

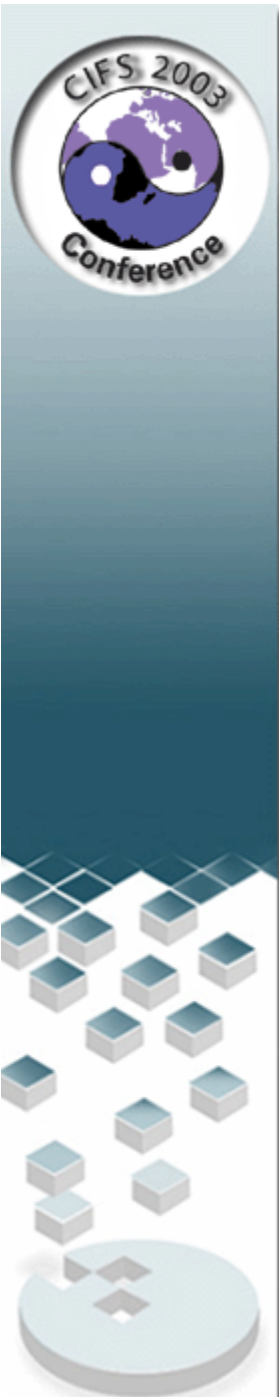


Tutorial: Migration from NT4 to Samba-3

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Agenda

- ◆ **NT4 to Samba-3 Migration**
 - Review Chapter 31
- ◆ **Review New Samba-HOWTO**
 - Chapters 30, 11, 12, 20-24
- ◆ **Live Conversion from NT4 PDC to Samba-3 PDC**

Please turn to chapter 31 of the HOWTO



Why Migrate?

- ◆ **Improve manageability**
- ◆ **Improved User Functionality**
- ◆ **Cost control (reduction)**
- ◆ **Reduce exposure – NT4 Obsoleted**
- ◆ **Avoid MS License 6 implications**
- ◆ **Reduce dependency on technology single supplier**



Why Integrate?

- ◆ **Leverage Active Directory**
- ◆ **Preserve existing IT investments**
- ◆ **Do not reinvent infrastructure**
- ◆ **Adding storage – not replacing**
 - **NAS / Device / Server decision**
- ◆ **Fear**
- ◆ **Staff Familiarity**



Samba-3 v's MS Windows NT

- ◆ **Cost of ownership**
- ◆ **Support availability with NO strings attached**
- ◆ **Features that future life**
- ◆ **Stability, Reliability, Performance, Manageability**





Missing from Samba-3

- ◆ **NT4 Domains -> Win2K and Active Directory**
 - **Group Policies now go into ADS**
 - ◆ **Machine / System Policies**
 - ◆ **User Policies**
 - **Logon Scripts can be in ADS**
 - **Application and Menu Control in ADS**
 - **Software controls now in Active Directory**



Planning Migration

- ◆ **Read Samba-3 documentation**
- ◆ **Identify environment differences**
- ◆ **Understand what needs to be migrated**
- ◆ **Design BEFORE migration**
 - **Know how differences will be handled**
 - **Educate users so they know what to expect**





Impact of Site Size

- ◆ **There are 3 major Site Types**
 - **≤ 50 Users**
 - ◆ Want simple conversion with NO pain
 - **50 – 250 Users**
 - ◆ Want new features
 - ◆ Can manage some in-house complexity
 - **Large Scale Sites**
 - ◆ Solution / Implementation **MUST** scale well, complex needs
 - ◆ Cross departmental decision process
 - ◆ Local expertise in most areas



Planning for Success

- ◆ **Decide which approach is needed – 3 Choices**
 - Simple Conversion (total replacement)
 - Upgraded Conversion (could be one of integration)
 - Complete Redesign (completely new solution)
- ◆ **Take sufficient time**
 - Avoid Panic
 - Test ALL assumptions



