

VSI OpenVMS

VSI OSAP/H1 Installation Guide

Operating System and Version: VSI OpenVMS IA-64 Version 8.4-1H1 or higher
VSI OpenVMS Alpha Version 8.4-2L1 or higher

Software Version: VSI OSAP/H1 Installation Guide

Copyright © 2024 VMS Software, Inc. (VSI), Boston, Massachusetts, USA

Legal Notice

Confidential computer software. Valid license from VSI required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

The information contained herein is subject to change without notice. The only warranties for VSI products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. VSI shall not be liable for technical or editorial errors or omissions contained herein.

HPE, HPE Integrity, HPE Alpha, and HPE Proliant are trademarks or registered trademarks of Hewlett Packard Enterprise.

Intel, Itanium and IA64 are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Windows, Windows-NT and Microsoft XP are U.S. registered trademarks of Microsoft Corporation. Microsoft Vista is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

Motif is a registered trademark of The Open Group.

Table of Contents

| | |
|---|----------|
| Preface | v |
| 1. About VSI | v |
| 2. Intended Audience | v |
| 3. Document Structure | v |
| 4. Associated VSI OSAP/H1 Documents | v |
| 5. Related ISO/IEC Documents | v |
| 6. OpenVMS Documentation | vi |
| 7. VSI Encourages Your Comments | vi |
| 8. Conventions | vi |
| Chapter 1. Pre-installation Requirements | 1 |
| 1.1. System Hardware Requirements | 1 |
| 1.2. System Software Requirements | 1 |
| 1.3. License Registration | 1 |
| 1.4. Installation Privileges | 2 |
| 1.5. Required Disk Space | 2 |
| 1.6. System Parameters and Settings | 2 |
| 1.6.1. Displaying System Parameters | 2 |
| 1.6.2. Changing GBLPAGES and GBLSECTIONS with AUTOGEN | 3 |
| 1.7. Installation Account Process Quotas | 3 |
| 1.8. Backing Up the System Disk | 4 |
| Chapter 2. Installing VSI OSAP/H1 on OpenVMS Systems | 5 |
| 2.1. Installation Considerations | 5 |
| 2.1.1. DASware Installation | 5 |
| 2.1.2. VMSINSTAL Requirements | 5 |
| 2.1.3. VMSINSTAL Error Messages | 5 |
| 2.1.4. Stopping the Installation | 6 |
| 2.1.5. Accessing the Release Notes | 6 |
| 2.2. Installation Procedure | 6 |
| 2.2.1. Invoking VMSINSTAL | 6 |
| 2.2.2. Installation Process | 6 |
| Chapter 3. Post-Installation Considerations | 9 |
| 3.1. Running the Installation Verification Procedure | 9 |
| 3.2. Starting VSI OSAP/H1 | 9 |
| 3.3. Stopping VSI OSAP/H1 | 10 |
| 3.4. Example Programs | 10 |
| 3.5. Accessing the Release Notes | 10 |

Preface

This document describes the installation of the VSI OSAP/H1 for OpenVMS software on a VSI OpenVMS system. Refer to this document in the future when installing maintenance updates or reinstalling the VSI OSAP/H1 for OpenVMS software. For more information about VSI OSAP/H1, refer to the *VSI OSAP/H1 Version 4.1 for OpenVMS Software Product Description (SPD)* in your software distribution kit.

1. About VSI

VMS Software, Inc. (VSI) is an independent software company licensed by Hewlett Packard Enterprise to develop and support the OpenVMS operating system.

2. Intended Audience

This document is for system and network managers and VSI personnel who must plan or perform an installation of the VSI OSAP/H1 for OpenVMS software on a VSI OpenVMS system.

