



Advanced Server
for OpenVMS
Technical update

IT-Symposium 2005, Düsseldorf
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Agenda

- Introduction
 - Who we are.
- Current versions
- Technical stuff
 - upgrade to VMS 8.2: what about Advanced Server?
 - Important patches
 - Mandatory patches
 - Performance tweaks
- Future plans
 - Official Roadmaps
 - What is not on the roadmaps

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 - Who we are.

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- Introduction
 - Who we are.
- **Current versions**
- Technical stuff today
 - upgrade to VMS 8.2: what about Advanced Server?
 - Important patches
 - Secure channel innovation AS V73A-eco4.
 - Object picker (PW-AS V6.1).
- Future plans
 - Brad, this is all yours ☺



Current versions


- **PATHWORKS V5.0F-eco2 for OpenVMS**
 - Supported on OpenVMS 5.5-2 VAX only (w/ PVS)



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- **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
 - Supports Windows 2000/2003/XP
 - Subject to Windows NT 4.0 limitations

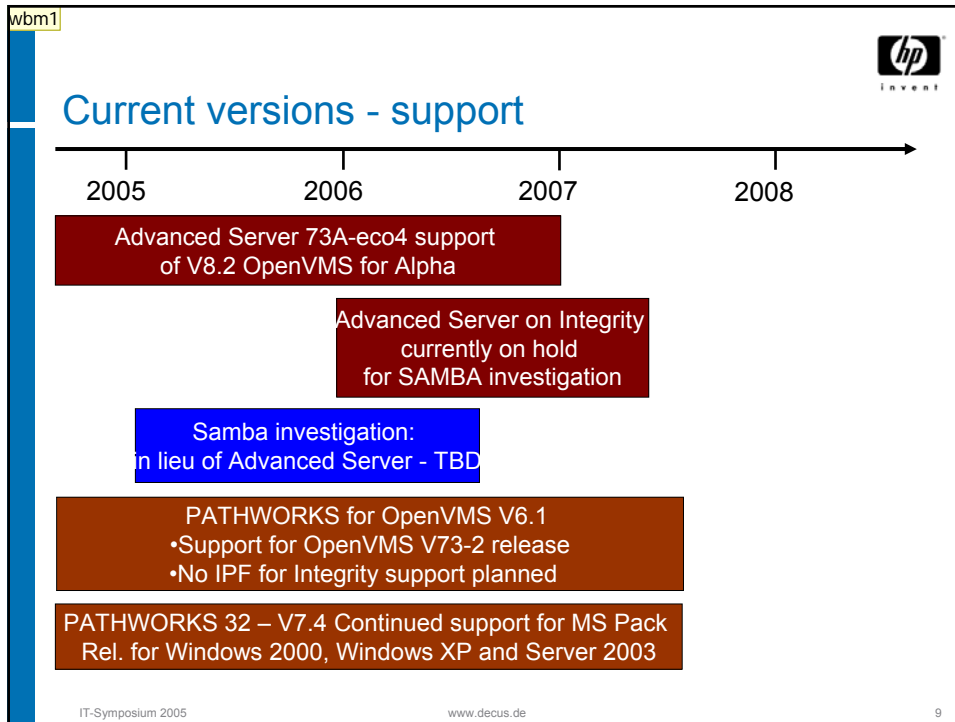
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- **Advanced Server V7.3A for OpenVMS**
 - Supported on Alpha OpenVMS V7.3-2, V8.2
 - Supports Windows 2000/2003/XP
 - Subject to Windows NT 4.0 limitations

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EHO1



Technical Stuff - upgrade to VMS 8.2

- VMS 8.x is Supported since version: 7.3A-eco4
- Supported only on AXP
 - New files in product kit regarding VMS 8.2:

CONTENTS OF KIT USING RELATIVE FILE SPECIFICATION

[SYS\$LDR]PWRK\$STREAMSOS_V8.EXE
[SYS\$LDR]SYS\$PCFSDRIVER_V8.EXE
[SYS\$LDR]SYS\$PCIDRIVER_V8.EXE
[SYSEXE]PWRK\$LOADSTREAMS_V8.EXE
[SYSLIB]PWRK\$CSSHR_V8.EXE
[SYSLIB]PWRK\$STREAMSSHR_V8.EXE

- **The upgrade:**
 - upgrade A.S. after the upgrade of VMS:
 - **\$product install advancedserver**
 - **@sys\$upgrade:pwrk\$config.com**

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wbm1 Emile -


I think this should be moved to back by the beginning o my section. (In fact, I've added it back there).

