Samba for OpenVMS

Version 4.10-16C for OpenVMS I64 and x86-64 servers, based on Samba 4.10.16
Release Notes
October 2022

Introduction

VMS Software Inc. (VSI) is pleased to provide you with a new VSI-supported version of Samba for OpenVMS. This release of Samba for VSI OpenVMS Integrity and x86-64 servers is based on Samba 4.10.16 and represents a significant update from OpenVMS Samba previous V4.6-5 versions. This is primarily a bug-fix release and addresses various issues identified in the previous 4.10-16B kit.

For details of new features, enhancements, and known issues please review the release notes found at the following links. Please be aware that some product features may be platform-specific.

- https://www.samba.org/samba/history/samba-4.10.0.html
- https://www.samba.org/samba/history/samba-4.10.16.html

Samba Documentation

For the latest information about Samba, see https://www.samba.org/samba/docs/. Please be aware that there may be some differences from this documentation that are specific to Samba on OpenVMS; any such known differences are identified elsewhere in this document.

New and changed features

This release of Samba for VSI OpenVMS is based on Samba 4.10.16. Changes in Samba 4.10.16 have necessitated a number of changes in terms of the operation and configuration of Samba for VSI OpenVMS:

- By default, the SAMBA$SETTINGS.COM RMS protection mask is set to Include W:E (in SAMBA$CONFIG.COM).
- Parameter value of "client ldap sasl wrapping" was changed from "plain" to "sign" in SAMBA$CONFIG.COM.
- SAMBA$CONFIG Server Comment option now accepts % (percent sign).
- SMBSHOW symbol definition has been modified to include headers from the SHOW SYSTEM display.
- SAMBA$DEFINE_COMMANDS.COM no longer sets the process parse style to EXTENDED.

A list of significant issues from the previous release of Samba for VSI OpenVMS fixed in this release is provided elsewhere in this document.

Requirements

Samba 4.10-16C for VSI OpenVMS servers requires the operating system and layered product software versions listed below.

- For Itanium servers, VSI OpenVMS Version 8.4-1H1 or higher
- For x86-64 servers, VSI OpenVMS Version V9.2
- VSI TCP/IP Services for OpenVMS, HPE TCP/IP Services for OpenVMS, or MultiNet TCP/IP
- The software must be installed and used on an ODS-5-enabled file system; the software cannot be installed on an ODS-2 file system and ODS-2 file systems cannot be used for file shares
- The OpenVMS internationalization data kit (VMSI18N) must be installed in order for Samba to be able to correctly support international characters in file names

The reader should be familiar with the installation, configuration, and use of open source products such as Samba in the OpenVMS environment.

Recommended reading

Before using Samba 4.10-16C on OpenVMS, VSI recommends that users read the documentation available at https://www.samba.org/samba/ in order to better understand how to configure and manage the software.

Before installing the kit

1. Samba requires the SYSGEN parameters listed in the table below be set to at least the minimum value, or the installation will fail. Note that each time you change the values of these SYSGEN parameters, you will need to run AUTOGEN and then reboot the system:

Parameter	Minimum value required	Add to MODPARAMS.DAT
PROCSECTCNT	512	MIN_PROCSECTCNT = 512
CHANNELCNT	2560	MIN_CHANNELCNT = 2560
PQL_DPGFLQUOTA	256000	MIN_PQL_DPGFLQUOTA = 256000

2. If you are upgrading or migrating from the old CIFS for OpenVMS to Samba for VSI OpenVMS, VSI strongly recommends that you back up the existing CIFS SAMBA$ROOT directory tree prior to installing Samba.

Important cluster considerations

Running the old CIFS for OpenVMS and Samba for VSI OpenVMS in the same cluster is not supported. Existing CIFS for OpenVMS configurations will be migrated to Samba for VSI OpenVMS equivalents when SAMBA$CONFIG.COM is executed.

Samba supports running multiple instances of Samba in a cluster. An instance is defined by the SAMBA$ROOT: directory tree. If there are two separate SAMBA$ROOT: directory trees, the cluster contains two instances of Samba. Cluster members that share the same SAMBA$ROOT: directory tree form a Samba cluster.

