VSI OpenVMS Version 8.4-1H1 Cover Letter and Release Notes

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Dear OpenVMS Customer,

VMS Software, Incorporated (VSI) is pleased to introduce the OpenVMS V8.4-1H1 operating system for HP Integrity server platforms, the first release of the OpenVMS computing environment by VSI. OpenVMS V8.4-1H1 provides all of the features contained in HP OpenVMS v8.4 and adds support for HP Integrity i4 servers based on the Intel© Itanium© Processor 9500 series.

The VSI engineering team worked closely with the HP OpenVMS engineering team to assure consistency of code between HP and VSI as the VSI team developed VSI OpenVMS V8.4-1H1. The OpenVMS V8.4-1H1 code base contains HP OpenVMS v8.4, defect repair from HP up to and including HP OpenVMS v8.4 Update1000, new hardware support for HP Integrity i4 servers, and new previously unreleased defect repair from VSI. As such, the software functionality of OpenVMS V8.4-1H1 is identical to HP OpenVMS v8.4. To enable the HP Integrity i4 servers, OpenVMS V8.4-1H1 also includes a new network device driver to enable the BL8xxc i4 LAN On Motherboard (LOM) NIC. All of the operating environment testing and qualification was performed on the HP Integrity i4 and HP Integrity i2 servers and associated IO options.

This cover letter discusses the following topics:

- OpenVMS V8.4-1H1 new features
- Documentation
- OpenVMS layered products
- Branding
- Open Source Applications
- Release notes, including restrictions and known issues

New Features

HP Integrity server i4 Blade systems include a new 10 Gigabit Ethernet LAN adapter. A new network device driver SYS$EWBE3.EXE is provided to enable this device. The network device driver SYS$EWBE3.EXE also supports the HP BLc NC553m FlexFabric adapter (mezzanine card form factor) and the HP AT111A PCIe 2-port CNA. These IO cards are available as options for the BL8xxc i4 Blades and the rx2800 i4 server.

System	Adapter	Driver	Device Name Prefix
BL8xx ci4	Emulex 10Gbe BE3 LOM	SYS$EWBE3.EXE	EW
BL8xx ci4	NC553m (mezz)	SYS$EWBE3.EXE	EB
rx2800 i4	AT111A	SYS$EWBE3.EXE	EB

The BE3 chip is a dual port device; normally two devices are configured, unless it is enabled for Flex-10 operation and a Flex-capable interconnect module is installed. The BE3 chip is a Converged Network Adapter; however, the OpenVMS driver only enables the NIC function.

The only device-specific characteristic that can be changed is flow control, which can be enabled or disabled via LANCP. You can change device-independent characteristics as you would for any other LAN device.

OpenVMS V8.4-1H1 Documentation

VSI OpenVMS V8.4-1H1 documentation is provided on an ISO 9660 CD to meet the needs of users of multiple formats. Before you install VSI OpenVMS V8.4-1H1, see the following documents, which can be found on the documentation CD:

- This cover letter
- VSI OpenVMS V8.4-1H1 Installation and Upgrade Manual
- VSI OpenVMS License Management Utility Manual
- VSI OpenVMS V8.4-1H1 Guide to Media
- VSI OpenVMS V8.4-1H1 Operating Environment Software Product Description
- VSI OpenVMS V8.4-1H1 Operating System Software Product Description
- End User License Agreement (EULA)

Additional OpenVMS documentation can be found on the VSI website www.vmssoftware.com and on the HP website http://www8.hp.com.

OpenVMS Layered Products

VSI has released new versions of many HP layered products. Note that although the VSI version of a layered product is a new version, its functionality is the same as the existing HP application that it replaces. Similar to the operating system, VSI and HP have made every effort to assure that the VSI version of the application is functionally equivalent to the HP version, and includes all available defect repair.

The following table shows the HP OpenVMS layered products that have been rebranded by VSI and which are included on the VSI OpenVMS operating environment or layered products media.

