

NT4 PDC Migration to Samba-3

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[http: // samba.org/~jht/NT4migration](http://samba.org/~jht/NT4migration)

Agenda

- Understanding Site Objectives
- Know the impact of the choice to use Samba-3
- Planning Migration
- Migration Tools
- Future Outlook
- Live demo of a simple migration

Site Objectives

- Why Migrate?
 - Improve manageability
 - Obtain better functionality for users
 - Cost control (reduction)
 - NT4 will soon be unsupported (reduce exposure)
 - Avoid MS License 6 implications
 - Reduce dependencies on Microsoft

Samba-3 is NOT MS Windows NT

- Samba-3 offers significant reasons to migrate
 - Cost of ownership
 - Support availability with NO strings attached
 - Features that have forwards benefits
 - Stability, Reliability, Performance, Manageability
- But it is NOT MS Windows NT/200x and does NOT provide Active Directory
 - Is that important?

Forgoing Evolution of MS Windows

- Migration to Samba-3 means some new features of MS Windows 200x/XP will NOT be available
 - 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

- Understand what needs to be migrated
- Read Samba-3 documentation (New HOWTO)
- Identify differences between NT4 PDC environment and Samba-3 environment
- Design BEFORE migration
 - Know how differences will be handled
 - Educate users so they know what to expect
 - Some things will change!

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
 - Test full roll-out program, including workstation deployment

Simple Conversion

- Make use of minimal OS specific features
 - Can use *No Unix Accounts* Option
 - 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 Regime (database locate and access)
 - Desktop Management Methods
 - Better Control of Desktops / Users
- Identify Needs for:
 - Manageability, Scalability, Security, Availability

Samba Implementation Choices

- Authentication database back end
 - Winbind (external Samba or NT4/200x server)
 - Can use pam_mkhome.so to auto-create home dirs
 - External server could use Active Directory or NT4 Domain
- Database type
 - smbpasswd, tdbsam, ldapsam, MySQLsam
 - With local accounts or with No Unix Accounts (NUA option)

Samba Implementation Choice – II

- Access Control Points
 - 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

Samba Implementation Choice – III

- Policies (migrate or create new ones)
 - Group Policy Editor (NT4)
 - Watch out for Tattoo effect
- User and Group Profiles
 - 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)
- Logon Scripts (Know how they work)

Samba Implementation Choices – IV

- 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 – V

- OS specific scripts / programs may be needed
 - Add / delete Users
 - Note OS limits on size of name (Linux 8 chars)
 - NT4 up to 254 chars
 - Add / delete machines
 - Applied only to domain members (note up to 16 chars)
 - Add / delete Groups
 - Note OS limits on size and nature
 - 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, smbgroupedit, profiles*
 - Windows: *NT4 Domain User Manager, Server Manager (NEXUS)*
 - *Authentication*
 - *New SAM back end (smbpasswd, tdbsam, ldapsam, mysqlsam)*
 - With or without Unix Accounts (NUA)

Future Outlook

- Third Party Management and Control Tools
- Relationship between Host OS and CIFS functions
- More extensive Windows Registry integration
- Samba ADS Implementation
 - Group Policy Object handling
 - Support for new nested group memberships
 - Machine policy implementation
- Roll-out and Deployment enhancements

Background Information

- Samba-HOWTO-Collection (PDF, PS, html)
- Samba Web site
- Man pages (check)
 - `man smb.conf`
- SWAT Home page
 - Samba Web Admin Tool

Samba-HOWTO-Collection

- New layout:
 - General Information
 - Installation
 - Stand-alone, Domain Control, Domain Membership
 - Advanced Configuration
 - Access Permissions, Group Mapping, Printing
 - Logon Processing, Policies, Profiles
 - Trusts, PAM, CFS modules, MSDFS, recycle bin, auditing, ++
- We need feedback: review, updates, contributions

Summary

- Samba-3 is maturing rapidly
- Migration from NT4 PDC to Samba can happen now
- Samba-3 misses some Windows 200x/XP features
- Provides Samba features to compensate for forgone Windows functionality
- Planning and clean implementation will be key to deployment success

Demo

- Quick Look at Samba-HOWTO-Collection
- Will do a live migration of NT4 Domain to Samba-3
 - Users and Groups
 - *Net rpc vampire* demonstration
 - Profile
 - Demo NT4 tools and *profiles* tool only