



Samba for OpenVMS

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thanks to Brad McCusker



Agenda

- Overview of File and Print Servers on VMS
- A Problem and a Solution
- Feature Comparison
- Summary

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OpenVMS File & Print Servers – Legacy



- PATHWORKS V5.0F-ECO2 for OpenVMS
 - Supported on OpenVMS 5.5-2 VAX only (w/ PVS)
 - Based on Windows NT 3.51 file server

- PATHWORKS V6.1 for OpenVMS
 - Supported on OpenVMS 6.2, 6.2-1, 7.3, 7.3-2
 - Not supported on OpenVMS 8.2
 - Used in mix Alpha/VAX clusters
 - Based on Windows NT 4.0 file server
 - Supports Windows 2000/2003
 - Subject to Windows NT 4.0 limitations

OpenVMS File & Print Servers – Current



- Advanced Server V7.3A for OpenVMS
 - Supported on OpenVMS V7.3-2, V8.2
 - Based on Windows NT 4.0 file server
 - Supports Windows 2000/2003
 - Subject to Windows NT 4.0 limitations

OpenVMS File and Print Servers History



- AT&T Licenses LanManager code from Microsoft
 - Windows NT 3.51 (1992)
 - Windows NT 4.0 (1994)
- AT&T ported LanManager code to UNIX
 - Advanced Server for UNIX (ASU)
- DIGITAL licensed and ported to OpenVMS
 - PATHWORKS V5* and V6* - NT 3.51
 - Advanced Server V7* - NT 4.0
- 1997 – AT&T sues Microsoft for access to Windows NT 5.0 sources
 - Windows NT 5.0 aka Windows 2000
- 1998 – AT&T and Microsoft settle case in favor of Microsoft
 - No NT 5.0 source code to be shared
 - AT&T gets a cash payment
- 2001 – Last code drop received from AT&T

Windows NT 4.0

- Compatible with Windows 2000/2003 domains
 - Backup Domain Controller in Mixed mode (non Active Directory)
 - Member Server role in native mode (Active Directory)
 - Advanced Server is similarly compatible
 - Compatibility is not perfect, there are known limitations
- Windows NT 4.0 support ended Dec 31, 2004
 - Fee based custom support available through Dec 31, 2006
- Support compelled Microsoft to maintain compatibility between Windows 2000/2003 and Windows NT 4.0
 - Ending support means Microsoft has less reason to maintain compatibility

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The Problem Is?

- Advanced Server is out of date today
 - Limits to Windows compatibility
 - Partially compatible with Active Directory
- Next generation Windows servers (Longhorn) will make Advanced Server even more out of date
 - Could break compatibility completely
 - Due to ship in 2006
- Microsoft has no incentive for compatibility
- No more updates from AT&T
- Very large investment needed to get and stay current

What is Samba?

- Open Source/Free Software suite that provides file and print services to SMB/CIFS clients.
 - SMB/CIFS clients: i.e., Windows clients
- Freely available under the GNU General Public License.
- Ships with most UNIX and LINUX distributions
 - HP-UX CIFS/9000 server is Samba
 - Well known, well documented – Books are published on Samba

What is Samba (cont)?

- Championed by HP
 - Samba developers are HP employees
 - Samba team is excited to add OpenVMS support
- Large community fixing bugs and adding features
 - 20 active participants world wide
 - 10-12 doing active checkins
- See <http://www.samba.org>

Samba on OpenVMS

- Samba 2.x – Old
 - There today – minimal port – many limitations
 - Not cluster aware
- Samba 3.x – Current stable version
 - Not there yet – would be our first port
 - Supports Active Directory today
- Samba 4.x – In development
 - Re-Write
 - Integrated LDAP
 - Available Threaded Architecture
 - Improved Management

Samba on OpenVMS

- Port Samba V3 to OpenVMS Integrity
 - Port is underway
 - Evaluation kit H2/2005 – H1 2006
- Do not port Advanced Server to Integrity
- Monitor Samba V4
 - Porting environment under development
- Considering adapting Advanced Server “Common Services” to Samba
 - Cluster aware file access
 - Cluster caches
- Investigating needed conversion tools
 - File security, hostmaps, configurations

Important Points

- Advanced Server support on Alpha does not change
 - Compatibility with future Windows versions may not be assured
- Samba port for VMS will focus on Integrity
- Samba would be supported by HP Services
 - Similar to HP Secure Web Server (Apache), et. al.

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Feature Comparison

- This is a feedback session
- Please feel free to
 - Stop me, ask questions and discuss
 - Provide feedback

Samba vs Advanced Server: Installation and Configuration

- Pros
 - Samba utilizes smb.conf and INCLUDE parameters.
 - Highly customizable, down to individual clients or shares
 - Dynamic – config is read every 60 seconds
 - No licenses required
 - Virtualization via NETBIOS aliases: multiple servers appear as one
- Cons
 - Configuration is done by hand
 - Advanced Server tool guides you through each step
 - Non VMS standard installation
 - No PCSI install

Samba vs Advanced Server: Windows Integration



- Pros

- Samba can join Active Directory domains as native Active Directory members
- Better support for NTLMv2
 - Samba supports it locally
 - Advanced Server redirected to NTLMv2 server
 - Better Op-Lock support
 - Can be a DFS server

- Cons

- Samba can not be a PDC to a Windows server
 - Advanced Server could PDC to Win NT 4, and Win2K in mixed mode
- Samba does not provide Windows NT file access auditing

Samba vs Advanced Server: Transports and Protocols

- Pros

- Superior NETBIOS support
 - Multiple names per server
 - NBNS and proxy name server support
- Kerberos is supported
- Some LDAP support

- Cons

- No support for cluster wide NETBIOS name
 - Not a problem for TCP/IP, possible problem if other transports supported
- No support for DECnet
- No support for NetBEUI

Samba vs Advanced Server: File System Support



- Con
 - Samba is not cluster aware
 - Samba will work in a cluster, but...
 - No support for concurrent file access across multiple cluster members (ala Advanced Server)

Samba vs Advanced Server: Single Signon



- Con
 - Samba does not provide support for single signon of VMS users

Samba vs Advanced Server: Miscellaneous



- Pros
 - Web administration tool
 - Point and click management GUI
 - smbmnt/smbmount
 - Allow host to map drives on other CIFS servers
 - Frequently requested for OpenVMS
- Cons
 - No single utility for management (ala ADMIN)
 - Samba uses many loosely coupled tools for ADMIN
 - Work is underway to address this: Samba has new NET command

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Summary Issues

- Do you agree with this strategy
 - Samba on Integrity for the future
 - Advanced Server on Alpha only
 - No port to Integrity

Summary Issues

- Do we need to:
 - Provide PWCONFIG like tool for configuration?
 - Provide DECNet support?
 - Provide NetBEUI support?
 - Cluster support
 - Cluster alias?
 - Cluster file access?
 - Capability to be a Primary Domain Controller to Windows Servers?
 - Single Signon for OpenVMS and network users?
 - Provide ADMIN (or similar) all encompassing CLI?
 - Other?

Questions?

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