VSI Product Name	VSI Media Location	HP Product Name
VSI ACMS Dev	LP media	HP ACMS Dev
VSI ACMS Remote	LP media	HP ACMS Remote
VSI ACMS RT	LP media	HP ACMS RT
VSI ANT (Another Neat Tool)	OE media	HP ANT (Another Neat Tool)
VSI Availability Manager	OE media	HP Availability Manager
VSI AXIS2	OE media	HP AXIS2
VSI BASIC	LP media	HP BASIC
VSI C	LP media	HP C
VSI CDSA	OE media	HP CDSA
VSI COBOL	LP media	HP COBOL
VSI CSWS	OE media	HP CSWS
VSI CSWS_JAVA	OE media	HP CSWS_JAVA
VSI DCE	OE media	HP DCE
VSI DCPS	OE media	HP DCPS
VSI DECdfs	LP media	HP DECdfs
VSI DECforms Dev	LP media	HP DECforms Dev
VSI DECforms RT	LP media	HP DECforms RT
VSI DECnet Phase IV	OE media	HP DECnet Phase IV
VSI DECnet Plus	OE media	HP DECnet Plus
VSI DECset (includes CMS, DTM, ENVMGR, LSE, MMS, PCS, SCA)	LP media	HP DECset (includes CMS, DTM, ENVMGR, LSE, MMS, PCS, SCA)
VSI DECwindows Motif	OE media	HP DECwindows Motif
VSI Disk File Optimizer	LP media	HP Disk File Optimizer
VSI Fortran	LP media	HP Fortran
VSI HPBINARYCHECKER	OE media	HP BINARYCHECKER
VSI Kerberos	OE media	HP Kerberos
VSI LOGINPLUS	OE media	HP LOGINPLUS
VSI Pascal	LP media	HP Pascal
VSI Perl	OE media	HP Perl
VSI SAMBA (CIFS)	OE media	HP SAMBA (CIFS)
VSI Secure Sockets Layer (SSL)	OE media	HP Secure Sockets Layer (SSL)
VSI TCP/IP	OE media	HP TCP/IP
VSI UDDI	OE media	HP UDDI
VSI WBEM/CIM	OE media	HP WBEM/CIM
VSI WBEM Providers	OE media	HP WBEM Providers
VSI WSIT	OE media	HP WSIT
XML C for VSI OpenVMS[1]	OE media	XML C for HP OpenVMS

[1] While the kit name displays as XML_C, the kit contains XML_C++.

Branding

Copyright notices in layered products have been modified from HP to VSI. However, the text that appears in some help files, display screens, or other areas may still say HP. This will be modified in a future release.

Open Source Applications

Similar to the layered products, VSI has created new installation kits for many of the Open Source applications that HP has traditionally provided on the OE media. The version number of each PCSI kit has been incremented from the HP version, but the functionality of the VSI-provided Open Source applications is the same as the HP-supplied version of the applications. Open Source applications are provided without any warranty or support from VSI, except for the Open source applications bundled with the BOE. For more information about Open Source applications and sources, see http://h71000.www7.hp.com/opensource/opensource.html.

Release Notes

1. VSI OpenVMS V8.4-1H1 Operating System

VSI supports upgrades to VSI OpenVMS V8.4-1H1 from HP OpenVMS v8.4 U900 or v8.4 U1000.

- Perform the VSI OpenVMS V8.4-1H1 Upgrade on Backup System Disk

  VSI strongly recommends that you make a copy of your system disk prior to beginning an upgrade, and that you perform the upgrade on the backup copy.

- VSI OpenVMS V8.4-1H1 Upgrade Procedure May Report "InsDepErr" Error

  The upgrade from HP OpenVMS Version 8.4 to VSI OpenVMS Version 8.4-1H1 includes a step called rebranding. This step creates a new PCSI database with the required changes, allowing the OpenVMS platform to be upgraded correctly. However, some layered products must be installed in a particular sequence. VSI has identified as many of these as possible, and the upgrade procedure will report any that do not install correctly. At the end of rebranding, any products that did not install correctly will be listed, usually as “InsDepErr”. No action is needed; however, please report this through your support channels.

2. Licensing Changes

OpenVMS V8.4-1H1 is the first operating system release from VMS Software, Inc., and contains several changes in licenses and license management.