Each Samba instance requires a unique Samba cluster alias name. For example, in a cluster with three nodes:

- All nodes can be members of a single Samba cluster instance
- Two nodes can be members of a Samba cluster instance while the third node runs a separate, standalone instance of Samba
- All three nodes can run separate standalone instances of Samba

WARNING: No two instances of Samba should allow access to the same share directories and files in a cluster because this can lead to data corruption. Separate instances of Samba do not share file locking details with other instances.

Installing the kit

The Samba kit is provided as a compressed OpenVMS PCSI kit (VSI-I64VMS-SAMBA-V0410-16C-1.PCSI$COMPRESSED for Integrity or VSI-X86VMS-SAMBA-V0410-16C-1.PCSI$COMPRESSED for x86-64 servers) that can be installed by a suitably privileged user using the following command:

```
$ PRODUCT INSTALL SAMBA
```

Note: If there exists on the system a previous version of Samba for VSI OpenVMS that was installed using the /DESTINATION qualifier to specify a non-default location for the installation, the same non-default location must be specified using the /DESTINATION qualifier when installing this new version of Samba.

By default Samba will be installed to SYS$SYSDEVICE:[VMS$COMMON.SAMBA]. The PCSI /DESTINATION qualifier may be used to install the software into an alternative location.

If multiple cluster members will share the same SAMBA$ROOT: directory tree, Samba must be installed to a device that is mounted by all such cluster members.

To allow mixed architecture cluster nodes to be members of the same Samba instance, install Samba on a node of each architecture type but specify the same installation location using the /DESTINATION qualifier.

If you plan to run Samba on multiple cluster members of the same architecture which do not have a common System disk, install Samba on one such cluster member only. Then follow the post-installation instructions in this document to complete installation on other cluster members.

The installation directory of Samba for OpenVMS is associated with the SAMBA$ROOT logical name. SAMBA$ROOT is a rooted logical name that defines the root location for the Samba configuration files, logs, and other product files. Samba configuration files are stored in SAMBA$ROOT:[LIB] and, by default, logs are stored in `SAMBA$ROOT:[VAR]`. The `SAMBA$ROOT` logical name is defined in `SYS$STARTUP:SAMBA$DEFINE_ROOT.COM` (which is executed from Samba start up procedure, `SYS$STARTUP:SAMBA$STARTUP.COM`).

