



Advanced Server  
for OpenVMS  
Technical update

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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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- Introduction
  - 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**
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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

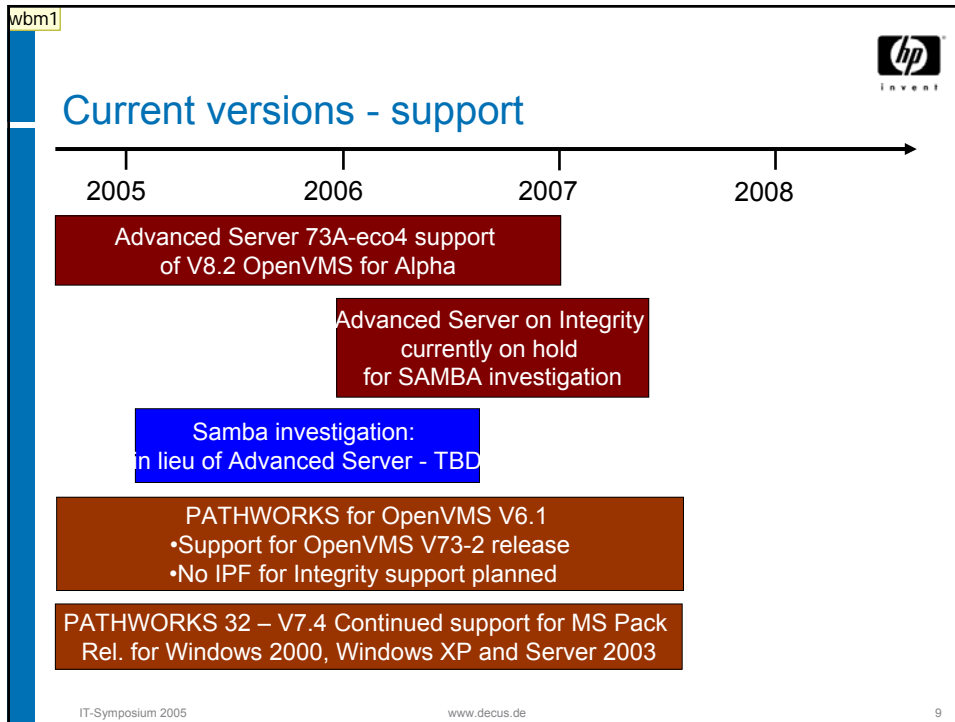
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    - Subject to Windows NT 4.0 limitations
- **Advanced Server V7.3A for OpenVMS**
  - Supported on Alpha OpenVMS V7.3-2, V8.2
  - Supports Windows 2000/2003/XP
    - Subject to Windows NT 4.0 limitations

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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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## Folie 9

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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

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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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  - No automatic reconnect/failover if anything fails.
  - Worst case; one can loose its computer-account password
- 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 LSAOpenPolicy2 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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\$ define/system pwrk\$temp\_ods2\_disable\_alias\_filenames 1
3. If using server-based licensing, disable client-based lic.-check:  
\$ define/system PWRK\$Lr\_Disable\_Client\_Ping 1