- With the notable exception of Operating Environment (OE) Product Authorization Keys (PAKs), all Digital, Compaq, HP and third-party PAKs should continue to function as they have on previous versions of OpenVMS.
- VSI supports both the Base Operating Environment (BOE; license name *VSI OPENVMS-I64-BOE*) and the High Availability Operating Environment (HAOE; license name *VSI OPENVMS-I64-HAOE*).
- Only OE PAKs with a producer value of "VSI" will load on OpenVMS V8.4-1H1. An attempt to load a non-VSI OE PAK will result in an informational message. Please note that in a cluster with a common license database and both HP and VSI versions of OpenVMS registered, the systems running VSI OpenVMS may issue one or more messages similar to the following example during boot. This is not an error.

%LICENSE-I-NOTLOADED, HP OPENVMS-I64-MCOE is not a valid license and was not loaded

- The default producer for the F$LICENSE() DCL lexical function has been changed to "VSI".
- The code in F$LICENSE has been enhanced to allow the specific producer of "DEC" or "HP" to function in a manner consistent with having omitted the producer in previous versions.

3. ADA

The VSI OpenVMS V8.4-1H1 Layered Product Kit does not contain Ada. If you require Ada, please contact Adacore.com.

4. AUTOGEN

The AUTOGEN procedure is written in DCL, which uses 32-bit values for arithmetic. With the advent of very large memory systems, these values can easily overflow and cause unpredictable interpretations for AUTOGEN when setting various system parameters. Similarly, some of these values can overflow when using very large disks for page or swap files.

Some of these issues were addressed starting in HP OpenVMS v8.4. However, there are still several known issues and VSI is investigating a much different approach for a future release. In most cases, as a temporary workaround you can set a specific value in MODPARAMS.DAT for any affected system parameters.

One easily identifiable case causes a looping behavior during system startup after AUTOGEN, because the Bus-Addressable Pool memory (BAP) parameters are incorrectly calculated. The behavior shows the following symptom at boot:

```
%SYSBOOT-E-BADBAP, NPAG_BAP_* parameters do not match memory layout.
%SYSBOOT-I-SETBAP, Setting NPAG_BAP parameters to default and requesting AUTOGEN/reboot.
```

This is followed by an AUTOGEN and reboot which then encounters the same issue. To avoid this issue, add the following line to MODPARAMS.DAT:

```
NPAG_BAP_MAX_PA = -1
```

This instructs AUTOGEN to use the largest amount possible for the BAP physical memory limit, which is the default behavior anyway. If you already had a particular limit for this value, then the problem should not occur.

Another known symptom involves the page, swap or dump file, when the desired file size should be increased. However, AUTOGEN informs the user to create one or more of these files with SYSGEN, but with a /SIZE=0 qualifier. This recommendation should be ignored. The correct value may be displayed at an earlier point in the AGEN$PARAMS.REPORT file generated by AUTOGEN, and should be substituted as the desired size rather than 0.

5. BL8x0c i4 Systems

The following restrictions apply to BL8x0c i4 systems:

- BL8x0c i4 systems are not supported as satellite cluster members in OpenVMS V8.4-1H1. We plan to remove this restriction in a future release.
- BL8x0c i4 systems cannot be installed or upgraded via an InfoServer over the network in OpenVMS V8.4-1H1. We plan to remove this restriction in a future release.
- VSI OpenVMS V8.4-1H1 supports a maximum of 32 cores in an instance of the operating system. Therefore, to operate VSI OpenVMS V8.4-1H1 on a BL890c i4 server, you must partition the server such that each partition has a maximum of 32 cores.

6. C++

The VSI OpenVMS V8.4-1H1 Layered Product kit does not contain C++. If you require C++, you must acquire it from HP.

7. HP Layered Products for OpenVMS

Behavior of HP OpenVMS Layered Products After Upgrade or Installation

If you upgrade an HP OpenVMS v8.4/U900/U1000 system to VSI OpenVMS V8.4-1H1 and you have HP layered products on the HP OpenVMS v8.4 system disk, those products should continue to operate after the upgrade to VSI OpenVMS V8.4-1H1. However, if you perform a full installation of VSI OpenVMS V8.4-1H1 and then attempt to install an HP layered product, the layered product installation will fail. If you require assistance with an HP-supplied layered product kit that does not work, contact VSI.