3. Document Structure

This manual is organized as follows:

- Chapter 1, describes the hardware and software requirements that must be met before you can install the VSI OSAP/H1 software.
- Chapter 2, describes the system environment required to install and run the VSI OSAP/H1 software. This chapter also provides the VSI OSAP/H1 installation procedures and guidelines.
- Chapter 3, describes how to start or stop the VSI OSAP/H1 process and access the release notes after the installation. The chapter also provides more information about the installed product.

4. Associated VSI OSAP/H1 Documents

The following documents provide detailed information about using the VSI OSAP/H1 system:

- *VSI OSAP/H1 Version 4.1 for OpenVMS Software Product Description (SPD)*
- *VSI OSAP/H1 Network Manager's and Programmer's Guide*
- *VSI OSAP/H1 Version 4.1 for OpenVMS Cover Letter*

5. Related ISO/IEC Documents

The following documents provide information about the ISO/IEC standard Manufacturing Message Specification (MMS):

- Industrial Automation Systems — Manufacturing Message Specification Service Definition, ISO/IEC 9506–1
- Industrial Automation Systems — Manufacturing Message Specification Protocol Specification, ISO/IEC 9506–2

6. OpenVMS Documentation

The full VSI OpenVMS documentation set can be found on the VMS Software Documentation webpage at <https://docs.vmssoftware.com>.

7. VSI Encourages Your Comments

You may send comments or suggestions regarding this manual or any VSI document by sending electronic mail to the following Internet address: <docinfo@vmssoftware.com>. Users who have VSI OpenVMS support contracts through VSI can contact <support@vmssoftware.com> for help with this product.

8. Conventions

This manual uses the following conventions:

| Convention | Meaning |
|----------------------|---|
| OSAP | The term “OSAP” refers to the VSI OSAP/H1 product or to functions and services provided by the OSAP/H1 software. |
| OpenVMS | The term “OpenVMS” refers to the OpenVMS product or to operations and functions performed by the OpenVMS operating system. |
| NODE> | The OpenVMS user prompt is the system name followed by a right angle bracket (>). |
| UPPERCASE, lowercase | The system differentiates between uppercase and lowercase characters. Literal strings that appear in descriptions, examples, or command syntax must be entered exactly as shown. |
| Boldface Type | This bold typeface emphasizes user input to system prompts. |
| System output | This typeface indicates system output in interactive examples. In OpenVMS descriptions, it also specifies the exact name of a command, option, partition, pathname, directory, or file. |
| Crtl/x | Indicates to hold down the Ctrl key while you press another key, indicated here by x. |
| <i>n</i> | A lowercase italic <i>n</i> indicates the generic use of a number. |
| <i>x</i> | A lowercase italic <i>x</i> indicates the generic use of a letter. |
| <i>Italic type</i> | Italic type emphasizes important or unique information or the complete titles of documents. |
| . | Vertical ellipses (dots) in examples represent data that has been omitted for clarity. |

| Convention | Meaning |
|---|---------|
| <ul style="list-style-type: none">•• | |

Chapter 1. Pre-installation Requirements

This chapter lists the minimum system hardware and software environment required to install and run the VSI OSAP/H1 software on OpenVMS.

Online release notes are included on the installation media. Directions for accessing the release notes are provided in Section 2.1.5. VSI recommends that you read the release notes before installing or running the VSI OSAP/H1 software.

1.1. System Hardware Requirements

The minimum hardware configuration to perform the installation as described in the *VSI OSAP/H1 Version 4.1 for OpenVMS Software Product Description (SPD)* is as follows:

- A supported HPE Integrity or HPE Alpha processor (see the *VSI OSAP/H1 Version 4.1 for OpenVMS Software Product Description (SPD)* for details)
- An online terminal with access to the system.

Refer to the VSI OSAP/H1 SPD to determine whether there are additional hardware requirements that apply to your application.

1.2. System Software Requirements

Your system requires the following minimum software versions:

- Mandatory:
 - VSI OpenVMS Integrity V8.4-1H1 or Alpha V8.4-2L1
- Optional:
 - DECwindows Motif Version 1.7--only necessary if you want to use OmniView
 - ORACLE Rdb Version 7.3--only necessary if you want to use the Omni Definition Facility.