For Itanium servers, the installation will then proceed as follows (output may differ slightly from that shown depending on platform and other factors):

```
Performing product kit validation of signed kits ...

The following product has been selected:
    VSI I64VMS SAMBA V4.10-16C             Layered Product

Do you want to continue? [YES]

Configuration phase starting ...

You will be asked to choose options, if any, for each selected product and
for any products that may be installed to satisfy software dependency
requirements.

Configuring VSI I64VMS SAMBA V4.10-16C: VSI OpenVMS SAMBA

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    OpenVMS SAMBA is released under the terms of GNU Public License.

    This installation procedure requires that all the following
    conditions are satisfied:

    1.  This procedure is running on an Itanium processor.
    2.  The system is running OpenVMS V8.4-1H1 or later.
    3.  All required privileges are currently enabled.
    4.  No CIFS or SAMBA images are running on this node or anywhere in
        the cluster that make use of common samba$root installation
        directory.
    5.  ODS5 filesystem only.
    6.  SYSGEN Parameter values:

        Parameter      Minimum Required
        ------------   ----------------
        CHANNELCNT                 2560
        PROCSECTCNT                 512

Do you want to continue? [Please, type N or NO if you don't want to
continue, any other answer means YES]

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:
    VSI I64VMS SAMBA V4.10-16C             DISK$I64V842L1SYS:[VMS$COMMON.]

Portion done: 0%...10%...20%...30%...40%...50%...60%...70%...80%...90%

   User Accounts and User Identification Codes (UICs)
   --------------------------------------------------

    The OpenVMS SAMBA V4.10-16C installation creates five OpenVMS
    accounts: SAMBA$SMBD, SAMBA$NMBD, SAMBA$GUEST, SAMBA$TMPLT
    and SMBADMIN. The default UIC group number for these new
    accounts depends on the following:

    o If you are installing the server for the first time, the
      default is the first unused UIC group number, starting
      with 360.

    o If any of these accounts already exists, then the default
      UIC group number will not be used to change the UIC of
      any existing accounts.

    For more information about UIC group numbers, see the
    OpenVMS System Manager's Manual.

Enter default UIC group number for SAMBA accounts
Group: [360]
Creating OpenVMS accounts required by SAMBA
Created account SAMBA$SMBD
Created account SAMBA$NMBD
Created account SAMBA$GUEST
Created account SAMBA$TMPLT
Created account SMBADMIN
SAMBA$ROOT is defined as "$1$DGA60:[SYS0.SYSCOMMON.SAMBA.]"
Setting file protections...
  File protections are set
Creating Samba for OpenVMS root definition file
SYS$COMMON:[SYS$STARTUP]SAMBA$DEFINE_ROOT.COM...
  File created
Save startup files
Setup SAMBA logical environment
Successfully finished

   In a cluster, on all the nodes that are going to use common
   samba$root installation directory as the current node, copy
   the following files to SYS$STARTUP directory of each node:

        SYS$STARTUP:SAMBA$STARTUP.COM
        SYS$STARTUP:SAMBA$SHUTDOWN.COM
        SYS$STARTUP:SAMBA$DEFINE_ROOT.COM

   To automatically start OpenVMS SAMBA during system startup
   add the following line to the file SYS$MANAGER:SYSTARTUP_VMS.COM
   after the TCPIP startup command procedure:

        $ @SYS$STARTUP:SAMBA$STARTUP.COM

   To shut down OpenVMS SAMBA during system shutdown
   add the following line to the file SYS$MANAGER:SYSHUTDWN.COM:

        $ @SYS$STARTUP:SAMBA$SHUTDOWN.COM

Press Enter to continue:

   To Configure OpenVMS SAMBA on any of the nodes in OpenVMS
   cluster that will share the common samba$root installation
   directory as the current node, execute:

        $ @SYS$STARTUP:SAMBA$DEFINE_ROOT.COM
        $ @SAMBA$ROOT:[BIN]SAMBA$CONFIG.COM

   Define symbols for all Samba utilities:
```

```
...100% $ @SAMBA$ROOT:[BIN]SAMBA$DEFINE_COMMANDS.COM

The following product has been installed:
    VSI I64VMS SAMBA V4.10-16C             Layered Product
```

