HP-UX Virtual Partitions Release Notes

vPars A.05.01

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1 vPars Release Notes

What is in this Document

This document covers the vPars A.05.01 release.

The first chapter covers

- What's New
- Customer-Requested Fixes in this Version
- vPars Documents
- Ordering vPars

The second chapter covers

- Required Patches
- Virtual Partition Checklist
- Mixed HP-UX 11i v2/v3 vPars in vPars A.05.xx
- Switching Modes on Integrity

The third chapter covers

- Known Problems and Workarounds

vPars Synopsis

The vPars (Virtual Partitions) product allows you to run multiple instances of HP-UX simultaneously on one server or nPartition by dividing a server or nPartition into virtual partitions. Each virtual partition is assigned its own subset of hardware, runs a separate instance of HP-UX, and hosts its own set of applications. vPars provides application and OS (operating system) fault isolation.

What's New in this Version of vPars (A.05.01)

This section describes what's new in this version of vPars.

For a comparison on existing vPars version, see the "vPars Version Comparisons" chapter in the document *HP-UX Virtual Partitions Administrator's Guide*.

- **New Titles for HP-UX Systems Administration Documents**

  Coincidental with the HP-UX 11.31 Release, some titles of HP-UX administration documents have changed. All of these documents can be obtained from http://docs.hp.com.

Table 1-1 New Titles for HP-UX Documents

Previous Title	Is Now Titled
Installing and Managing HP-UX Virtual Partitions	*HP-UX Virtual Partitions Administrator's Guide*
HP System Partitions Guide	*nPartition Administrator's Guide*
Managing Systems and Workgroups	*HP-UX System Administrator's Guide*

- **Memory Resources:**

  With vPars A.05.01, you can now dynamically migrate memory; in other words, you can now add and delete memory while the virtual partition is UP (online).

  In addition to memory being either CLM or ILM, memory is now also either:

  — **float**

    when the virtual partition is UP, float memory can be added or deleted.

    To specify the memory as float, you must append `:float` or `:f` to the assignment specifications. Therefore, if you wish to add *and* delete memory online, you **must specify `:float` or `:f`** on the command line when you assign memory.

  — **base**

    when the virtual partition is UP, base memory can *only* be added. **base** is the **default**.

NOTE   Memory acquires the base or float attribute *only when it is assigned to a virtual partition*. The available memory ranges within the monitor that are not bound to any virtual partition do not have any base or float attribute.

For more information, see the A.05.01 Resources chapter in the *HP-UX Virtual Partitions Administrator's Guide*.

NOTE   Dynamic memory migration requires the firmware revisions indicated in the *HP-UX Virtual Partitions Ordering and Configuration Guide*.

- **I/O Resources**

  Managing I/O resources has not changed since A.04.xx. However, some I/O cards may be unsupported, especially in a mixed HP-UX 11i v2/v3 vPars environment. See the *HP-UX Virtual Partitions Ordering and Configuration Guide* for more information.

  Mass Storage Stack Formats

  Although the new agile view of mass storage (with new hardware path formats and new persistent device special files) is supported within the 11.31 OS virtual partitions, the hardware paths are not supported for use on the vPars command line, and vPars commands will only use legacy hardware paths in their output. You should continue to use the legacy hardware path format that existed in previous vPars releases when using the vPars commands; for HP-UX 11i v3 (11.31), ioscan's default output will continue to show the legacy format.

  However, wherever the new formats are supported by other 11.31 HP-UX commands and tools, you can use these new formats within the virtual partitions running 11.31. Nevertheless, vPars does not support disabling legacy mode.

  For information on the agile view of mass storage, including the new hardware paths, device special files, and legacy mode, see the white paper *The Next Generation Mass Storage Stack* in the Network and Systems Management section of http://docs.hp.com, under Storage Area Management.

- **CPU Resources**

  Assigning CPUs has not changed since A.04.xx. Although some new CPU hardware allows for logical CPUs (LCPUs), CPU resources remain assigned on a core basis.

  Hyperthreading (HT ON/OFF)

  Hyperthreading (HT) of the new CPU hardware is supported in 11.31 vPars environments. Hyperthreading can be set to ON or OFF from either the EFI shell using cpuconfig, or from the vPars Monitor prompt using threads. However, it cannot be set using the setboot command from within virtual partitions.