Pre-requisite software and software versions may change. Refer to the current *VSI OSAP/H1 Version 4.1 for OpenVMS Software Product Description (SPD)* for the latest pre-requisite information. The following command displays the OpenVMS system version you are running:

```
$ WRITE SYS$OUTPUT F$GETSYI("VERSION")
```

1.3. License Registration

Use the License Management Facility (LMF) to register the VSI OSAP/H1 software license in accordance with the license agreement signed for your site before you can run either the Installation Verification Procedure (IVP) or the software. License registration information is included in the Product Authorization Key (PAK). The PAK contains licensing information that should be registered *before* you start the installation.

To register the license, log into the SYSTEM account and set your default to SYSS\$UPDATE. You can register the license under LMF using either of the following methods:

1. Invoke the following procedure and enter the data supplied by the PAK:

```
$ SYSS$UPDATE:VMSLICENSE.COM
```

2. Enter the following command, using the qualifiers that specify the data supplied by the PAK:

```
$ LICENSE REGISTER VSI OSAPH1/qualifier,...
```

If you plan to use the VSI OSAP/H1 software on more than one node of a cluster system, you must load the license on each of the other nodes after you have completed this one.

See the *VSI OpenVMS License Management Utility Guide* for more information about using LMF.

1.4. Installation Privileges

You require either the SETPRV privilege or all of the following privileges:

```
$ CMKRNL  
WORLD  
SYSPRV
```

The following command verifies your installation privileges:

```
$ SHOW PROCESS /PRIVILEGES
```

1.5. Required Disk Space

The following free disk space is required on OpenVMS systems:

| Blocks to Install | Blocks to Run | VSI OSAP/H1- specific Files | ODS Directory Structure |
|-------------------|---------------|--------------------------------|----------------------------|
| 45,000 | 40,000 | 35,000 | 3,500 |

The following command verifies the available disk space:

```
$ SHOW DEVICE SYSS$SYSDEVICE
```

A feature of the VSI OSAP/H1 installation process allows you to locate the Omni Directory Services (ODS) directory structure on a disk other than the system disk. If you install the ODS directory structure on a separate disk, make sure that the disk has adequate free space.

1.6. System Parameters and Settings

The VSI OSAP/H1 installation requires specific system parameter settings.

1.6.1. Displaying System Parameters

The following minimum system parameter values are required for the installation and to accommodate the space requirements for VSI OSAP/H1 data structures:

```
FREE_GBLPAGES = 1000
```

```
FREE_GBLSECTS = 15
```

Use the following commands to determine the current number of free global pages and free global sections:

```
$ WRITE SYS$OUTPUT F$GETSYI ("FREE_GBLPAGES")  
$ WRITE SYS$OUTPUT F$GETSYI ("FREE_GBLSECTS")
```

The system displays the current values associated with the FREE_GBLPAGES and FREE_GBLSECTS parameter.

For additional information about these parameters, or for help when verifying the values, see the *VSI OpenVMS System Manager's Manual* for information about the OpenVMS System Generation Utility (SYSGEN).

- If you need to change one or more system parameters, continue with Section 1.8.2.
- If you do not need to change system parameters, proceed to Section 1.9.

1.6.2. Changing GBLPAGES and GBLSECTIONS with AUTOGEN

If you need to change the number of global pages or global sections, invoke AUTOGEN after you have entered the new parameter values in the SYS\$SYSTEM:MODPARAMS.DAT file. AUTOGEN adjusts values for the parameters associated with the values that you reset manually.

