



Migration from HP Advanced Server for OpenVMS to HP OpenVMS Common Internet File System (CIFS)

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What is HP OpenVMS CIFS?

HP OpenVMS Common Internet File System (CIFS) provides users with seamless file and print interoperability between OpenVMS and Windows-based systems. It is based on the popular open source product, Samba, from Samba.org.

HP OpenVMS CIFS can be run on OpenVMS Version 8.2 or later on Alpha Servers and OpenVMS V8.2-1 or later on Integrity servers. HP OpenVMS CIFS supports Windows 2000, Windows XP, Windows 2003, Windows Vista, and Windows 2008 systems.

Some of the Key features that HP OpenVMS CIFS supports are:

1. **Domain support:** HP OpenVMS CIFS can act as a NT4-style Member Server in any domain. It can act as a NT4-style Primary Domain Controller (PDC), but such a domain may only contain Backup Domain Controllers (BDCs) that run HP OpenVMS CIFS. Similarly, it can function as a NT4-style Backup Domain Controller (BDC) only if the Primary Domain Controller (PDC) is also running HP OpenVMS CIFS. However, unlike HP Advanced Server for OpenVMS and Windows domain controllers, automatic replication of the user accounts database is not possible between a HP OpenVMS CIFS PDC and BDCs. HP OpenVMS CIFS requires the assistance of LDAP servers to accomplish the same goal. By configuring the HP OpenVMS CIFS PDC and BDCs to use the LDAP backend, replication of the accounts database is achieved by virtue of the synchronization occurring between LDAP servers. HP OpenVMS CIFS can use the LDAP backend to store and obtain user and group account information in the LDAP directory (such as HP Enterprise Directory or an OpenLDAP server). Though a single LDAP server can be used for both the HP OpenVMS CIFS PDC and BDCs, it is highly recommended that separate LDAP servers be used by the HP OpenVMS CIFS PDC and BDCs for high availability and better performance.
2. **Browser services:** HP OpenVMS CIFS provides complete browser functionality.
3. **Cluster services:** HP OpenVMS CIFS can be installed either on a single node in an OpenVMS Cluster or on multiple nodes. In the later case, all the nodes running HP OpenVMS CIFS must point to the same samba\$root directory and they must also be running OpenVMS Version 8.3 or later.
4. **File services:** HP OpenVMS CIFS provides clients with a remote file system that appears as a transparent extension of the client systems' local computing environment. HP OpenVMS CIFS allows users to share files present on OpenVMS to Microsoft clients with simultaneous access and sharing of files between multiple Windows users.
5. **Printing services:** Users can share printers connected to OpenVMS systems, as well as network-based printers such as LAT printers and Print Servers. Print shares are supported in local area network (LAN) and wide area network (WAN) environments.
6. **Network transport:** HP OpenVMS CIFS utilizes the industry standard TCP/IP protocol running on the host server. This allows HP OpenVMS CIFS to interact with a Microsoft Windows client or server to provide remote file, print, and authentication services. HP OpenVMS CIFS provides remote access to numerous computers at the same time. This Common Internet File System runs over TCP/IP by using the Server Message Block (SMB) protocol found in Microsoft Windows systems for file and printer access.
7. **Security:** HP OpenVMS CIFS implements file security using OpenVMS security (OpenVMS ACLS). The Windows security applied on the files is thus provided by OpenVMS security. In this way, HP OpenVMS CIFS provides time proven OpenVMS security mechanisms for accessing files. It supports
 - a. User authorization
 - b. File security based on users and groups
 - c. OpenVMS ACL support for files and directories

8. **Interoperability:** Provides interoperability between
 - a. Active Directory domains
 - b. NT4 domains
9. **ODS-2 and ODS-5:** Provides volume support
10. **Support for OpenVMS file formats:** HP OpenVMS CIFS supports all the OpenVMS file formats when the files present on the HP OpenVMS CIFS shares are read by the clients. However it supports only the Stream and Stream_LF file formats when the files are created or modified by the clients on the HP OpenVMS CIFS share.