For a primer on setting hyperthreading, see the A.05.01 Resources chapter in the *HP-UX Virtual Partitions Administrator's Guide*. For complete information on hyperthreading, see the *nPartitions Administrator's Guide*.

NOTE	In order to work in a vPars environment, hyperthreading requires the firmware revisions indicated in the *HP-UX Virtual Partitions Ordering and Configuration Guide*.

- **Pending CPU and Memory Migration Operations**

  After dynamically adding CPUs or Memory to a virtual partition, you can cancel the operation if it is pending by using vparmodify -C *sequenceID*, where sequenceID is the corresponding sequenceID number shown in the vparstatus output.

  For more information, see the A.05.01 Resources chapter in the *HP-UX Virtual Partitions Administrator's Guide*.

- **Mixed HP-UX 11i v2/v3 vPars Environments**

  Beginning with vPars A.05.01, you can use a mixed HP-UX 11i v2/v3 vPars environment. A mixed HP-UX 11i v2/v3 vPars environment allows you to have a vPars A.05.01 Monitor and database that simultaneously supports virtual partitions running vPars A.05.01 on HP-UX 11i v3 (11.31) and virtual partitions running vPars A.04.02 or later on HP-UX 11i v2 (11.23). Virtual partitions running vPars A.03.xx on HP-UX 11iv1 (11.11) are not supported in a mixed HP-UX 11i v2/v3 vPars environment. Please note that mixed does not refer to mixing PA and Integrity platforms.

  For detailed information, see the Mixed HP-UX 11i v2/v3 vPars section in the Planning chapter of the *HP-UX Virtual Partitions Administrator's Guide*.

- **Updating from vPars A.04.xx to A.05.01**

  Updating directly from vPars A.04.xx to A.05.01 is supported.

  Updating directly from vPars A.03.xx to A.05.01 is *not* supported, because updating directly from an 11.11 OE to an 11.31 OE is not supported,

  For instructions on updating, see the Installation chapter in the *HP-UX Virtual Partitions Administrator's Guide*.

- **PCI OL* 11.31 Features**

  The PCI OL* error recovery features that are supported in 11.31 are also supported within a vPars environment. For complete information on PCI OL* error recovery, see the following documents available at http://docs.hp.com:

— *PCI Error Recovery Product Note*
— *PCI Error Recovery Support Matrix*

- **Obsoleted Servers**

  The servers that are not nPartitionable are no longer supported with vPars A.05.01, but they will continue to be supported with vPars A.03.xx and A.04.xx. These servers are:

  — L3000/rp54xx
  — N4000/rp7400

Customer-Requested Fixes in This Version

This section lists the customer-requested fixes in this version of vPars. For detailed information, see the HP ITRC at http://itrc.hp.com.

- JAGaf17843

  adds logging of vPars configuration changes to `/var/adm/syslog/syslog.log`.

- JAGaf49995

  corrects real-time clock handling in vPars.

- JAGaf68955

  corrects a vPars console hang using terminal emulators.

- JAGaf69695

  improves error messages printed by `vparstatus`.

- JAGaf83744

  updates the EFI boot path for monitor boot disk automatically during installation.

- JAGaf96553

  removes the unnecessary monitor warning:
  `read_ss_nvm: Cannot validate NVM - -2`.

- JAGaf97095

  eliminates an extra reboot after a vPar is recovered in nPars mode.

- JAGag08408

  adds progress indicator for `vparcreate` when mapping hardware paths to EFI paths.

- JAGag10038

  corrects possible corruption of `/usr/conf/gen/mapfile` by `vparinit`.

- JAGag12771

  corrects a multi-second vPars console hang which triggered a Service Guard failover.

vPars Documents

This section lists the official vPars documents. All documents, including additional topic-specific papers related to using vPars, are available at the HP Documentation web site at http://docs.hp.com/hpux/11i/index.html#Virtual%20Partitions.

- *HP-UX Virtual Partitions Release Notes* (this document)

  This describes what's new as well as known problems for a specific vPars release.