For x86-64 servers, the installation will proceed as follows (output may differ slightly from that shown depending on platform and other factors):

```
Performing product kit validation of signed kits ...
The following product has been selected:
    VSI X86VMS SAMBA V4.10-16C             Layered Product

Do you want to continue? [YES]

Configuration phase starting ...

You will be asked to choose options, if any, for each selected product and
for any products that may be installed to satisfy software dependency
requirements.

Configuring VSI X86VMS SAMBA V4.10-16C: VSI OpenVMS SAMBA

    © (c) Copyright 2022 VMS Software, Inc.

    OpenVMS SAMBA is released under the terms of GNU Public License.

    This installation procedure requires that all the following
    conditions are satisfied:

    1.  This procedure is running on a x86_64 processor.
    2.  The system is running OpenVMS version V9.0-H or later.
    3.  All required privileges are currently enabled.
    4.  No CIFS or SAMBA images are running on this node or anywhere in
        the cluster that make use of common samba$root installation
        directory.
    5.  ODS5 filesystem only.
    6.  SYSGEN Parameter values:

        Parameter      Minimum Required
        ------------   ----------------
        CHANNELCNT                 2560
        PROCSECTCNT                 512
        PQL_DPGFLQUOTA           200000

Do you want to continue? [Please, type N or NO if you don't want to
continue, any other answer means YES]

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:
    VSI X86VMS SAMBA V4.10-16C             DISK$SYS_BALDER:[VMS$COMMON.]

Portion done: 0%...10%...20%...30%...40%...50%...60%...70%...80%...90%
   User Accounts and User Identification Codes (UICs)
   --------------------------------------------------
```

```
    The OpenVMS SAMBA installation creates five OpenVMS
    accounts: SAMBA$SMBD, SAMBA$NMBD, SAMBA$GUEST, SAMBA$TMPLT
    and SMBADMIN. The default UIC group number for these new
    accounts depends on the following:

    o If you are installing the server for the first time, the
      default is the first unused UIC group number, starting
      with 360.
    o If any of these accounts already exists, then the default
      UIC group number will not be used to change the UIC of
      any existing accounts.

    For more information about UIC group numbers, see the
    OpenVMS System Manager's Manual.

Enter default UIC group number for SAMBA accounts
Group: [360]
Creating OpenVMS accounts required by SAMBA
SAMBA$SMBD account already exists
SAMBA$NMBD account already exists
SAMBA$GUEST account already exists
SAMBA$TMPLT account already exists
SMBADMIN account already exists
SAMBA$ROOT is defined as "DSA172:[SYS0.SYSCOMMON.SAMBA.]"

Setting file protections...
  File protections are set

Creating Samba for OpenVMS root definition file
SYS$COMMON:[SYS$STARTUP]SAMBA$DEFINE_ROOT.COM...

  File created
Save startup files
Setup SAMBA logical environment
Successfully finished

   In a cluster, on all the nodes that are going to use common
   samba$root installation directory as the current node, copy
   the following files to SYS$STARTUP directory of each node:

        SYS$STARTUP:SAMBA$STARTUP.COM
        SYS$STARTUP:SAMBA$SHUTDOWN.COM
        SYS$STARTUP:SAMBA$DEFINE_ROOT.COM

   To automatically start OpenVMS SAMBA during system startup
   add the following line to the file SYS$MANAGER:SYSTARTUP_VMS.COM
   after the TCPIP startup command procedure:

        $ @SYS$STARTUP:SAMBA$STARTUP.COM

   To shut down OpenVMS SAMBA during system shutdown
   add the following line to the file SYS$MANAGER:SYSHUTDWN.COM:

        $ @SYS$STARTUP:SAMBA$SHUTDOWN.COM

Press Enter to continue:
   To configure OpenVMS SAMBA on any of the nodes in OpenVMS
   cluster that will share the common samba$root installation
   directory as the current node, execute:

        $ @SYS$STARTUP:SAMBA$DEFINE_ROOT.COM
        $ @SAMBA$ROOT:[BIN]SAMBA$CONFIG.COM

   Define symbols for all Samba utilities:


...100% $ @SAMBA$ROOT:[BIN]SAMBA$DEFINE_COMMANDS.COM

The following product has been installed:

    VSI X86VMS SAMBA V4.10-16C             Layered Product
```

Post-installation steps

After you have successfully installed Samba, follow these steps to configure it:

1. Verify that the `SAMBA$ROOT` logical name is set:

   ```
   $ SHOW LOGICAL SAMBA$ROOT
   "SAMBA$ROOT" = "$1$DGA400:[SYS1.SYSCOMMON.SAMBA.]"
   ```

   If the logical name is not defined, execute the following command:

   ```
   $ @SYS$STARTUP:SAMBA$DEFINE_ROOT
   ```

2. Define symbols for all Samba utilities:

   ```
   $ @SAMBA$ROOT:[BIN]SAMBA$DEFINE_COMMANDS.COM
   ```

3. In a cluster, copy the files in `SAMBA$ROOT:[CLUSTER]` to the `SYS$COMMON:[SYS$STARTUP]` directory on other nodes in the cluster that meet both of the following requirements:

   - Will use the same `SAMBA$ROOT` directory tree as the installation node
   - Do not boot from the same system disk as the installation node

4. Configure Samba server:

   Note that for this release of Samba for OpenVMS, the server must be configured as a standalone server or a domain member server.

   Run the Samba configuration utility to generate the Samba configuration files. These files are not created during installation and must be generated as described below. Note that the Samba configuration utility also migrates existing CIFS for OpenVMS configurations to Samba (see the "Migrating CIFS for OpenVMS" section of this document).