To change system parameters with AUTOGEN:

1. Use an editor to access the SYS\$SYSTEM:MODPARAMS.DAT file.
 - a. To change a parameter value that is already listed in the file, delete the current value associated with that parameter and enter the new value.
 - b. To modify incremental parameters, such as GBLPAGES or GBLSECTIONS, use the ADD_ command. The following example increases the global page setting by 380: ADD_GBLPAGES = 380
2. After you have made all of your changes, exit from the editor.
3. Invoke the AUTOGEN procedure with the following command to recalculate your system parameters:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOT [NOFEEDBACK]
```

If you specify REBOOT, AUTOGEN performs a system shutdown and reboots the system when it has finished. Users logged in on the system are immediately disconnected during the shutdown. The reboot puts the new parameter values into effect. The AUTOGEN utility adjusts some SYSGEN parameters based on the consumption of resources since the last reboot. If you do not want to use this adjustment, include the NOFEEDBACK parameter in the command line.

See the *VSI OpenVMS System Manager's Manual* for more information about AUTOGEN.

1.7. Installation Account Process Quotas

The following minimum process quotas are required for the installation account; this is typically the SYSTEM account:

| Quota Name | Minimum Quota |
|------------|---------------|
| ASTLM | 24 |
| BIOLM | 18 |
| BYTLM | 32768 |
| DIOLM | 18 |
| ENQLM | 2000 |
| FILLM | 50 |
| PGFLQUO | 30000 |
| PRCLM | 1+ |
| WSDEF | 256 |
| WSEXTENT | 3072 |
| WSQUO | 768 |

You can use the AUTHORIZE utility to display installation process quotas by entering the following commands:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> SHOW SYSTEM
```

If no changes are necessary, enter the EXIT command to leave the AUTHORIZE utility. To modify system account quotas (BYTLM, for example):

```
UAF> MODIFY SYSTEM /BYTLM=32768
```

The utility responds with a message confirming the change and you can enter the EXIT command to leave the utility. You must then log out and log in again to reset the system account quotas.

For further information about AUTHORIZE, refer to the *VSI OpenVMS System Manager's Manual*.

1.8. Backing Up the System Disk

VSI recommends that you perform a full system disk backup before you start any installation procedures. Use the backup procedures established for your site. For information about performing a system disk backup, refer to your OpenVMS documentation.

Chapter 2. Installing VSI OSAP/H1 on OpenVMS Systems

This chapter provides the requirements and procedures for installing the VSI OSAP/H1 software on an OpenVMS system.

2.1. Installation Considerations

This section provides information you may require during the installation process.

2.1.1. DASware Installation

The VSI OSAP/H1 Version 4.1 installation procedure allows you to install DASware (DASTKRUN, DASTK232).

DASTKRUN and DASTK232 provide extensions to VSI OSAP/H1, as required by some device access systems. On OpenVMS, DASware is not required by the following protocols:

- MMS
- AP
- H1
- Allen-Bradley

You can therefore skip the DASware installation if you intend to use one of the suggested Device Access systems.

The pre-requisites are as follows:

- DASTKRUN—VSI OSAP/H1
- DASTK232—DASTKRUN.

2.1.2. VMSINSTAL Requirements

When you invoke VMSINSTAL, it verifies whether you have:

- Logged into a privileged account
- Adequate quotas for the installation
- Other users logged in on the system

If VMSINSTAL detects any errors during the installation, it notifies you and exits from the installation procedure. You can restart the installation after you have corrected the problem.

2.1.3. VMSINSTAL Error Messages

If the installation fails for any reason, either during the installation or the IVP, VMSINSTAL displays a message similar to the following:

%VMSINSTAL_E_INSFAIL, The installation of OSAP/H1 has failed.

Refer to the *VSI OpenVMS System Management Utilities Reference Manual* for information about VMSINSTAL error messages. If it is possible to correct the problem, repeat the installation from the beginning. Otherwise, follow the procedures described in Chapter 3.

2.1.4. Stopping the Installation

Press Ctrl/Y to abort the installation at any time. You can enter a question mark (?) at any time for additional information. To restart the installation after pressing Ctrl/Y, you must repeat the entire procedure.

