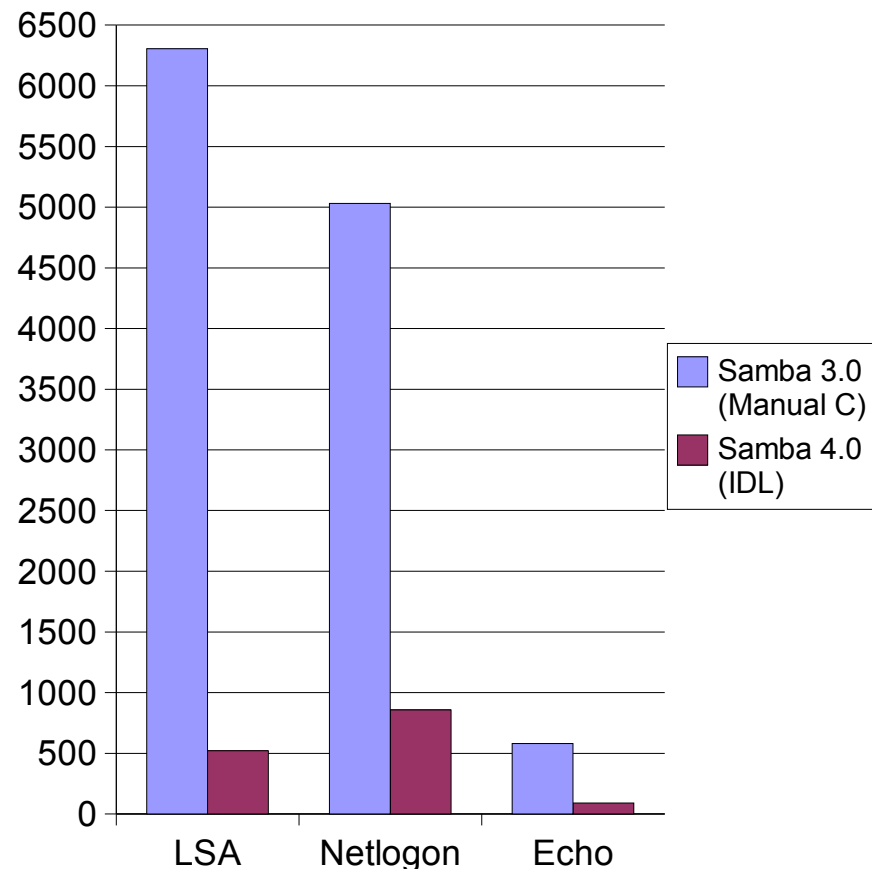
- Improved Architecture
- Full AD Support!
- Full coverage of the CIFS protocol
- Better layering between POSIX mappings and protocol layer
- Improved Usability



Switch to IDL

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

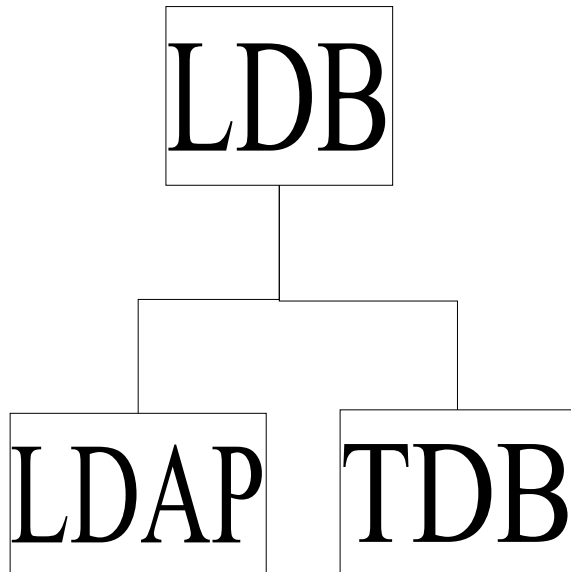
File sizes



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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:

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

New interface:

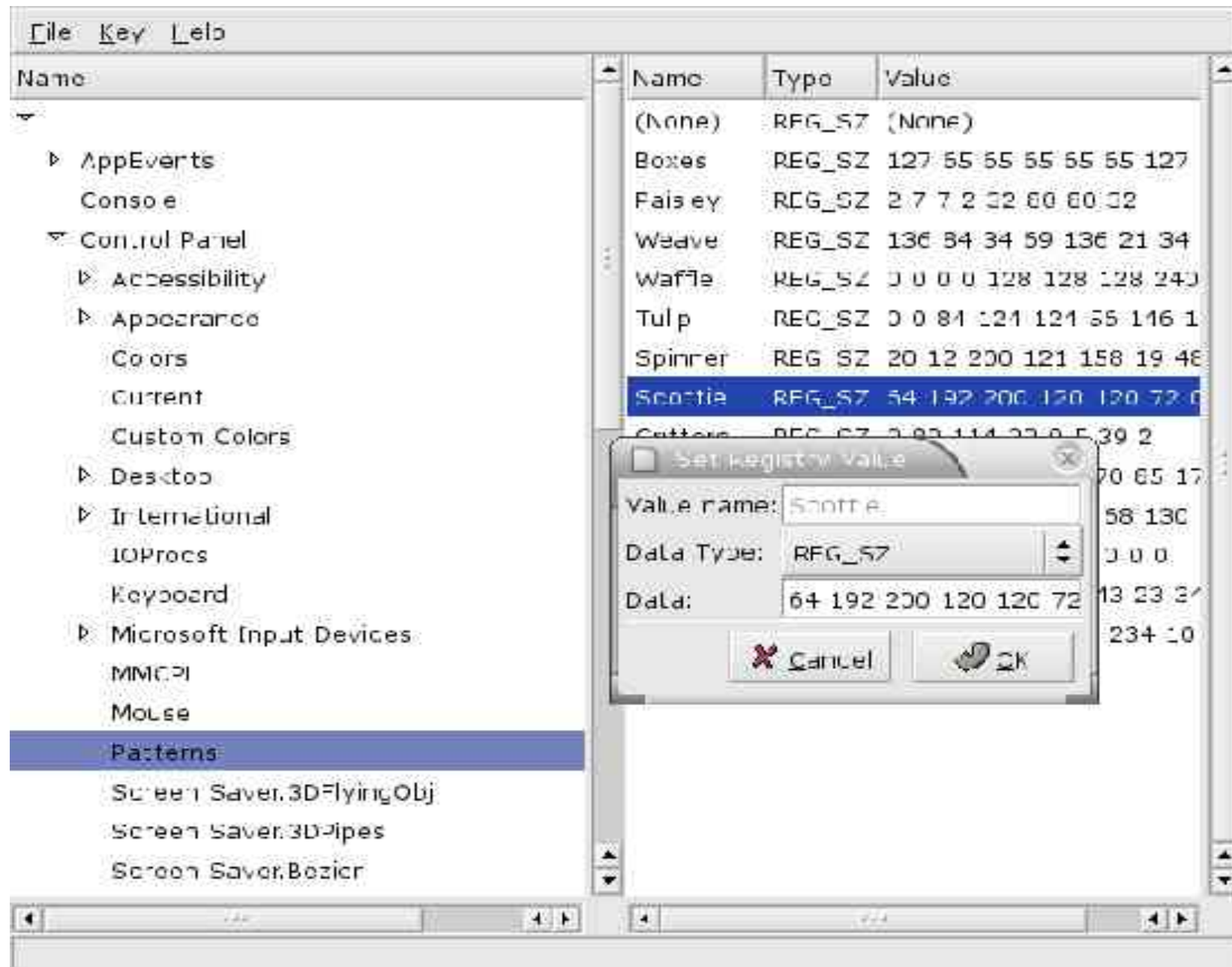
```
NTSTATUS status;  
union smb_open io;  
  
io.generic.level = RAW_OPEN_OPENX;  
io.openx.in.flags = OPENX_FLAGS_ADDITIONAL_INFO;  
io.openx.in.search_attrs = FILE_ATTRIBUTE_SYSTEM | FILE_ATTRIBUTE_HIDDEN;  
io.openx.in.file_attrs = 0;  
io.openx.in.write_time = 0;  
io.openx.in.open_func = OPENX_OPEN_FUNC_OPEN;  
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/>