Simple Conversion

- ◆ **Keep Implementation Simple**
- ◆ **Suck all accounts from NT4 into Samba-3**
 - Make least number of operational changes
 - Take least amount of time to migrate
- ◆ **Live versus Isolated Conversion**
 - Integrate Samba-3 then migrate while users are active
- ◆ **Change of control (ie: swap out)**



Upgraded Conversion

- ◆ **Translate NT4 features to new host OS features**
- ◆ **Copy and improve**
 - Old environment to Samba-3
 - Make progressive improvements
- ◆ **Minimise user impact**
- ◆ **Maximise functionality**
- ◆ **Take advantage of lower maintenance opportunity**



Complete Network Redesign

◆ Decide

– Authentication

- ◆ database location and access

– ID Mapping

- ◆ Dynamic or Fixed

– Desktop Management Methods

◆ Identify Needs for:

- Manageability, Scalability, Security, Availability



Implementation - I

- **Authentication database back end**
 - **Winbind**
 - ◆ **External Samba or NT4/200x server**
 - External server could use Active Directory or NT4 Domain
 - ◆ **Can use pam_mkhome.so to auto-create home dirs**
 - **Database type**
 - ◆ **smbpasswd, tdbsam, Idapsam, MySQL**





Implementation – II

◆ Access Control:

- On the Share itself - Use NT4 Server Manager
- On the file system
- Unix permissions on files and directories
- Posix ACLs enablement in file system?
- Through Samba share parameters
 - ◆ Not recommended – except as only resort



Implementation – III

◆ Policies

– Group Policy Editor (NT4)

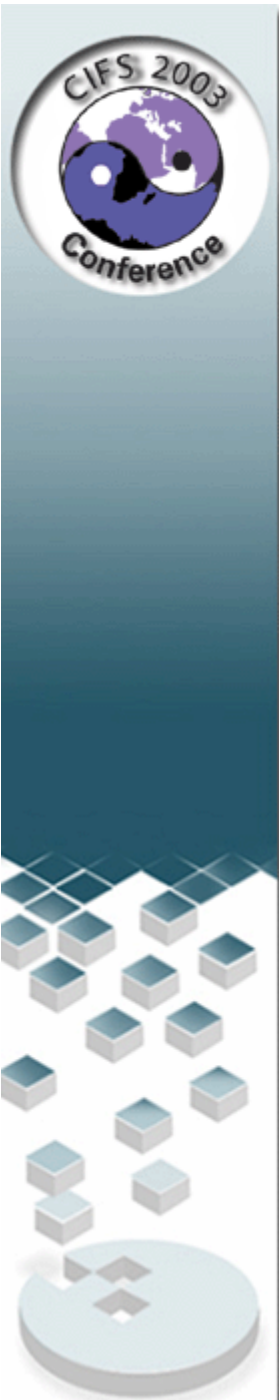
◆ User and Group Profiles

- Watch out for bleed-through effect
- Migrate or create new ones

◆ Platform specific so use platform tool to change from a Local to a Roaming profile

◆ Can use new *profiles* tool to change SIDs (NTUser.DAT)





Implementation - IV

- ◆ **Logon Scripts**
 - Location
 - Dynamic Generation



Samba Implementation Choices – V

- ◆ **User and Group mapping to Unix/Linux**
 - *username map* facility may be needed
 - Use *smbgroupedit* to connect NT4 groups to Unix groups
 - Use *pdbedit* to set/change user configuration
- ◆ **NOTE:**
 - If migrating to LDAP back end it may be easier to dump initial LDAP database to LDIF, then edit, then reload into LDAP



Samba Implementation Choices – VI

- ◆ **OS specific scripts / programs may be needed**
 - **Add / delete Users**
 - ◆ **Note OS limits on size of name**
 - **Linux 8 chars**
 - **Add / delete machines**
 - ◆ **Applied only to domain members**
 - **Note: up to 16 chars**
 - **Add / delete Groups**
 - ◆ **Linux limit is 16 char, no spaces and no upper case chars (groupadd)**