- *HP-UX Virtual Partitions Administrator's Guide* (formerly *Installing and Managing HP-UX Virtual Partitions*)

  This is the vPars systems administrator's guide that describes basic concepts and common tasks for the vPars product.

- *HP-UX Virtual Partitions DVD Booklet/Read Before Installing HP-UX Virtual Partitions*

  This describes the contents of the vPars DVD. For known problems and other vPars release-specific information, see the *HP-UX Virtual Partitions Release Notes* (this document).

- *HP-UX Virtual Partitions Ordering and Configuration Guide*

  This document contains information on licensing and version requirements for the vPars product and related HP-UX products, such as HP-UX 11i Operating Environments (OEs), for servers using vPars. The document also contains the information on supported hardware, firmware, I/O cards and devices, and other HP-UX products used with vPars.

- Topic Specific Papers:

  — *CPU Configuration Guidelines for vPars*
  — *Securing Virtual Partitions with HP-UX Role-Based Access Control*
  — *Using Golden Images with Virtual Partitions*
  — *Kernel Memory Allocation*
  — *LPMC and resulting CPU States*
  — *LVM & vPars IO Backplane Upgrade*
  — *LVM/VxVM and vPars sx2000 Upgrade*
  — *Resizing vPars automatically with HP-UX Workload Manager*
  — *Booting, Installing, Recovery, and Sharing in a vPars Environment from DVD/CDROM/TAPE/Network*

Ordering vPars

Product Numbers

vPars A.04.01 and later have different product numbers than vPars A.03.xx and earlier:

    T1335CC   vPars A.05.xx for HP-UX 11i v3 (11.31)
    T1335BC   vPars A.04.xx for HP-UX 11i v2 (11.23)
    T1335AC   vPars A.03.xx for HP-UX 11i v1 (11.11)

Software Depot

You can order this release of vPars from the HP Software Depot at:

    http://www.hp.com/go/softwaredepot

For licensing and configuration information as well as required firmware, see the *HP-UX Virtual Partitions Ordering and Configuration Guide*.

NOTE   Note: the home of the HP Software Depot has changed

              from: http://software.hp.com
              to: http://www.hp.com/go/softwaredepot

The direct links to the vPars products on the HP Software Depot are:

- vPars A.05.xx:

  http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?product Number=T1335CC

- vPars A.04.xx:

  http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?product Number=T1335BC

- vPars A.03.xx:

  http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?product Number=T1335AC

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2 Read Before Installing

This section contains helpful information that you should read before installing vPars, including the following:

- Required Patches and Patch Bundles
- Virtual Partition Checklist
- Mixed HP-UX 11i v2/v3 vPars Environments in vPars A.05.xx
- Switching Modes on Integrity Systems

Patches and Patch Bundles

For vPars A.05.01 systems, you must install patch PHSS_36739 if you plan to use the vPars dynamic memory migration feature. This patch fixes JAGag43006 ("Memory got removed from an active partition during memory OLA").

CAUTION	PHSS_36739 must be installed on vPars A.05.01 systems when using the vPars dynamic memory migration feature. Without this patch, in rare instances, an online memory addition can result in an online memory addition abort, a system panic, an HPMC, an MCA, or incorrect data.

This patch is available at the HP IT Resource Center (ITRC) at:

http://itrc.hp.com

To download patches from the ITRC, visit the above website and select the **maintenance and support for hp products** link.

vPars Checklist

This section is a brief checklist of common but significant items that you should check while performing your vPars setup.

Firmware Checklist

✓ **Check Server Firmware:**

Please check the *HP-UX Virtual Partitions Ordering and Configuration Guide* for the required server firmware.

For the non-nPartitionable systems, please note that firmware upgrades must be done outside of the vPars environment (in standalone mode).

For nPartitionable systems, please call your HP Support Representative.

✓ **Networking and IO Card Firmware:**

Please check the *HP-UX Virtual Partitions Ordering and Configuration Guide* for the required card firmware.

You should also check the firmware on new cards because it is possible they have not been updated with the firmware required for vPars.

Virtual Partition Checklist

Each virtual partition requires a *minimum* of

✓ at least one CPU

✓ its own boot disk

✓ enough memory for the operating system and its applications

✓ a network card if you wish to have networking available for the virtual partition.