   When configuring multiple cluster members that share the same `SAMBA$ROOT:` directory tree:

   - The Core and Generic menu options are shared by all members of the same Samba cluster instance; changes to these options affect all cluster members. The System Specific menu options are unique to the cluster member on which they are set.
   - On the first cluster member, at the main menu, select option "A" to configure all options.
   - On subsequent cluster members, at the main menu, select only option 1 – System Specific options.

```
$ SMBCONF


                SAMBA Configuration Utility

Use this utility to configure the server role, create TCP/IP
services, and configure other options.

The following conditions must be met prior to configuring SAMBA:

   1. Log into OpenVMS using a privileged system account.

   2. No SAMBA images are running on this node.

For more information about Samba Server configuration, please refer to
the Samba for OpenVMS release notes.

If Samba Server is being configured afresh on this node, choose
the following option from OpenVMS Samba Main Configuration
Options Menu:

      A - Configure options 1 - 3

Press Enter to continue:

Checking for existing SAMBA Server configuration...



        OpenVMS Samba Main Configuration Options Menu

Configuration options:

        1  - System specific setup
        2  - Generic options
        3  - Core environment
        A  - Configure options 1 - 3
       [E] - Exit Menu

Enter configuration option:
```

Configure Samba as appropriate using the menu options provided. At a minimum (to generate a minimal basic configuration) you can select the "A" option and accept the defaults as you step through each sub-menu.

The TESTPARM utility should be used to review the final configuration.

For additional information about configuring Samba please refer to the documentation available at https://www.samba.org/samba/.

5. Supported Character Sets

Samba supports all character sets supported by the OpenVMS internationalization data kit (VMSI18N), including ISO8859: ISO8859-1, ISO8859-2, ISO8859-5, ISO8859-7, ISO8859-8, ISO8859-9, ISO8859-15. The default character set is UTF-8. To configure Samba to use an alternative character set such as ISO8859-1:

a) Add the following line to the `[global]` section of `SAMBA$ROOT:[LIB]SMB.CONF`:

```
unix charset = iso8859-1
```

b) Add the following line to SAMBA$ROOT:[BIN]SAMBA$SETTINGS.COM:

```
$ DEASSIGN/NOLOG DECC$FILENAME_ENCODING_UTF8
```

6. Start the Samba server:

```
$ SMBSTART

Creating NMBD Process...
%RUN-S-PROC_ID, identification of created process is 000143A2

Enabling SMBD services...

  Successfully enabled TCPIP SMBD services
```

7. Add the following command to the system startup procedure to start Samba when the system is booted. Note that this command must be added after the command that starts TCP/IP.

```
$ @SYS$STARTUP:SAMBA$STARTUP.COM
```

8. Add the following command to the system shutdown procedure to stop Samba during system shutdown:

```
$ @SYS$STARTUP:SAMBA$SHUTDOWN.COM
```

9. Use the SMBMANAGE utility to manage Samba shares, users, groups, and account policies as necessary.

10. You may wish to run the following command to add a version limit on the sub-directories in samba$root:[var.cores] to prevent unnoticed process dump files from consuming huge amounts of disk space. You may wish to use an alternative value for the version limit as appropriate to your environment.

```
$ set file/version_limit=10 samba$root:[var.cores]*.dir
```

11. By default the SMBCLIENT utility, when connected to a share on a Samba for VSI OpenVMS host, does not accept paths using OpenVMS directory syntax. To enable use of OpenVMS directory syntax support for SMBCLIENT add the following entry to the [global] section of SAMBA$ROOT:[LIB]SMB.CONF:

```
vms path allow = yes
```

Migrating CIFS for OpenVMS

Run SAMBA$CONFIG.COM after installation to migrate an existing CIFS for OpenVMS configuration to Samba for OpenVMS. SAMBA$CONFIG.COM runs SAMBA$MIGRATION.COM, which renames the appropriate CIFS users/groups and their associated OpenVMS account and identifier names (changing CIFS to SAMBA) and updates references in .CONF and USERNAME.MAP files. SAMBA$CONFIG.COM also has routines to migrate obsolete, deprecated, and modified parameters to their equivalents in Samba.

The Samba migration process saves the old CIFS for OpenVMS configuration files to a subdirectory in SAMBA$ROOT:[BACKUP_MIGRATION] and produces a log file named according to the format SAMBA$ROOT:[VAR]SAMBA$MIGRATION_<date>_<time>.LOG.