Layered Products Developed by HP for OpenVMS

VMS Software, Inc is in process of creating VSI versions of the OpenVMS layered products formerly developed by HP. If you need to run an HP application on your VSI OpenVMS V8.4-1H1 system that meets the following criteria, please contact your HP support representative to understand its support status:

- The application is not yet available from VSI
- The HP application is qualified with HP OpenVMS V8.4

8. HP System Management Home Page

The HP System Management Home Page (SMH) product has not been updated by VSI for Integrity i4 server support. If your system has HP SMH installed on it and you upgrade to VSI OpenVMS V8.4-1H1, many of the generic operating system parameters will be displayed correctly; however some of the i4 CPU and system board fields will not display. VMS Software, Inc will fix this in a future release of the SMH product.

9. Java 1.6

The VSI OpenVMS V8.4-1H1 Operating Environment kit does not contain Java 1.6. If you require Java, you must acquire the OpenVMS Java kit from HP.

10. LDDRIVER

If you have installed an updated version of LDDRIVER using a kit obtained from the Internet, the installation of VSI OpenVMS Version 8.4-1H1 will revert LDDRIVER to Version 8.2, the version currently supported by VSI. You must re-apply the LDDRIVER kit after the OpenVMS V8.4-1H1 operating system upgrade.

11. Oracle Rdb

If you use Oracle Rdb, contact Oracle to verify that your Rdb version will install and run on HP Integrity i4 servers. Oracle Rdb performs an install-time and run-time check for the processor type, and some currently available Rdb versions fail this check. Note that Oracle 10g and 11g do not have this same check, so nothing special is needed there.

12. PCSI Kits from 3rd Parties

Third Party PCSI kits designed to be installed on HP OpenVMS V8.4 may not install on VSI OpenVMS V8.4-1H1, because of dependencies built into the kit. VSI has created a command procedure, SYS$UPDATE:VSI$CVT_KIT_DEPENDENCY.COM, which will modify a kit to update any such dependencies.

Invoke SYS$UPDATE:VSI$CVT_KIT_DEPENDENCY.COM with or without parameters; the procedure will prompt for the name of the product and its location. If you invoke it with parameters, they are as follows:

P1	The name of the product (can include wildcards, in which case a list of kits found will be displayed and the desired kit can be chosen).
P2	The location of the kit (device + directory, which can include search lists and wildcards).
P3	If this is "NOCONFIRM" and only one kit matching P1 is found at P2, then the confirmation question is skipped.

The converted kit will be in the same location as the input kit; its version number will be incremented one higher. The dependencies will be changed in the Product Description File (SOFTWARE statements and functions, and APPLY TO statements). The kit will then be repackaged. If the input kit was compressed, then the output kit will also be compressed.

NOTE:

1. When using the repackaged kit to install a product, you must specify /OPTIONS=NOVALIDATE_KIT (no manifest file is created).
2. SYS$UPDATE:VSI$CVT_KIT_DEPENDENCY.COM should be run from the SYSTEM account, or from an account with full privileges.

13. PCSI: Saved Database

The rebranding procedure employed during the upgrade from HP OpenVMS v8.4 to VSI OpenVMS V8.4-1H1 creates a snapshot of the existing PCSI database from prior to the upgrade. This is in the container file (LD disk) SYS$SYSDEVICE:[VMS$COMMON]PCSI$DATABASE_HISTORY.DSK.