Mixed HP-UX 11i v2/v3 vPars Environments in vPars A.05.xx

This section is included in Chapter 3 of the *HP-UX Virtual Partitions Administrator's Guide* document but is duplicated here so that users are aware of this when using a mixed HP-UX 11i v2/v3 vPars environment.

Beginning with vPars A.05.01, you can have a mixed HP-UX 11i v2/v3 vPars environment. A mixed HP-UX 11i v2/v3 vPars environment allows you to have a vPars A.05.01 monitor and database that supports both virtual partitions running vPars A.05.01 on HP-UX 11i v3 (11.31) and virtual partitions running vPars A.04.02 or later on HP-UX 11i v2 (11.23). An example mixed HP-UX 11i v2/v3 vPars environment looks like the following:

Table 2-1Mixed HP-UX 11i v2/v3 vPars Environment

HP-UX 11i v3 (11.31) running vPars A.05.01	HP-UX 11i v2 (11.23) running vPars A.04.02	HP-UX 11i v2 (11.23) running vPars A.04.03	HP-UX 11i v3 (11.31) running vPars A.05.01	HP-UX 11i v3 (11.31) running vPars A.05.01
vPars A.05.01 Monitor				

Note that mixed HP-UX 11i v2/v3 vPars does not refer to mixing hardware (PA and Integrity) platforms. Additionally, virtual partitions running vPars A.03.xx on HP-UX 11iv1 (11.11) and vPars A.04.01 on HP-UX 11i v2 (11.23) are not supported in a mixed HP-UX 11i v2/v3 vPars environment.

NOTE   Please read the following rules and the table below when running a mixed HP-UX 11i v2/v3 vPars environment. **Many of the features of vPars are version-specific.**

To switch to an environment of only virtual partitions running vPars A.04.xx on HP-UX 11i v2, shut down the A.05.01 Monitor and boot up the A.04.xx Monitor.

Features

The following features work from *all* virtual partitions:

- legacy vPars functions

  This includes dynamic CPU migration, except where noted below.

- HP-UX functions

  All the corresponding HP-UX features associated with an HP-UX 11i release continue to work. Note that, as in a normal OS instance, an 11.31-only feature will not work in an 11.23 OS-instance.

- HT OFF

  All virtual partitions can boot and run when hyperthreading is disabled (HT is set to OFF).

The following features can be executed *only* from the vPars-A.05.01/11.31-OS virtual partitions:

- creation, removal, and modification of a target virtual partition

  The vparcreate and vparremove operations can only be performed from the vPars A.05.01/11.31-OS virtual partitions; vparmodify operations affecting other virtual partitions can only be performed from the vPars A.05.01/11.31-OS virtual partitions.

  Note that this only applies to performing these operations on *other* virtual partitions. Operations where the source and target virtual partition are the same are always supported, regardless of whether you are in a mixed HP-UX 11i v2/v3 vPars environment or not.

  When the flexible administrative capability is ON, setting the vPars A.04.xx/11.23-OS virtual partitions as the only designated-admin virtual partitions is not recommended. If all the designated-admin virtual partitions are vPars A.04.xx/11.23-OS virtual partitions, *no* partitions will be able to perform vparmodify, vparremove, or vparcreate operations on other partitions.

The following features work *only between* the vPars-A.05.01/11.31-OS virtual partitions:

- dynamic memory migration

  In a mixed HP-UX 11i v2/v3 vPars environment, dynamic memory migration is only supported on the vPars versions that support dynamic memory migration. In other words, the **source and target virtual partitions must be running vPars A.05.xx**.

It is possible to perform add/delete memory operations on virtual partitions running A.04.xx, as long as the target virtual partition is in the down state. Note that the vparmodify command must be executed on a virtual partition running vPars A.05.xx.

The following features are *not allowed* in a mixed HP-UX 11i v2/v3 vPars environment:

- HT ON

  Because hyperthreading is an 11.31 feature, when hyperthreading is enabled (HT is ON), only the vPar A.05.01/11.31 virtual partitions will boot; the vPars A.04.xx/11.23 virtual partitions will not boot.