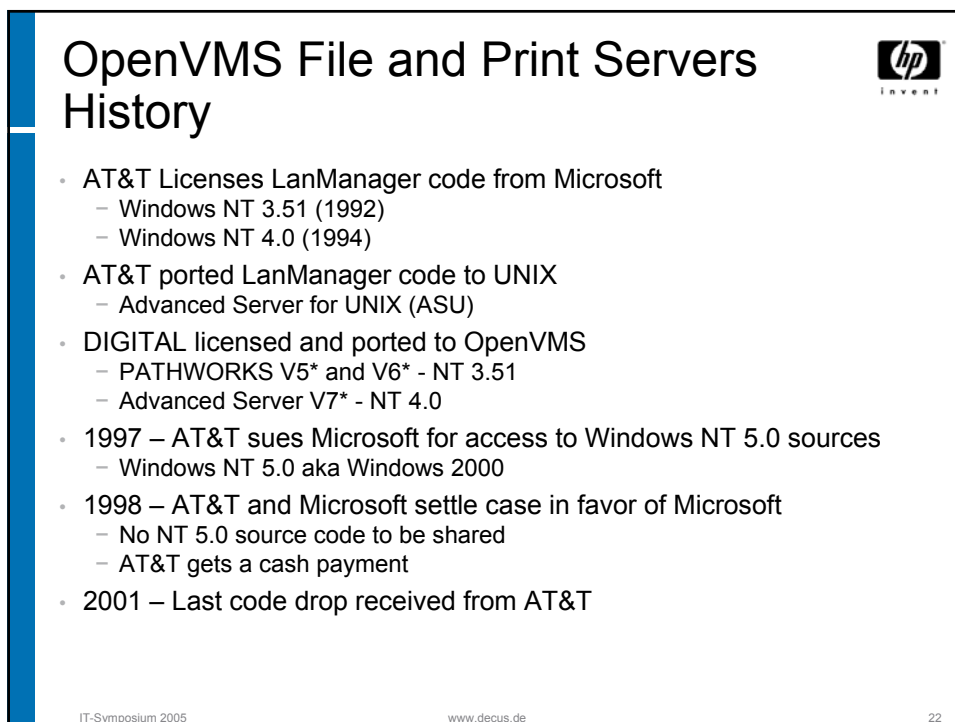
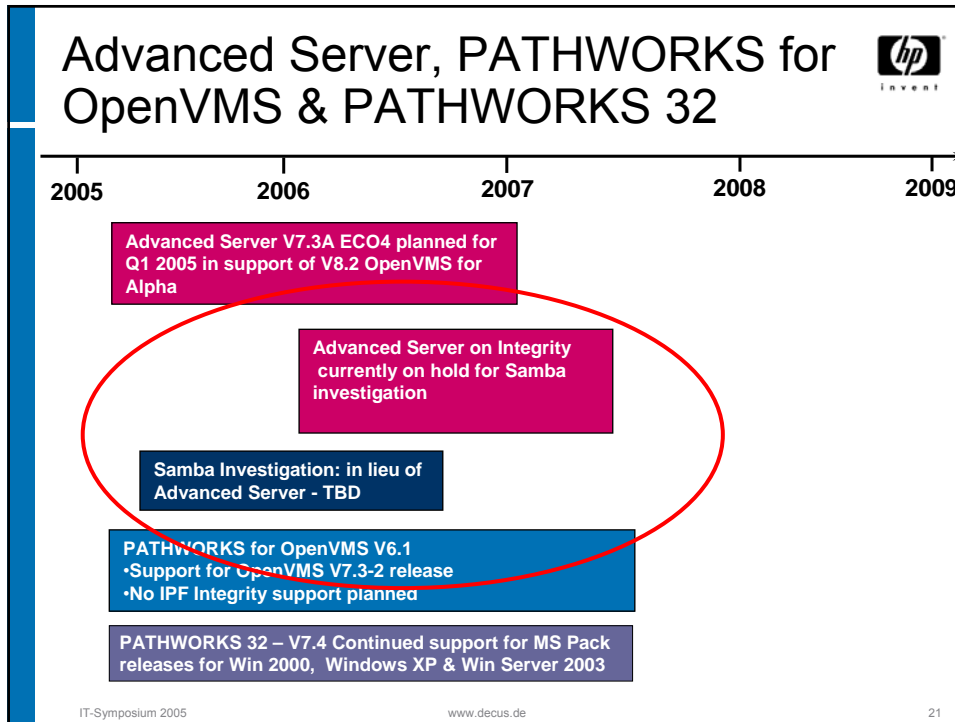
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3. If using server-based licensing, disable client-based lic.-check:  
\$ define/sys PWRK\$Lr\_Disable\_Client\_Ping 1
4. FID cache  
\$ define/sys FID\_CACHE\_SIZE=size  
2048 (default); max is 16384.  
use \$pwmon ods2 for actual size and hitrate



# 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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27




## 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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28



## 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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33

## 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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34

## 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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38



## 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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39



## Samba Questions?

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- [Lawrence.Woodcome@hp.com](mailto:Lawrence.Woodcome@hp.com)
  - Product Manager
- [Brad.McCusker@hp.com](mailto:Brad.McCusker@hp.com)



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