The following commands allow you to extract pre-upgrade history from the file:

```
$ IF .NOT. F$GETDVI("LD:", "EXISTS") THEN @SYS$STARTUP:LD$STARTUP
$ LD CONNECT SYS$SYSDEVICE:[VMS$COMMON]PCSI$DATABASE_HISTORY /SYMBOL
$ LD_DEVICE = "LDA" + LD_UNIT + ":"
$ MOUNT 'LD_DEVICE' PCSIDATABASE
$ DEFINE/USER PCSI$SYSDEVICE 'LD_DEVICE'
$ DEFINE/USER PCSI$SPECIFIC PCSI$SYSDEVICE:[SYS0.]
$ PRODUCT SHOW HISTORY/REMOTE/FULL
$ DISMOUNT 'LD_DEVICE'
$ LD DISCONNECT 'LD_DEVICE'
```

The container disk will look similar to this:

```
Directory LDA3:[VMS$COMMON]

PCSI$PRE_UPGRADE_HISTORY.LIS;1
PCSI$PRE_UPGRADE_PRODUCTS.LIS;1
SYSEXE.DIR;1

Total of 3 files.

Directory LDA3:[VMS$COMMON.SYSEXE]

HP-I64VMS-AVAIL_MAN_BASE-V0804.PCSI$DATABASE;1
HP-I64VMS-C-V0703-18.PCSI$DATABASE;1
...
PCSI$FILE_SYSTEM.PCSI$DATABASE;1
PCSI$PROCESSOR.PCSI$DATABASE;1
PCSI$ROOT.PCSI$DATABASE;1

Total of 42 files.

Grand total of 2 directories, 45 files.
```

The two text files in [VMS$COMMON] provide easier access to the data most likely to be required, while the actual database provides an auditable trail of the pre-upgrade history.

14. Shutting down TCP/IP, SSH or OpenVMS from an SSH terminal

The TCPIP$SSH_SHUTDOWN.COM procedure should not be run from a process logged in via SSH. The procedure does not check for this condition and will terminate the service without warning. If the system can only be accessed via SSH, this leaves the system in an unusable state that can then only be resolved by reboot or from external action from another node if in a cluster.

This behavior will be addressed in a future release.

Note that the OpenVMS shutdown procedure SHUTDOWN.COM will correctly notice that an SSH session is in use and allow the system shutdown to proceed normally. However, be sure that there is nothing in the site-specific SYSHUTDWN.COM procedure that attempts to shutdown TCP/IP, or it will exhibit this same incorrect behavior and terminate the process prior to completing the system shutdown.

15. SYS$ANNOUNCE and SYS$WELCOME Login Messages after Upgrading to V8.4-1H1

The system manager may customize the messages that a user sees when logging into OpenVMS. These are controlled by logical names found in SYS$MANAGER:SYSTARTUP_VMS.COM. SYS$ANNOUNCE is displayed before the username and password prompts, and SYS$WELCOME just after a successful login. By default, unless modified by the system manager, these will contain a message displaying the operating system name and version.

Because VSI OpenVMS V8.4-1H1 has changed the operating system name, systems which have been upgraded from a previous OpenVMS version may display a stale operating system name. All of the SYS$MANAGER:SY*.COM procedures are left intact during an upgrade, to preserve any changes made by the system manager during the previous version of OpenVMS, so the prior format of the name will be continued after an upgrade.

To use the new format of the name, refer to the SYSTARTUP_VMS.TEMPLATE file, which contains the default content for SYSTARTUP_VMS.COM during an initial system installation. You may easily cut and paste the appropriate section to update the message text in your SYSTARTUP_VMS.COM procedure.

The default operating system name and version format for VSI OpenVMS V8.4-1H1 in these messages is:

VMS Software, Inc. OpenVMS (TM) IA64 Operating System, V8.4-1H1

16. %SYSTEM-F-BADSTACK error after ^Y and STOP from DCL

After a Control-Y to interrupt an image or procedure from DCL, a STOP command used to terminate the prior context may result in the following exception:

```
Improperly handled condition, bad stack or no handler specified.
  Signal arguments:    Number = 0000000000000005
                       Name   = 000000000000000C
                                0000000000000004
                                000000007FF8BCAC
                                FFFFFFFF80002750
                                0000000000000012

[Register dump and Interrupted Frame information]

%SYSTEM-F-BADSTACK, bad stack encountered during exception dispatch
```

This error is due to incorrect exception handling which leaves stale information on the user stack. The error is mostly benign since the image has now indeed been terminated and the process may continue normally afterwards.

Note that by using EXIT instead of STOP, this problem can be avoided when it is ok to allow any exception handling from the interrupted image to occur (which is true for OpenVMS commands which invoke an image).