Current limitations of CIFS are:

1. DENY permission is not supported
2. Cannot be used as a WINS server
3. No Kerberos support (no support for ADS security mode)
4. Does not provide External Authentication (use HP OpenVMS ACME LDAP Agent)

[For more information read the SPD \(HP OpenVMS CIFS v1.0 – SPD# 82.42.01\)](#)

Who Should Migrate and why?

The HP Advanced Server for OpenVMS software evolved from the HP PATHWORKS Server for OpenVMS to provide tighter integration between OpenVMS and the enhanced Microsoft Windows features. However, new Windows technologies from Microsoft might break HP Advanced Server for OpenVMS functionality. It can take much effort and time to bring HP Advanced Server for OpenVMS in sync with newer Microsoft Windows technologies. As Samba is an Open Source product developed by engineers across the globe, it is in a better situation to keep pace with the newer Windows technologies from Microsoft. **There are no plans to port HP Advanced Server for OpenVMS to the Integrity platform. For customers migrating to the Integrity platform, HP OpenVMS Common Internet File System (CIFS) based on Samba is the recommended solution. Thus, customers who are currently running HP Advanced Server V7.3B for OpenVMS/HP PATHWORKS Server V6.1 for OpenVMS should consider moving to HP OpenVMS CIFS.**

The **incremental benefits** of HP OpenVMS CIFS over HP Advanced Server for OpenVMS are:

1. Session security and NTLMSSP
2. Support for new printer drivers
3. Web based configuration management utility
4. Support for file size greater than 4 GB
5. Support for LDAP backend
6. Per session based process creation which will avoid complete server downtime situation in case of an SMBD process crash
7. Support for port 445
8. No system crash as the HP OpenVMS CIFS code is run completely in user space
9. Disk quotas based on per user account

HP OpenVMS CIFS kit

Kit Location: http://h71000.www7.hp.com/network/CIFS_for_Samba.html

Run the downloaded file to create the PCSI kit files. The kit comprises the following:

Software

- Utility to run and monitor HP OpenVMS CIFS
- Daemon process binaries
- HP OpenVMS CIFS source files (.BCK)
- Migration Utility from HP Advanced Server for OpenVMS to HP OpenVMS CIFS (.BCK)
- SWAT related files (.BCK)

Documentation

- [HP OpenVMS CIFS Installation and Configuration Guide](#)
- [HP OpenVMS CIFS Release Notes](#)
- [HP OpenVMS CIFS Migration Guide](#)

Migration prerequisites

- HP Advanced Server V7.3B for OpenVMS
- HP Advanced Server for OpenVMS and HP OpenVMS CIFS must have a similar configuration that is if HP Advanced Server for OpenVMS is configured as Member Server, then HP OpenVMS CIFS must also be configured as Member Server

Hardware requirements

- All Alpha systems supported by OpenVMS Alpha v8.2 or later
- All Integrity systems supported by OpenVMS v8.2-1 or later

Software requirements

- HP OpenVMS CIFS is currently qualified on
 - OpenVMS Integrity Version 8.3-1h1, 8.3 and 8.2-1
 - OpenVMS Alpha Version 8.2 and 8.3
- TCP/IP
 - HP TCP/IP Services for OpenVMS
 - Process Software Multinet for OpenVMS
 - Process Software TCPware for OpenVMS
- Current C Run-Time Library (CRTL) ECO

Migration considerations

The migration process is provided to help the migration of data from HP Advanced Server for OpenVMS to HP OpenVMS CIFS on the same node or across two different nodes. The data can be migrated if HP Advanced Server for OpenVMS is configured as Member Server or as PDC.