Regardless, the title is misleading. It makes people think this is the time period that products will be supported - but it is not. For example, I'm sure Advanced Server will be supported beyond 2007.

Brad Mccusker; 3.4.2005

Folie 10


EHO1 Houben E.P.M.; 25.3.2005



Technical stuff – Secure Channel improved

- By design of NT 4.0, all BDC's and Member-Servers establish a secure channel towards the PDC only.
 - To receive updates
 - To consult the PDC
 - When broken can only be established by restarting netlogon


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- Disadvantage:
 - if AS is not on PDC's site, we need a continuously established WAN connection.
 - No automatic reconnect/failover if anything fails.
 - Worst case; one can loose its computer-account password


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- Solution: patch 1000210691 available on AS V73A-eco4
 - Meaningful if AS running as a member server
 - Searches for any DC (NT4, W2k, W2k3)
 - If Secure channel fails, it starts searching and reconnects again.

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Technical stuff – Secure Channel improved

Installation:

- Use REGCP on VMS or regedit from a PC and connect to the Advanced Server node.
- Create a registry key (DWORD), "MemberInAD" in hive: `\hklm\system\currentcontrolset\services\AdvancedServer\Parameters`
- set the value of "MemberInAD" to 1
- Copy `PWRK$LMSRV.EXE` to `SYS$COMMON:[SYSEXE]`
- Copy `PWRK$LMAPIHR.EXE` to `SYS$COMMON:[SYSLIB]`
- Restart Advanced Server

Testing:

1. Stop the netlogon service on the PDC and notice that A.S. will locate any DC on the net. Use `tcptrace` when AS starts up to trace the network.
2. Use MS's NLTEST tool to visualise the secure channels.
 - `Nltest /server:<AS-ServerName>/sc_query:<DomainName>`

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Technical stuff – recommended patches (V6.1)



086354 for V6.1 (BUFFEROVERFLOW)

- This patch fixes problems when you want to create a trust between a V6.1 domain and a W2k3 domain. Pathworks answers with a wrong packet size as a response to a LSArOpenPolicy2 Request.
- Also objectpicker problems are solved when you want to manage the server from XP and W2000.

088887 for V6.1 (multiple IPC\$ connections with XP)

- This patch fixes a problem that may occur when using Windows XP-clients that do not run SP-1 or higher. MS fixed this themselves by means of a hotfix, also available since SP-1.

Technical stuff - Performance tweaks



1. Increase the SMB Buffer size by editing pwrk.ini
 - for Advanced Server systems
[LMSRV]
max_smb_data_size=16384 or =32768
 - for PATHWORKS systems:
[LMSRV]
Network_buffer_size=16400 or =32784



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3. If using server-based licensing, disable client-based lic.-check:
\$ define/system PWRK\$Lr_Disable_Client_Ping 1