2.1.5. Accessing the Release Notes

VSI OSAP/H1 release notes are in an online ASCII text file that you can read or print before or after the installation. The release notes contain information about known problems or restrictions that apply to the current version of the product.

Note: VSI recommends that you read the release notes before you install or run the VSI OSAP/H1 software.

To display or print the release notes, use the OPTIONS N parameter when you invoke VMSINSTAL for the installation in Section 2.2. The OPTIONS N parameter also enables you to exit the installation procedure after reading the release notes.

VMSINSTAL copies the release notes to SYS\$HELP by default. The release notes file installed by VMSINSTAL is labeled with the current product name and version number, such as OSH1I041.RELEASE_NOTES.

2.2. Installation Procedure

To perform the installation, you must be logged in on the system manager's account, or an account with the appropriate privileges.

2.2.1. Invoking VMSINSTAL

Use either of the following commands to invoke VMSINSTAL:

```
$ @SYS$UPDATE:VMSINSTAL
```

or

```
$ @SYS$UPDATE:VMSINSTAL OSH1I041 ddcu: OPTIONS N
```

In the examples, *ddcu:* is the device name, where *dd* is the device code, *c* is the controller letter, and *u* is the drive unit number of one or more digits (for example, MUA100:). Using OPTIONS N allows you to display or print the release notes before the installation. You can then continue the installation or exit from the procedure.

2.2.2. Installation Process

VMSINSTAL starts the installation process with the display of messages and prompts similar to the following:

1. The VMSINSTAL process starts by displaying a message similar to the following:

```
OpenVMS Software Product Installation Procedure V8.4-2
It is 15-MAR-2018 at 15:40.
Enter a question mark (?) at any time for help.
```

2. The process then asks if you are satisfied with your system disk backup. Note that system disk backup is a prerequisite for the installation. If you are not satisfied with the disk backup, enter NO to terminate the installation and perform the backup. Otherwise, enter YES or press Return to begin the installation process:

```
Are you satisfied with the backup of your system disk [YES]? YES
The following products will be processed:
OSH1I V4.1
Beginning installation of OSH1I V4.1 at 15:40 No signature manifests
found for OSH1I041
No signature manifests found for OSH1I041
* Do you want to install this product [NO]? y
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS
$HELP.
Copyright 2018 VMS Software, Inc and Hewlett Packard Enterprise
Development, LP
```

3. The process displays the following message:

```
The following products will be processed:
OSH1I V4.1
Beginning installation of OSH1I V4.1 at 15:40 No signature manifests
found for OSH1I041
* Do you want to install this product [NO]? y
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS
$HELP.
Copyright 2018 VMS Software, Inc and Hewlett Packard Enterprise
Development, LP
Installation procedure for OSAP/H1 for OpenVMS Integrity Servers V4.1
```

4. Software and quota checks are now performed.

```
Now performing software prerequisite check... DECnet check successfully
performed
OMNI API check successfully performed
Now checking for available disk space... Now checking process quota
values...
Process quotas check successfully performed
Product: OSAP
Producer: VSI
Version: V4.1 Release Date: 31-JUL-2014
```

5. The process then displays the product identification and authorization key prompt.

```
Product: OSAP Producer: VSI Version: 4.1
Release Date: 31-Jul-2014
Does this product have an authorization key registered and loaded? YES
```

The VSI OSAP/H1 software can be installed but not run unless the Product Authorization Key (PAK) is registered.

- Enter YES to the authorization key prompt if you have registered and loaded the VSI OSAP/H1PAK.
- Enter NO if you have not registered your PAK. The installation continues but you cannot run either the Installation Verification Procedure (IVP) or the software. To run the IVP after the installation, you must register and load the PAK, then follow the IVP instructions in Section 3.1.