To undo or roll back the migration if problems were encountered with the migration, proceed as follows:

- Run the migration procedure (SAMBA$MIGRATION.COM) and specify the path where the backup migration files are stored. In the following example, the backed up CIFS configuration files are stored in the directory SAMBA$ROOT:[BACKUP_MIGRATION.30APR2019_103511]:

```
$ @SAMBA$ROOT:[BIN]SAMBA$MIGRATION -
_$ SAMBA$ROOT:[BACKUP_MIGRATION.30APR2019_103511]
```

- Reinstall CIFS for OpenVMS

WINBIND support

WINBIND is a component of Samba that provides user and group identity mapping. In Samba for OpenVMS, WINBIND is a separate daemon process with one to four sub-processes. (Note: in CIFS for OpenVMS there is no separate WINBIND process; the WINBIND functionality is instead included in each SMBD process.)

When deciding whether to enable or disable WINBIND, consider the following points:

- If Samba is configured in a standalone server role, WINBIND provides no useful purpose and would typically be disabled.
- If Samba is configured as a member server, WINBIND is required and provides three main functions:
    a) WINBIND is used when authenticating domain users (including trusted domain users). If WINBIND is not running, domain users cannot be authenticated and will fail to connect.

    b) Ability to reference domain user and group accounts when managing Samba. For example, to add or remove domain user and group accounts as members of local Samba groups.

    c) Ability to dynamically create OpenVMS user accounts. Each Samba user requires an OpenVMS account with a unique UIC in order to be distinguished from other users for security purposes. Administrators may create the necessary OpenVMS accounts manually or allow WINBIND to create OpenVMS accounts for Samba users dynamically, as they are needed. When properly configured, WINBIND creates a new OpenVMS account with a unique UIC for any domain user who successfully authenticates but does not already have an OpenVMS account mapped to their Windows account.

Configuring WINBIND

Before configuring WINBIND on a member server, determine what functionality is desired. If configured to dynamically create OpenVMS user accounts WINBIND requires a range of values (specified in decimal) to allocate as user identifiers and from which a unique OpenVMS username and UIC are derived.

The range is specified in decimal using the format “low-value - high-value”, where low-value must be less than high-value. Due to OpenVMS UIC number restrictions, the low-value should not be less than 256 and the high-value cannot exceed 16382.

If WINBIND will be configured to prevent dynamic creation of OpenVMS accounts for Samba users, the range can be a minimum of 1; for example 10000 - 10001.

If WINBIND will be configured to allow dynamic creation of OpenVMS accounts for Samba users, the range specified should be large enough to accommodate the expected number of user account that could possibly be created. However, the high value of the range can be increased at any time to provide additional user identifiers if necessary.

For example, a UIC number range of 5000 - 6000 allows WINBIND to create a total of 1001 OpenVMS user accounts.

When creating an OpenVMS user account, the ID number allocated by WINBIND is converted to hexadecimal and appended to the string "SAMBA$" to derive the OpenVMS username. The allocated WINBIND ID number is also converted to octal and used as the UIC group and member number assigned to the OpenVMS account. For example, if WINBIND allocates ID 5200 to a new user, the OpenVMS account name will be SAMBA$1450 and its UIC will be [12120,12120].

Configure WINBIND using the SAMBA$CONFIG utility. From the Main Configuration Options menu, option "3 – Core environment" includes the following WINBIND configuration option:

```
        4. Enable WINBIND:
```

- To disable all WINBIND functionality, set option 4 to no. This will prevent the WINBIND process from starting.
- To enable WINBIND, set option 4 to yes. Note that WINBIND **is required** on domain member servers. When WINBIND is initially enabled, SAMBA$CONFIG will prompt for the UIC number range. After specifying the range, SAMBA$CONFIG returns to the core configuration menu and displays the following WINBIND options:

```
        4. Enable WINBIND: yes
           4A. UIC number range: 10000-10001
           4B. Allow Samba to create OpenVMS accounts on-the-fly: yes
```

- To prevent WINBIND from dynamically creating OpenVMS user accounts, select option 4B and specify no.

Samba WINBIND configuration parameters

The Samba configuration parameter "idmap config * : range = " specifies the UIC number range that WINBIND uses when allocating user identifiers.