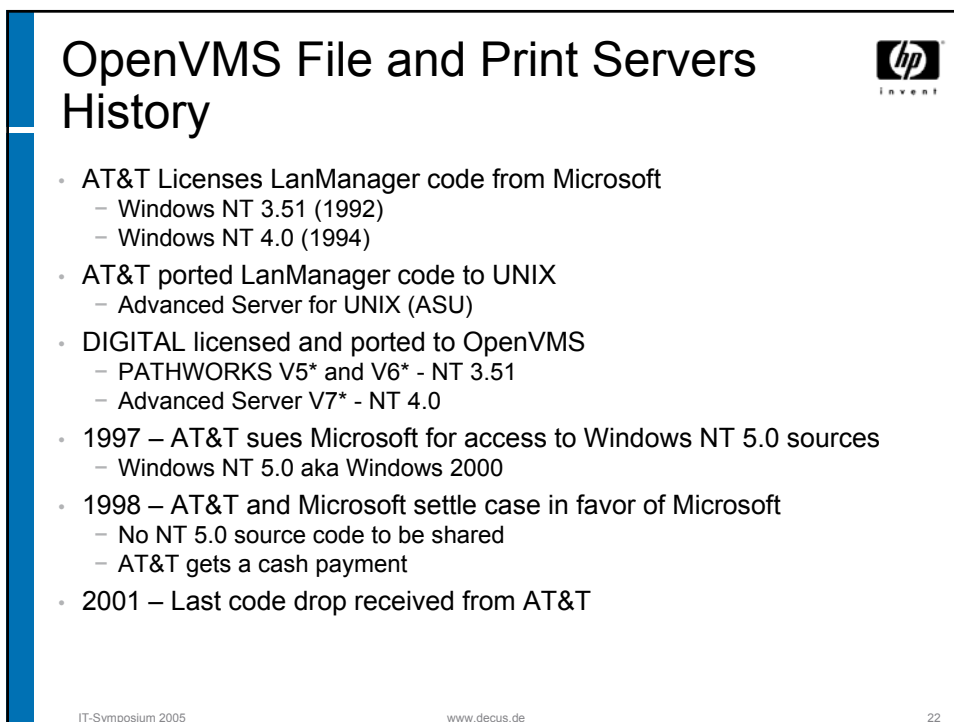
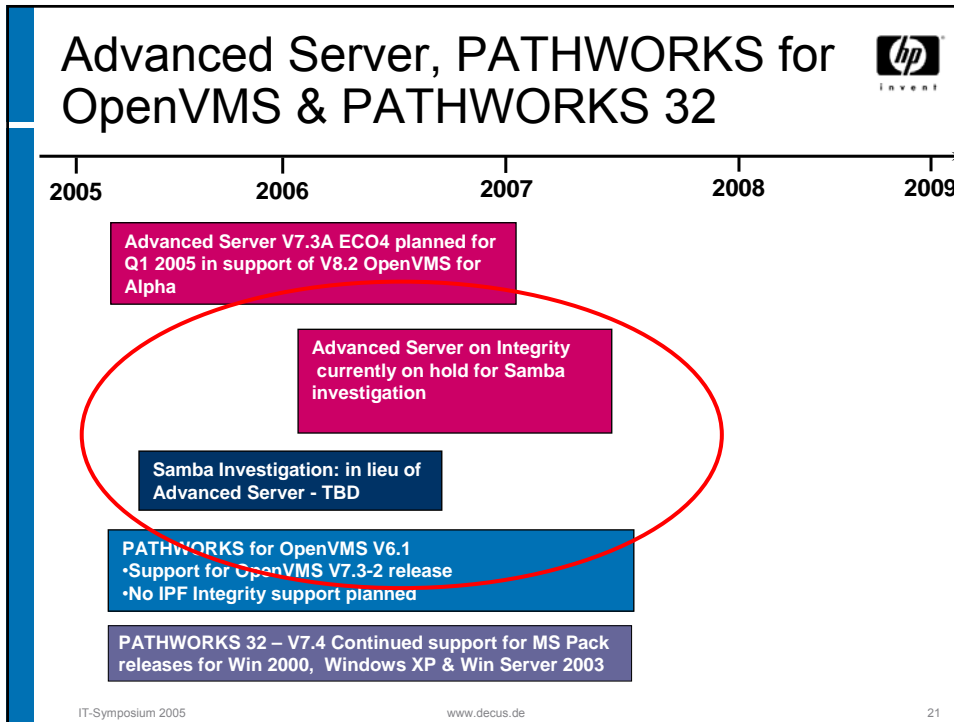
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\$ define/sys PWRK\$Lr_Disable_Client_Ping 1
4. FID cache
\$ define/sys FID_CACHE_SIZE=size
2048 (default); max is 16384.
use \$pwmon ods2 for actual size and hitrate



Futures









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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Problem Statement



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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

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Solution: Samba



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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

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What is Samba (cont)?

- Championed by HP
 - Samba lead 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>

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Samba on OpenVMS

- Samba 2.x – Old
 - There today – minimal port – lots of bugs
 - Not cluster aware
- Samba 3.x – Current
 - Not there yet – would be our first port
 - Supports Active Directory today
- Samba 4.x – Future
 - Re-Write
 - Integrated LDAP
 - Available Threaded Architecture
 - Improved Management


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Samba on OpenVMS

- Currently under consideration
 - Port Samba V3 to OpenVMS Integrity
 - Investigation well underway
 - Evaluation kit summer H2/2005
 - Do not port Advanced Server to Integrity
 - Monitor Samba V4
 - Port as soon as it is available
 - Considering adapting Advanced Server “Common Services” to Samba
 - Cluster aware file access
 - Cluster caches
 - Investigating needed conversion tools
 - File security, hostmaps, configurations


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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 Comparisons

Overview of File and Print Servers on VMS
Problem and Proposed Solution
Feature Comparison
Summary



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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

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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
- 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

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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

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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)

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Samba vs Advanced Server: Single Signon



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

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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

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Samba Questions?

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 - Product Manager
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Presentation Title

