Improving Automated Testing of Samba

Jim McDonough
IBM Linux Technology Center
Samba Team
SambaXP 2006
Current Tools

- Samba 4 smbtoolure
- Linux CIFS filesystem
- 'net' command
- smb...
Current Samba 4 smbtorture

- The developers' test tool
- Key in samba build farm
  - 'make test'
- Add tests as you add function or fix bugs
- Easily scripted
'net' command

- Test many administrator operations
- Easily scripted
- Test multiple methods of administration (ADS, RPC, RAP)
Linux CIFS Client

- Exercises Unix extensions
- Use standard filesystem test tools
  - LTP
  - Connectathon
- Easily script operations
What Is Missing?

- Other clients (including....!)
- Multiple clients
- Application-generated operations
- External backends
- Distro packages
What can we do?
Goals

- Increase overall amount of automated testing
- Broad functional testing
- Fairly simple setup
- Real-world problem scenarios
- Easily-repeatable testcases
- More testers!
Reestablish build farm testing

- **Make Samba 4 smbtorture more Samba 3 friendly**
  - Categorize tests with respect to Samba 3
    - Should pass
    - Can't pass
    - Parts should pass
      - Split these tests further

- **Remaining process group or other issues?**
Other smbtorture Improvements

- Add Unix extensions
- Bugs that are hard to reproduce
- <add your favorite test here>
Potential 'make test' Improvements

- Simulate multiple systems – can we do this with socket-wraper?
- Include LDAP passdb backend – use ldapi-only
Ease Configuration

- Script configuration with small, manageable number of parameters
- Base on running platform
  - Run the shipped package
  - Configure external tools (LDAP, scripts)
- Requires multiple setup scripts, but IT TESTS WHAT MANY OF OUR USERS RUN
- Decide on what should be configurable, and users/developers of each platform should script and share
Application-Generated Operations

- Make 'net' and 'smbtorture' generate the same operations as apps
  - Windows sometimes changes what it does on the wire
- Write Win32 applications to simulate
  - Requires reproducing the actions and sniffing the wire
- Run real applications
  - AutoITscript www.autoitscript.com
    - Use the GUIs as a user
    - When a user reports a bug, script the action
Dedicated Test Farms

- **Distros**
- **Support Vendors**
  - IBM
- **VMWare API (Perl or new C) to manage windows sessions**
  - Can manage power/suspend/resume/snapshots
  - How do we autostart tests?
More Testers

- Ease of configuration
- Give them gold stars
- Persistence
Other Ideas?

- Tell me now
- Tell me later
  - jmcd@us.ibm.com
  - jmcd@samba.org