Note that the TESTPARM utility will display the following messages when no range is specified; these messages may be ignored:

```
idmap range not specified for domain '*'
ERROR: Invalid idmap range for domain *!
```

The Samba configuration parameter "idmap config * : read only" controls WINBIND ID allocation. If set to yes, WINBIND is prevented from allocating user IDs. If set to no (the default), WINBIND may allocate user IDs.

What's missing?

This release of Samba for OpenVMS does not include the following functionality:

- The classic Primary Domain Controller (PDC) and Backup Domain Controller (BDC) roles are not supported.
- The Active Directory Domain Controller role is not supported in this release. Support for this functionality is being considered and may be provided at a later date.

- A copy of the source code for Samba on OpenVMS is not included with the installation kit; however, we will provide a copy of the code on request (email support@vmssoftware.com).

Known issues

The following list identifies currently known problems and restrictions with this release of Samba for VSI OpenVMS.

- The modified date on some files may change unexpectedly, after the file has been opened but its contents have not been changed. This issue is most commonly observed with Microsoft Office files. In order to avoid this problem, it is necessary to ensure that the logical name `DECC$EFS_FILE_TIMESTAMPS` is defined (with a value of “`TRUE`”) such that the logical name is visible to Samba processes, and to ensure that any file systems serving the files in question has file access times set on (per the "`SET VOLUME/VOLUME_CHARACTERISTICS=ACCESS_DATES`" command).
- If a file and directory have the same name and exist in the same directory, both objects are displayed as directories.
- The `WINBIND` process may become unresponsive or crash on Alpha hosts if the `SYSGEN PQL_DPGFLQUOTA` parameter value is less than 256000. `PQL_DPGFLQUOTA` is a dynamic `SYSGEN` parameter.
- To use Kerberos authentication (via the `-k` option) with the `SMBCLIENT` utility, perform the following steps:

  a. If necessary, disable elevated process privileges (`NOIMPERSONATE`, `NOSYSPRV`, `NOREADALL`, and `NOBYPASS`):

  ```
  $ SET PROCESS/PRIVILEGE=(NOALL,TMPMBX,NETMBX)
  ```

  b. Obtain a Kerberos ticket using your domain username:

  ```
  $ net ads kerberos kinit --user <domain-username>
  ```

  c. Optionally (and if possible) elevate process privileges (to avoid potential benign errors); for example:

  ```
  $ SET PROCESS/PRIVILEGE=ALL
  ```

  d. Run `SMBCLIENT`, specifying values for server and share names as appropriate:

  ```
  $ SMBCLIENT -k \\server\share
  ```

- The OpenVMS owner of new objects created by users with a local Samba account that is included in the `admin users` list is incorrectly set to `SAMBA$SMBD` instead of the owner of the parent directory. In many environments this issue can be avoided by adding the following line to the applicable share section in `SAMBA$ROOT:[LIB]SMB.CONF`:

  ```
  inherit owner = yes
  ```

- The "`net rpc user rename`" command is not supported by Samba for OpenVMS. This is consistent with previous CIFS for OpenVMS behaviour.
- Use of Samba for OpenVMS is not supported for Microsoft Windows XP and Windows 7 clients.

- If the Samba share parameter “inherit owner'” equals “no” and a parent directory is owned by a resource identifier, when a user creates a new file or folder Samba sets the file owner to the UIC of the user creating the file rather than the resource identifier. To retain usual OpenVMS behaviour (that is, to set the resource identifier as the file owner), add “inherit owner = yes” to the applicable [share] sections in SMB.CONF.

- For systems running the TCPware TCP/IP stack, Samba is not able to auto-detect the active TCPware IP interface addresses. Therefore, the list of interfaces available for use by Samba must be configured manually (see “Systems Running TCPware TCP/IP” below for additional information).

- The SMBCLIENT "more" command, which displays the contents of a file, requires the GNV for OpenVMS to be installed. The GNV kit and the associated documentation are available at https://sourceforge.net/projects/gnv/.

