Samba 4.0 merged

We have a merged tree, now what next?

Andrew Bartlett – SambaXP 2011

Where are we now?

- Build and Test
- S3fs
- Bridge pipes and modules

Build and Test

- Combined build using waf

- Combined 'make test'

  - Including Samba3/4 interoperability

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Bridge pipes and modules

- Named pipe bridge
  - Forwards authenticated connections between processes
- Bridge plugins between Samba3 and Samba4
  - pdb_samba, auth_samba
  - pdb_ads, auth_netlogond

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S3FS

- S3fs embedded file server

- Starts a Samba3 file server in a Samba4 task

- Named pipe bridge

- Aims to replace the 'ntvfs' implementation that was never finished.

Franky

- Independent Samba3 file server
- Samba4 DC
- Named pipe bridge
- pdb_ads and auth_netlogond for plugins

Base libraries merged

- Including
  - DEBUG() code
  - International character conversion
    - iconv, push/pull, strequal, strupper_talloc
  - String handling
  - Interfaces detection
  - Utility functions
- Share the foundations to share the code above

More that coexistence

- Compatible libraries
  - Most conflicting symbols renamed
- Compatible headers
  - 'source3' and 'source4' headers may be combined
  - Not just 'top level' headers any more

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So, what's next?

- Loadparm handling
- Authentication and authorization
- Winbind
- Build systems
- Library code
- Seperate DCC/RPC servers

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Loadparm handling

- Need a way to read only the Samba3 loadparm

- Perhaps a 'samba3' flag on loadparm_context?

  - Redirect calls to the samba3 loadparm functions

- Server role initialisation

  - Need a common concept of server role

- Substitutions

  - Need to determine how global % sub variables interact with 'single' process mode

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Authentication

- Merging kerberos acceptors

  - So we can use AES across the whole codebase

- Divergent behaviour

  - LDAP, SMB, encrypted DCE/RPC

  - These all must have identical behaviours

  - Must all accept and fall back kerberos identically

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Authorization

- Common IDMAP behaviour

- Merge session_info structures

    - Allow passing a user context around the codebase

    - Without loosing information in particular

- Plug in or merge privileges handling

- Merge 'system user' and 'guest' templates

    - So we can consistently handle these

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Winbind

- Still two implementations

- disjoint functionality

  - Samba4's winbind has hooks for RODC support
  - Samba3's winbind is more complete elsewhere

Build systems

- 3 build systems

  - Top level waf system builds all of Samba now

- Still have _SAMBA_BUILD_ macros

- Also _SAMBA_WAF_BUILD_ macro now

  - Used for code that the autoconf build can't handle due to dependencies

- We need to move to just the top level build

Tools

- Still have conflicts in tool names

  - smbclient

  - smbtorture

  - nmblookup

  - ntlm_auth

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Unmerged library code

- Still a lot of duplicate library code

  - Using different names, but for the same purpose

- Not an immediate cost

  - But may hinder making other code in common

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Separate DCE/RPC servers

- Distinct samr, lsa, netlogon servers
- Important passdb backend users:
  - Samba3 LDAP backend
  - IPA
- ACL considerations
  - Samba3 ACLs are DCE/RPC level
  - Samba4 ACLs LDB level
  - Correct object owner important

The heros

- These developers have done amazing things to merge code:

  - Jelmer
  - GD
  - Tridge
  - Metze
  - And others of course

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Samba 4.0

- We really can release Samba 4.0 if we want to
- We have all the parts
- They are well tested, and used in the real world
- We know how to integrate them
- We should not wait any longer

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Questions / Discussion

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