6. VMSINSTAL displays the following questions about purging the files replaced by the installation, and whether you want to run the IVP as part of the installation:

```
Do you want to purge files replaced by this installation [YES]? YES
Do you want to run the IVP after the installation [YES]? YES
```

7. The installation process then begins and displays a series of informational messages that include the following:

```
*****
This installation will now continue in an unattended mode
of operation, which will not require any user interaction.
*****
.
.
.
```

8. If you entered YES to run the IVP, the process displays informational messages about the progress of the installation, including the VSI OSAP/H1 and IVP startups.

```
*****
The OSAP/H1 for OpenVMS Integrity Servers V4.1 IVP will now be
invoked...
*****
Copyright 2018 VMS Software, Inc and Hewlett Packard Enterprise
Development, LP
Installation verification procedure for OSAP/H1 V4.1
```

9. The process then displays a series of messages about the success of the installation, then exits from the VMSINSTAL utility:

```
Now checking that files have reached target directories...
.
.
.
%OSH1-S-IVP, the OSAP/H1 V4.1 IVP has completed successfully
Installation of OSH1I V4.1 completed at 15:40
Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY
Creating installation data file: VMI$ROOT:[SYSUPD]OSH1I041.VMI_DATA
VMSINSTAL procedure done at 15:40
```


Chapter 3. Post-Installation Considerations

This chapter explains how to start, verify, and stop the VSI OSAP/H1 software, and provides account process information.

3.1. Running the Installation Verification Procedure

If you did not run the Installation Verification Procedure (IVP) as part of the installation, you should run it separately after you have installed and started the product.

You must enable the following privileges to invoke the IVP:

```
NETMBX
PRMMBX
SYSLCK
WORLD
GROUP
```

Enter the following command to run the IVP:

```
$ @SYS$TEST:OSAPH1_IVP
```

The VSI OSAP/H1 IVP verifies that the VSI OSAP/H1 system is correctly installed and displays informational messages as it progresses. If the IVP fails, it displays a message indicating the reason for the failure. Correct the problem and then re-execute the IVP. When the VSI OSAP/H1 IVP has executed successfully, the VSI OSAP/H1 software is ready for use.

The VSI OSAP/H1 IVP can fail for various reasons. The following table lists the possible causes for an IVP failure and ways to resolve the problem.

| Possible Cause | Resolution |
|---|--|
| Error while checking process quotas | See the required process quotas in Section 1.9 |
| Error while checking process privileges | See the required process privileges in this section. |
| Missing files error | See Appendix B for the list of files. |

3.2. Starting VSI OSAP/H1

If you do not invoke the IVP during installation, you must use the following command to start VSI OSAP/H1 (before running any application program):

```
$ @SYS$STARTUP:OSH1_STARTUP
```

Otherwise, you can execute the following command to start up VSI OSAP/H1 :

```
$ @SYS$STARTUP:OSH1_STARTUP [AST]
```

You must specify the AST parameter if you wish to use the AST-based version of VSI OSAP/H1 , rather than the thread-based version.

3.3. Stopping VSI OSAP/H1

You require the following privileges to invoke the VSI OSAP/H1 stop procedure:

```
DETACH  
PRMMBX  
SYSNAM  
CMKRNL  
SYSGBL  
PRMGBL  
WORLD  
GROUP
```

Enter the following command to manually shut down the VSI OSAP/H1 process:

```
$ @SYS$MANAGER:OMNI_STOP
```

If you want the VSI OSAP/H1 process to shut down each time the system is brought down, include the command in the site-specific shutdown file `SYS$MANAGER:SYSHUTDOWN.COM`.

3.4. Example Programs

The `SYS$COMMON:[SYSHLP.EXAMPLES.OSH1]` directory contains some examples of VSI OSAP/H1 usage.

3.5. Accessing the Release Notes

You can consult the VSI OSAP/H1 release notes at any time after the installation from the `SYS$HELP:` directory. `VMSINSTAL` labels the release notes file with the current product name and version number, such as `OSH104L.RELEASE_NOTES`.