NT4 PDC Migration to Samba-3

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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
  - \(\leq 50\) 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_mkhomedir.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)
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, smbgrouppedit, 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
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