The following data **can be migrated** from HP Advanced Server for OpenVMS to HP OpenVMS CIFS:

- User and Group accounts
- Host Mappings
- Shares
- Files and Folders
- Security

The following data **cannot be migrated** from HP Advanced Server for OpenVMS to HP OpenVMS CIFS:

- Alerter names
- Share and File Audit policies
- WINS address
- Number of clients configured on HP Advanced Server for OpenVMS
- In case of Member Server, the following details of local user accounts:
 - Workstation restriction details
 - Some of the logon flags like logon script, account policy and so on.
 - Account passwords

Before an actual migration process is carried out, it is recommended that the HP Advanced Server for OpenVMS configuration be studied and the following details are verified to determine what data should be migrated:

Users and groups

If HP Advanced Server for OpenVMS is configured as a Member server, determine whether there are local users or group accounts that should be migrated (other than the default built-in accounts such as Administrators). If not, the User and Group migration can be skipped.

Host mappings

Determine whether host mapping entries exist and should be migrated. If not, the host mapping migration step can be skipped.

Share migration

If a relatively small number of shares exist, the share migration can be skipped in lieu of manually defining the shares on the HP OpenVMS CIFS server.

Files and folders

The system administrator must take care to transfer files and directories from the HP Advanced Server for OpenVMS node to the HP OpenVMS CIFS node. When you copy files across nodes or across different disks, make sure that the directory structure remains the same as that of the HP Advanced Server for OpenVMS node. If device or logical names pointing to the share path differ on the HP OpenVMS CIFS node, edit the file and print share report, and update the device and logical name information. To copy files across devices or nodes, system administrators can use a mechanism that is convenient to them, such as the BACKUP utility to backup and restore files. This step can be skipped if the HP OpenVMS CIFS server will have access to the files at their existing location (that is, when the

HP Advanced Server for OpenVMS node will be upgraded to HP OpenVMS CIFS or a when a separate HP OpenVMS CIFS system has access through a cluster or SAN interface).

Security

The share and file security migration steps may not be required in all environments. For example:

1. When the security on the shares, files, and folders is simple with full control or change permission granted to everyone group, there is no need to migrate file and folder security. In this case, it is sufficient to grant RWED permission to the WORLD category for all files.
2. If HP Advanced Server for OpenVMS is configured to use the OpenVMS security model (which is not the default), the file and folder security migration is not required. If necessary, transfer or otherwise duplicate the SYSUAF accounts on the HP OpenVMS CIFS server to retain the existing OpenVMS user accounts. UICs.

For a detailed migration process, see the document at [HP OpenVMS CIFS Migration Guide](#)

Licensing

Software licensing

HP OpenVMS CIFS is provided at no additional charge for users with a valid license to operate an OpenVMS operating system for an Integrity server or Alpha Server system. The SAMBA technology utilized in **HP OpenVMS CIFS** is bound by an open source software license.

License management facility support

HP OpenVMS CIFS may be used without an LMF PAK

Ordering information

The HP OpenVMS CIFS kits and documentation are available for download at the following website
http://h71000.www7.hp.com/network/CIFS_for_Samba.html

Software Technical Support service

Alpha

Please contact your HP Services Sales Representative to purchase HP Software Technical Support (HA158AC) for HP OpenVMS CIFS on OpenVMS Alpha. Software Technical Support is purchased for the quantity of concurrent users, using the product number (HP OpenVMS CIFS Alpha 1 Conc. Use QL-010AA-AB)

Service migration to HP OpenVMS CIFS from HP Advanced Server for OpenVMS

Alpha

Purchase HP Software Technical Support Service entering a quantity equal to the number of HP Advanced Server for OpenVMS licenses being migrated.

Integrity

HP OpenVMS CIFS is a component of the Foundation Operating Environment (FOE). Software Technical Support Service is provided through a support agreement for any of the OpenVMS Operating Environments: Foundation, Enterprise, or Mission-Critical. If you have an existing Support Agreement for your Integrity Server FOE, EOE or MCOE License, an additional Support Agreement for HP OpenVMS CIFS is not required.

FAQ

What platforms does HP OpenVMS CIFS support?