Version Requirements:

- Only the vPars A.05.01 Monitor supports a mixed HP-UX 11i v2/v3 vPars environment; therefore, for both 11.31 and 11.23 OS instances to be running, the vPars A.05.01 Monitor must be booted.

  Note that this implies there must always be at least one vPars A.05.01 virtual partition in a given mixed HP-UX 11i v2/v3 vPars configuration. The vPars A.05.01 virtual partition need not be up and running. However, when running only vPars A.04.xx virtual partitions on a vPars A.05.01 Monitor, keep in mind the administrative restrictions on the vPars A.04.xx virtual partitions described in this section.

  If a vPars A.04.02 Monitor is booted, the vPars A.05.01 virtual partitions will **not** boot.

- The 11.23 OS instances must be running vPars A.04.02 or later; vPars A.04.01 is not supported. The 11.31 OS instances must be running A.05.01 or later. 11.11 OS/vPars A.03.xx instances are not supported.

- The firmware requirements for the system will follow that of vPars A.05.01.

Feature Summary

The following table highlights the above rules for having a mixed HP-UX 11i v2/v3 vPars environment:

Table 2-2 Feature Summary

Feature	vPars A.05.xx instances	vPars A.04.xx instances	vPars A.03.xx instances
Minimum vPars Version	A.05.01	A.04.02	Not Allowed
Monitor Supports Mixed HP-UX 11i v2/v3 vPars Environment	Yes	No	
Dynamic CPU Migration	Supported	Supported	
Dynamic Memory Migration	Supported	Not Supported	
HT OFF	Supported	Supported	
HT ON	Supported	Not Supported	
vparcreate, vparremove	Supported	Not Supported	
vparmodify on other virtual partitions	Supported	Not Supported	

Booting Summary

Because only the vPars A.05.01 Monitor supports a mixed HP-UX 11i v2/v3 vPars environment, and because only HP-UX 11.31 supports HT ON/OFF, the following is true when booting a mixed HP-UX 11i v2/v3 vPars environment:

Table 2-3Boot Attempts and Result

HT Setting is...	Monitor Booted is..	Monitor Boot Result is...	Virtual Partition(s) Booted	Virtual Partition(s) Boot Result
OFF	A.05.01	OK	A.05.01	OK
			A.04.02	OK
	A.04.02	OK	A.05.01	FAILS
			A.04.02	OK
ON	A.05.01	OK	A.05.01	OK
			A.04.02	FAIL
	A.04.02	FAIL	N/A	

Determining the Version in a Mixed HP-UX 11i v2/v3 vPars Environment

In addition to using the normal HP-UX commands to determine the OS version of a specific OS instance, you can use vparstatus -P to determine the vPars version of a specific virtual partition as well as the vPars version of the vPars Monitor which is booted. You cannot determine the OS or vPars version from the *summary* output of vparstatus. The -P option must be used.

- vparstatus output from a virtual partition running vPars A.05.01 in a mixed HP-UX 11i v2/v3 vPars environment:

```
keira1# vparstatus -P
Current Virtual Partition Version:  A.05.01
Monitor Version:  A.05.01

[Virtual Partition OS Version]
Virtual Partition Name       OS Version  State
===========================  ==========  =====
keira1                       B.11.31     Up
keira2                       B.11.23     Up
```

- vparstatus output from a virtual partition running vPars A.04.03 in a mixed HP-UX 11i v2/v3 vPars environment:

```
keira2# vparstatus -P
Commands product information:  A.04.03
Monitor product information:  A.05.01
```

Switching Modes between `vPars` and `nPars` on Integrity Systems

This section regarding modes and the new vPars commands for use on Integrity systems is included in Chapter 5 of the *HP-UX Virtual Partitions Administrator's Guide* document but is duplicated here so that users are aware of this when using Integrity systems. Please see Chapter 2 of the *HP-UX Virtual Partitions Administrator's Guide* for further information on using vPars on Integrity systems, including other Integrity-only specifics.