  After installing GNV, perform the following tasks to allow the SMBCLIENT "more" command to function correctly:

  1. Define the GNU logical name by running the command below (you may wish to add this command to the system start up procedure):

     ```
     $ @SYS$STARTUP:GNV$STARTUP.COM
     ```

  2. Make the GNV utilities available by running the following command, which ensures that the logical name DCL$PATH is correctly defined in order for users to access more and other GNV commands. You may wish to add this command to your LOGIN.COM file or to SYS$MANAGER:SYLOGIN.COM.

     ```
     $ @GNU:[LIB]GNV_SETUP.COM
     ```

  3. If the process has a more symbol defined, it must be deleted:

     ```
     $ SHOW SYMBOL MORE
     $ DELETE/SYMBOL[/GLOBAL] MORE
     ```

DNS Requirements for Samba Member Servers

A Samba member server requires a proper DNS configuration to avoid long delays or timeouts when attempting to locate domain controllers.

If the OpenVMS host is configured to use the same DNS domain as the domain Samba will join, no changes are required.

However, if Samba will be joined to a domain which is not the same DNS domain configured on the OpenVMS host, the OpenVMS host should be configured as a cache-only BIND server and use a stub zone or conditional forwarding for the domain that Samba will join. Additionally, the DNS name resolver on the OpenVMS host should be configured to use localhost as its DNS server.

Prior to joining the Samba server to a domain, customers should verify the OpenVMS host is capable of resolving DNS SRV record types for the domain. For example, use the following command to verify that Samba will join a domain named example.com:

```
$ dig SRV _kerberos._tcp.example.com +noall +answer +additional
```

The response should be a list of domain controllers.

Systems Running TCPware TCP/IP

For systems running the TCPware TCP/IP stack, Samba is not able to auto-detect the active TCPware IP interface addresses. Therefore, the list of interfaces available for use by Samba must be manually configured. To do this, initially use `SMB$CONFIG` to configure Samba as a standalone server, then edit `SAMBA$ROOT:[LIB]SMB.CONF` and add the appropriate parameters (explained below) to the `[global]` section. If desired, run `SAMBA$CONFIG` to reconfigure as a member server.

To make all active interface addresses available to Samba, list those addresses and their subnet masks in a comma or space delimited list using the "`interfaces`" global parameter. Be sure to always include the localhost address (127.0.0.1) in the list of allowed interfaces.

For example, you may add an entry similar to the following to `SMB.CONF` (setting address details as appropriate to your environment and being sure to include localhost):

```
interfaces = 10.100.10.1/24, 127.0.0.1
```

To make only a subset of active interface addresses available to Samba, include only the addresses (and their subnet) of the allowed interfaces in the interfaces list and also specify "`bind interfaces only = yes`".

For example, if the host has the three interfaces 10.10.1.1/24, 192.168.0.10/16, and 44.4.1.1/10 and Samba is to use only interfaces 10.10.1.1/24 and 192.168.0.10/16 then you would specify the following in `SMB.CONF`:

```
interfaces = 10.10.1.1/24, 192.168.0.10, 127.0.0.1
bind interfaces only = yes
```

Specific issues fixed in this release

- Samba no longer stops directory enumeration if a shared directory contains a file that the user does not have access to.
- SMBMANAGE share modification issues have been fixed.
- SMBCLIENT now accepts VMS path style to files with the -A option.
- The `smbpasswd -s` command no longer crashes.
- SMBCLIENT recursive MPUT of directory tree no longer causes user processes to consume CPU.
- Files named `.;1` no longer cause problems for Mac Client and SMBCLIENT.
- SMBCLIENT PUT no longer fails if DECC$EFS_NO_DOTS_IN_DIRNAME is set to Enabled.
- Previously, SMBCLIENT MPUT processed all versions of a file. Starting from this release, it only processes the highest version of a file.
- SMBCLIENT PUT and MPUT commands no longer get stuck in a CPU loop.
- Any unknown parameters set during the migration process are ignored.
- SMBCLIENT command "dir .." behaviour has been changed to match the "ls.." behaviour.
- SAMBA$SMBD_SETUP_TCPIP errors that were occurring if the IP addresses in the "interfaces" list were not delimited by a comma have been fixed.

- The problem with joining to a domain when the LDAP connection mode is set to “sign” has been fixed.
- The SMB.CONF parameter "server schannel" has been removed from the configuration. The parameter is now hardcoded to a value of "yes".