Answer: HP OpenVMS CIFS supports both the Integrity server and Alpha Server systems. VAX systems are not supported. HP OpenVMS CIFS product has been built to take advantage of features added to OpenVMS v8.2 and later. OpenVMS V7.3-2 is not supported. For earlier versions of OpenVMS operating system, HP continues to support either HP PATHWORKS Server for OpenVMS or HP Advanced Server for OpenVMS as a print and file solution.

What will be the cost for HP OpenVMS CIFS?

Answer: HP OpenVMS CIFS is provided for free to operate on OpenVMS operating system for both Integrity server and Alpha Server systems.

How will HP OpenVMS CIFS be distributed?

Answer: HP OpenVMS CIFS can be accessed and downloaded from the [HP OpenVMS CIFS home page](#). It is also available as part of the Software Products Library distribution. HP OpenVMS CIFS is also available on the quarterly distribution set released for Integrity server and Alpha Server systems.

How will HP OpenVMS CIFS be supported?

Answer: HP OpenVMS CIFS is supported as part of the OpenVMS Foundation Operating System license for Integrity server. For HP OpenVMS CIFS on Alpha Server systems, a valid support contract is required and would be similar to that of the HP Advanced Server for OpenVMS.

Will HP OpenVMS CIFS support Active Directory?

Answer: Yes, HP OpenVMS CIFS can interact with MS Windows 200X Active Directory systems as member server in "security=DOMAIN" mode. Full Active directory support (with "security = ADS") will follow based on the completion of Kerberos implementation on HP OpenVMS CIFS.

Can HP OpenVMS CIFS be a Member server in an Active Directory or an NT4 domain?

Answer: Yes.

Can I use OpenVMS directory specification syntax instead of UNIX path syntax?

Answer: Yes.

Will external authentication be supported?

Answer: HP OpenVMS CIFS does not support external authentication. HP OpenVMS LDAP ACME agent can be used to obtain external authentication functionality.

What tools will be provided with HP OpenVMS CIFS?

Answer: A variety of administrative tools are available on HP OpenVMS CIFS (PDBEDIT, NMBLOOKUP, SWAT, and more). Migration tools are provided for migration from HP Advanced Server for OpenVMS to HP OpenVMS CIFS.

Does HP OpenVMS CIFS support smbmount?

Answer: The smbmount utility is used to mount a remote share on a host system. The smbmount functionality is only available on LINUX and some BSD variants of UNIX according to the samba.org FAQ on the subject. For more information, please refer to [samba.org FAQ pages](#). Currently, there are no plans of implementing smbmount feature on OpenVMS.

Does HP OpenVMS CIFS support ACLs?

Answer: Security in HP OpenVMS CIFS is implemented using OpenVMS security. Thus, Windows security specified on the files is internally set using OpenVMS security.

Does HP OpenVMS CIFS use the same special ACEs as HP Advanced Server for OpenVMS?

Answer: No. HP Advanced Server for OpenVMS supports both NT ACLs and OpenVMS ACLs. The NT ACLs are stored in special OpenVMS ACEs that begin with UNKNOWN=%X80 or UNKNOWN=%X86. HP OpenVMS CIFS supports only standard OpenVMS ACEs and cannot interpret the special ACEs used by HP Advanced Server for OpenVMS.

Will HP OpenVMS CIFS be able to show/modify traditional OpenVMS ACEs?

Answer: Using the \$ show security and \$ set security commands, the traditional OpenVMS ACEs can be viewed and modified.

Conclusion

HP OpenVMS CIFS is the latest offering from HP which provides users with seamless file and print interoperability between OpenVMS and Windows-based systems. As it is based on the popular open source product, Samba, from Samba.org, it will be kept up-to-date to ensure compatibility with latest Microsoft technologies and advanced integration features.

For more information

For more information keep checking the HP OpenVMS CIFS web page at
http://h71000.www7.hp.com/network/CIFS_for_Samba.html

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