Usage Scenarios

- If you are running HP-UX in `nPars` mode (standalone), use the following vPars commands to find the current mode and switch to `vPars` mode:

  ```
  OS-Prompt> vparenv              /* prints the current mode */
  OS-Prompt> vparenv -m vPars     /* sets the mode for the next nPartition reboot */
  OS-Prompt> reboot               /* reboots the system into vPars mode */
  ```

- If you are at the Monitor prompt, use the following Monitor command to switch to `nPars` mode:

  ```
  MON> reboot nPars               /* sets the mode and reboots the system */
  ```

- If you are at EFI shell prompt, use the built-in EFI command `parconfig` to print the current mode:

  ```
  Shell:> parconfig               /* prints the current mode */
  ```

  Use the following EFI utility to switch to either `nPars` or `vPars` mode:

  ```
  Shell:> fsN:
  fsN:> vparconfig reboot nPars|vPars
  ```

  Since `vparconfig` is not a built-in EFI shell command, you must go to the disk to execute `vparconfig`. For example, to switch to `vPars` mode:

  ```
  Shell:> fs0:                    /* go to the EFI partition of the disk */
  fs0:> vparconfig reboot vPars   /* sets the mode and reboots the system */
  ```

  Note: `vparconfig` is an EFI utility which gets installed in the EFI partition during the installation of the vPars product.

- If you are at EFI shell prompt in `vPars` mode and you do not have vPars installed on any of your disks, you can use the built-in EFI command `parconfig` to switch to `nPars` mode:

```
Shell:> parconfig nPars
Shell:> parconfig reset
```

Note: Remember to issue a `parconfig reset` after setting the mode. `parconfig nPars` only sets the mode to nPars. You must issue the `parconfig reset` to reset the system so that it boots into nPars mode.

Note: `parconfig` does not support switching to vPars mode. In other words, you can use `parconfig` to set the mode to nPars, but you cannot use `parconfig` to set the mode to vPars.

3 Known Problems and Workarounds

This section describes the critical known problems of which you should be aware before installing this version of vPars.

For information on specific defects, see the HP ITRC at http://itrc.hp.com.

evacd Daemon Monopolizes CPU During Tape Archiving

Related JAG or Patch ID Number

JAGag27792

Applicable on

❏   vPars A.05.01

Description

The evacd daemon can monopolize CPU resources on a small virtual partition configured with float memory. On such a system with a workload that exhausts the file cache, the workload may run more slowly than expected. A backup to tape such as make_tape_recovery is one such workload.

This situation does not occur on virtual partitions configured with only base memory.

Symptoms

An application that exhausts the file cache, such as a tape backup, takes much longer to run. Processor monitor commands such as top show the evacd program consuming over 90% of the CPU resources.

Workaround

There are several workarounds available. You can either

•   Reduce the tunable filecache_max from the default of 50% to 25%. If the problem persists, reduce the tunable further.

    or

•   Using vparmodify, remove the float memory from the virtual partition before starting the application that exhausts the file cache. The float memory can be added back after the application completes.

    or

•   Install the patches PHKL_35899 and PHKL_35900.

System panic on virtual partition with float memory

Related JAG or Patch ID Number

JAGag27643, JAGag28785

Applicable on

❑   vPars A.05.01

Description

Rarely, a system panic may occur on a virtual partition configured with float memory.

This panic may occur when the system is under high memory pressure, or when running an application that performs remap operations. Remap operations include using mmap(MAP_FIXED) or using a debugger to place a breakpoint into program text.

This situation does not occur on virtual partitions configured with only base memory.

Symptoms

The virtual partition crashes with the following error message:

```
panic: Fault when executing in kernel mode
```

Workaround

Install the patch PHKL_35899.

Software Configuration Error During HP-UX Install on Virtual Partitions

Related JAG or Patch ID Number

JAGag27323

Applicable on

❏   vPars A.05.01

Description

During the installation of HP-UX on a virtual partition, an error may occur during the configuration of the iCOD software product.

When the virtual partition reboots following the configuration phase, the software will be configured correctly, so there is no loss of functionality.

Symptoms

An error message will appear in the install log:

```
ERROR:   The "configure" script for "iCOD.ICOD-RUN" failed
```

Workaround

After the installation completes, the software is configured correctly, no further action is required.

To avoid this error for future installs, update the server firmware to the latest supported version. See the *HP-UX Virtual Partitions Ordering and Configuration Guide* for details.