Migration Tools

- ◆ **Domain Control (NT4 Style)**
- ◆ **Profiles, Policies, Access Controls, Security**
 - **Migration Tools**
 - ◆ **Samba:** *net, rpcclient, smbpasswd, pdbedit, profiles, editreg*
 - ◆ **Windows:** *NT4 Domain User Manager, Server Manager (SrvTools and NEXUS)*
- ◆ **Authentication**
 - **New SAM back end** (*smbpasswd, tdbsam, ldapsam, mysql*)



Future Outlook

- ◆ **Management and Control Tools**
- ◆ **Extended Windows Registry integration**
- ◆ **Samba AD Policy Implementation**
 - **Group Policy Object handling**
 - **Support for new nested group memberships**
 - **Machine policy implementation**
- ◆ **Roll-out and Deployment enhancements**



Background Information

- ◆ **Samba-HOWTO-Collection**
 - **Official Team Documentation**
 - **Official Samba-3 HOWTO and Reference Guide**
 - ◆ **In Print Nov 2003**
- ◆ **Samba Web site**
- ◆ **Man pages**
- ◆ **SWAT Home page**



Summarize So Far ...

- ◆ **Migration from NT4 PDC to Samba can be done now**
- ◆ **Samba-3 misses some Windows 200x/XP features**
 - **Samba-3 features compensate for forgone Windows functionality**
- ◆ **Planning and clean implementation will be key to deployment success**





Chapter 11 – Passdb

- ◆ **Samba-3 supports multiple concurrent backends**
 - smbpasswd, tdbsam, ldapsam, mysql, xml
- ◆ **LDAP is only suitable backend for distributed infrastructures**
 - **PDC + BDCs**
 - ◆ Need to use *idmap backend* to ensure consistent UID/GIDs across network
 - **Alternative to Active Directory**





Passdb tools

- ◆ **New tools for managing passdb data:**
 - **Pdbedit**
 - ◆ **Manages detailed content of *passdb* backend**
 - ◆ **Used together with *smbpasswd***
 - ◆ **Can migrate data between backends**
 - **Need to understand importance of correct LDAP Schema design**
 - ◆ **Also need to have site-specific scripts to manage LDAP backends**





Chapter 12 – Group Mapping

- ◆ **Samba-3 has *group_mapping.tdb* file**
 - Stores relationships between UNIX Groups and Windows NT Groups
 - New Tool:
 - ◆ net groupmap ...
 - Ties with Winbind
 - ◆ Winbindd now does all ID Mapping
 - ie: Handles UNIX ID to Windows SID mapping
 - ❖ Uses files: *winbindd_cache.tdb*, *winbindd_idmap.tdb*



Chapter 20 – VFS Modules

◆ New Modules

- audit
- extd_audit
- fake_perms
- recycle
- netatalk

◆ New configuration syntax

- No longer supports external config files
- Use in-line configuration settings in `smb.conf`



Chapter 21 – Winbind

- ◆ **Note 3 Components**
 - PAM Authentication (`pam_winbind.so`)
 - NSS Identity Resolution (`libnss_winbind.so_`)
 - IDMAP Handling
- ◆ **Winbindd is MUCH more important in Samba-3 than it previously was**



Chapters 22 -24 – Environment Control

- ◆ **Need to be informed about**
 - Remote Management Options
 - Logon Script Magic
 - Policy Handling
 - Profile Management
 - ◆ Particularly as relates to Group Policy Objects in AD
- ◆ **Management Tools for the above!**



Chapter 26 – PAM

- ◆ **Some PAM implementation support new configuration options**
 - Documented
- ◆ **Need to know how to configure PAM for UNIX / Linux local logins using SMB passdb backend database Accounts**
- ◆ **Opportunity for distributed authentication**



Live Migration

- ◆ **Demonstration of NT4 PDC to Samba PDC**
 - Using tdbsam (for simplicity)





Discussion / Questions / Feedback

Nothing Ever Ends: Every Conclusion Is a New Start!