This problem was introduced in HP OpenVMS v8.4 Update0600. A fix will be provided in a future VSI OpenVMS update.

17. Volume Shadowing

HP has issued the following advisory for Volume Shadowing: On OpenVMS V8.4 for Alpha and Integrity, using the DISMOUNT keyword (for minicopy) in host-based mini-merge (HBMM) policy definitions can result in inconsistent data between shadow set members when minicopy is used.

Scope of Impact

This issue is encountered only on HP OpenVMS V8.4 when you use the DISMOUNT keyword (for minicopy) in your HBMM policy definitions where the shadow set is mounted on nodes having only local bitmaps and such nodes are performing I/O to the shadow set.

Resolution

You must avoid using the DISMOUNT keyword (for minicopy) in your HBMM policy definitions in the described scenario.

HP will soon release a patch to address this issue. For more information, see http://h71000.www7.hp.com/openvms/products/volume-shadowing/index.html

Impact to V8.4-1H1

This same behavior is present in VSI OpenVMS V8.4-1H1. VSI will release a patch to address this issue in the near future.

18. VSI DECset Version 12.9 for VSI OpenVMS

VSI DECset Version 12.9

The DECwindows interface to DECset applications now works as expected. It did not work in the prior two releases of HP DECset. This applies to the applications CMS, DTM, ENVMGR, LSE, MMS, PCA, and SCA.

VSI Environment Manager (ENVMGR) Version 1.9

When the DECwindows interface to ENVMGR terminates, an access violation occurs, creating the files DECSET$ENVMGR_ERR.LOG and DECSET$ENVMGR_OUT.LOG in the SYS$LOGIN: directory. This misbehavior also exists in HP DECset V12.8 ECO1. It did not happen in HP DECset V12.8 ECO2 or ECO3, because, as noted above, the DECwindows interface did not work in those two versions. The access violation does not result in a loss of data.

19. VSI DECwindows and OPCOM Behavior at System Startup

Modern systems may include graphics hardware or video capability even if the system is configured as a server, not a workstation. By default, if a supported graphics device exists, the DECwindows components required for workstation support will be loaded during system startup. Additionally, the behavior of OPCOM and the operator console OPA0: will be modified suitably for a workstation environment.

If your system is *not* a DECwindows graphics workstation, add the following command to SYS$MANAGER:SYLOGICALS.COM:

```
$ DEFINE/SYSTEM/EXECUTIVE DECW$IGNORE_WORKSTATION TRUE
```

This will prevent unintended DECwindows actions for server-based systems with graphics capability.

To insure that all components behave as intended, VSI recommends that you reboot the system after changing the DECW$IGNORE_WORKSTATION logical name.

The behavior of DECwindows startup has also been enhanced in VSI OpenVMS V8.4-1H1. The OPC$OPA0_ENABLE logical name is now correctly honored for systems which want to explicitly control the behavior of the operator terminal, for either workstation or server-based systems.

The logical names that control OPCOM behavior are documented in the SYLOGICALS.COM procedure, and its equivalent original state in SYLOGICALS.TEMPLATE.

20. VSI LOGINPLUS V2.0a

This is the first release of VSI's LOGINPLUS patch for OpenVMS V8.4-1H1. This patch is functionally equivalent to HP's LOGINPLUS patch V2.0 for OpenVMS V8.4.

This patch is intended for those customers who wish to switch from using traditional SYSUAF-based login to ACME login or back. If you upgraded an HP OpenVMS V8.4 system to VSI OpenVMS V8.4-1H1, and you had previously installed HP's LOGINPLUS on your V8.4 system, VSI OpenVMS V8.4-1H1 has already installed the correct files on your system disk. You can ignore the installation or upgrade procedure message that says the VSI I64VMS VMS841_LOGINPLUS V2.0-A patch may be required. You can also ignore the upgrade dialogue that says the HP LOGINPLUS kit has been removed.

Note: HP's LOGINPLUS patch V2.0 can also be used to install a patch for the traditional login. This patch is already included in VSI OpenVMS V8.4-1H1, and thus there is no need to use this kit unless you wish to switch from traditional login to ACME, or from ACME to traditional login.