



Errata for HP OpenVMS Support for HP Integrity rx3600 and rx6600 Servers with PCI-Express I/O Backplane

Introduction

This document supplements the *HP OpenVMS Version 8.3 Release Notes* and the *HP Integrity rx3600 Server and rx6600 Server Upgrade Guide*, which are available from the following web sites:

- http://h71000.www7.hp.com/doc/os83_index.html (for OpenVMS documents)
- <http://docs.hp.com/> (for Integrity server documents)

This document contains new release information for OpenVMS customers using the optional PCI-Express I/O backplane in rx3600 or rx6600 servers. Read this document before configuring or booting your system.

Required OpenVMS patches

The minimum supported operating system version for rx3600 and rx6600 servers is OpenVMS V8.3. Several patches are required to enable full support for the optional PCI-Express I/O backplane.

The following patches (or later) are required:

- **VMS83I_UPDATE-V0200**
- **VMS83I_LAN-V0400**
- **VMS83I_FIBRE_SCSI-V0300**
- **VMS83I_RX3600_RX6600-V0100**

Refer to the following web site to download current patches:

<http://www.itrc.hp.com/service/patch/mainPage.do>

Please read the release notes supplied with each patch kit for installation instructions and patch contents.

If you purchased a new system with OpenVMS Factory Installed Software (FIS), some of the required patches may already be installed on your system. Consult the release notes on the system disk in file:

SY\$HELP:FIS.RELEASE_NOTES

If you are upgrading an existing server to use the new PCI-Express I/O backplane, install the OpenVMS patches **before** upgrading the server's firmware and installing the new backplane. OpenVMS customers do **not** need to re-install the operating system. Some OpenVMS device names may change due to the different order in which I/O cards are discovered and named.

If you are installing OpenVMS V8.3 on a new rx3600 or rx6600 server with the PCI-Express I/O backplane, you may not be able to boot the V8.3 installation media and install OpenVMS with some I/O card configurations. See the following section for temporary workarounds that will allow you to install OpenVMS and install the required patches.

Installing OpenVMS with the PCI-Express I/O backplane

The PCI-Express backplane for rx3600 and rx6600 servers contains four PCI-Express slots:

- Slots 3 and 4 are PCI-Express 8-lane Single Data Rate (SDR) slots.
- Slots 5 and 6 are PCI-Express 8-lane Double Data Rate (DDR) slots.

Some device configurations in slots 3 and 4 will not work until the required patches are installed. You may have to remove or relocate some PCI-Express adapters temporarily in order to install OpenVMS V8.3 and patches. In addition, boot options created by the OpenVMS installation or by the `BOOT_OPTIONS` procedure may not work without the patches.

1. There are no restrictions on supported I/O cards in any PCI-X slots (slots 1-2, 7-10).
2. Check for PCI-Express cards installed in slots 3 and 4. These may have to be temporarily removed or relocated to meet the conditions below. Refer to the “Removing and Replacing a Hot-Pluggable PCI/PCI-X/PCI-E Card” section in the *HP Integrity rx3600 User Service Guide* or *HP Integrity rx6600 User Service Guide* for instructions.
3. Do not install an HP PCI-Express FibreChannel adapter (AD300A) in slot 3 or 4 until the OpenVMS patches have been applied. To install OpenVMS on a PCI-Express FibreChannel device, install the adapter in slot 5 or 6.
4. Do not install HP Smart Array P400 adapters (405132-B21) in both slots 3 and 4 until the OpenVMS patches have been installed. A single P400 adapter in slot 3 or 4 (but not both) will function without problems.
5. Install OpenVMS V8.3 I64 from the installation DVD. Shut down the system after the installation procedure has finished.
6. Manually boot OpenVMS by selecting the EFI Shell from the EFI Boot Manager. Enter the following command at the EFI Shell prompt, where `fsn:` is the EFI boot device associated with the system disk:

```
Shell> fsn:\efi\vms\vms_loader.efi
```

Refer to the “Booting the OpenVMS I64 System Disk” section in the *HP OpenVMS Version 8.3 Upgrade and Installation Manual*.
7. Install the required OpenVMS V8.3 patches. Shut down the system.
8. If you relocated or removed an AD300A FibreChannel adapter in step 3, HP recommends that the cards remain in slot 5 or 6 for best performance. The cards are also supported in slot 3 or 4.
9. If you relocated or removed a Smart Array P400 adapter in step 4, you should replace it in its original location in slot 3 or 4.
10. Manually boot OpenVMS again as in step 6. Note that the `fsn:` device name for your system disk may have changed.
11. Execute the `BOOT_OPTIONS` utility (`SYS$MANAGER:BOOT_OPTIONS.COM`) to validate the boot options and correct them if necessary.

AUTOGEN does not properly size the amount of dynamic memory (GH_EXEC_DATA)

When booting OpenVMS V8.3 I64, or after installing OpenVMS and running AUTOGEN, you **may** see the following error message on the operator console:

```
SYSTEM-F-INSMEM, insufficient dynamic memory
```

This may happen if AUTOGEN fails to calculate an acceptable size for system parameter `GH_EXEC_DATA`. The condition depends on the details of your hardware configuration and applications. It may prevent applications like DECwindows, TCP/IP Services, Availability Manager, and others from starting.

To work around this problem, add the following line to `SYS$SYSTEM:MODPARAMS.DAT` to ensure that AUTOGEN will compute an acceptable value for `GH_EXEC_DATA`:

```
ADD_GH_EXEC_DATA = 512          ! OpenVMS I64 V8.3 workaround
```

Run the AUTOGEN utility to adjust the system parameters. Note that the AUTOGEN report file (SYS\$SYSTEM:AGEN\$PARAMS.REPORT) incorrectly fails to report that GH_EXEC_DATA has been adjusted in MODPARAMS.DAT.

If your system fails to start due to this error, you will not be able to edit MODPARAMS.DAT and run AUTOGEN. In this case, perform a conversational boot and modify the GH_EXEC_DATA system parameter to 1536 at the SYSBOOT prompt as shown in the example below. In the example, fsn: is the EFI boot partition for your OpenVMS system disk:

```
Shell> fsn:\efi\vms\vms_loader.efi -fl 0,1

...

SYSBOOT> set gh_exec_data 1536
SYSBOOT> continue
```

After the system boots, edit MODPARAMS.DAT and run the AUTOGEN utility as described above.

These problems will be fixed in a future release of OpenVMS.

Additional web kit and patch for OpenVMS rx3600 and rx6600 support

These optional OpenVMS tools have been updated since V8.3 was released. Obtain the latest version of these tools for rx3600 and rx6600 support.

- If you will configure the Smart Array 6402 or 6404 RAID adapters, refer to either of the following web sites to download the MSA\$UTIL kit. MSA\$UTIL is a system management and diagnostic tool capable of configuring integrated RAID functionality for MSA arrays and for the HP Smart Array 5302, 5304, 6402, and 6404 adapters.

<http://h71000.www7.hp.com/openvms/products/MSA>

<http://h71000.www7.hp.com/openvms/products/acuxe>

- If you use Systems Insight Manager, refer to this web site to download the latest Management Agents patch, V3.4-2:

http://h71000.www7.hp.com/openvms/products/mgmt_agents/index.html

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