Deletion of float memory fails with `asyncdsk` driver

Related JAG or Patch ID Number

JAGag03862

Applicable on

❏   vPars A.05.01

Description

Many applications, such as databases, use the asyncdsk driver to lock down memory for I/O transfers. As of this writing, the asyncdsk driver does not support memory deletion. As a result, if the asyncdsk driver has locked down any float memory, then that portion of memory cannot be deleted from a virtual partition.

Symptoms

If the deletion failed because the memory was locked down, the /var/adm/syslog/syslog.log file on the target partition will contain the error code "252(ENOTSUP)".

Workaround

There are several workarounds available. You can either

*   Halt the database application(s). Delete the float memory and then restart the database application(s).

    or

*   Most database applications lock down memory at startup and do not reconfigure locked memory after that. For such database applications, boot the virtual partition with base memory only. After starting the application(s), add the float memory to the virtual partition. This enables deletion of this float memory later.

    or

*   When available, install a patch to the asyncdsk driver. This patch implements the callback mechanism to allow deletion of memory that was locked down by the asyncdsk driver. For updates on patch

availability, please check the IT Resource Center Web site at http://itrc.hp.com and search the technical knowledge base using the keyword JAGag03862.

On PA Servers, Booting a Fibre Channel Tape Device May Cause the Target Virtual Partition to Hang

Related JAG or Patch ID Number

JAGaf09885

Applicable on

❑   vPars A.05.01 on PA
❑   vPars A.04.03 on PA

Description

If you attempt to boot a virtual partition using a Fibre Channel tape device that has been configured using the :TAPE attribute, the target virtual partition may hang.

Symptoms

On PA servers, if you attempt to execute the command

```
# vparboot -p target_vpar -B TAPE
```

where TAPE is a Fibre Channel tape device previously configured using the :TAPE attribute, the target virtual partition may hang, remaining in the load state indefinitely. Further, the target virtual partition does not reset when using vparreset.

Workaround

None. HP recommends that you not attempt to boot a Fibre Channel tape device.

A Virtual Partition Remains in Load State with sx2000 Chipset

Related JAG or Patch ID Number

JAGaf88969

Applicable on

❑   vPars A.05.01 on Integrity
❑   vPars A.04.02, A.04.03 on Integrity

Description

On Integrity systems running the sx2000 chipset and Intel Itanium 2 single-core processor with 9 MB cache, a virtual partition remains in the load state for at least 30 seconds and does not complete its boot process.

Symptoms

The console display includes the following:

```
Initializing IO Devices ...
LBA Cell 01 (01):  Occupied PCI-X 133MHz
Scan PCI:
 Rope  Slot  Seg   Bus   Dev   Fun           Card

..
Loading.: 1/0/1/1/0/4/0.6.0.0.0.0.0
Executing Image: "\EFI\HPUX\HPUX.EFI"
Optional Data  : "\EFI\HPUX\HPUX.EFI boot /stand/vmunix"
Starting: 1/0/1/1/0/4/0.6.0.0.0.0.0
(C) Copyright 2004 Hewlett-Packard Development Company, L.P.All rights
reserved
HP-UX Boot Loader for IPF  --  Revision 2.027
ESC[0mESC[37mESC[40m> System Memory = 16335 MB
loading section 0
 .....................................................
(complete) loading section 1 ............ (complete)
loading symbol table loading System Directory (boot.sys) to MFS .....
loading MFSFILES directory (/stand/bootfs) to MFS
..............
```

Workaround

You can either

- Update the server firmware to the latest version. See the *HP-UX Virtual Partitions Ordering and Configuration Guide* for firmware version details.

  or

- If the virtual partition remains in the load state (you can use vparstatus to verify the state), perform the following:

  1. Issue a hard reset using vparreset to the virtual partition.

     For example, if winona2 remains in the load state, to issue a hard reset:

     ```
     winona1# vparreset -p winona2 -h
     ```

  2. When the target partition is in the down state, attempt booting the partition using vparboot.

     For example:

     ```
     winona1# vparboot -p winona2
     ```

  The virtual partition should recover and boot properly.

System Activity Events Reported Through IPMI by EMS

Related JAG or Patch ID Number

JAGaf62654

Applicable on

❑   vPars A.05.01
❑   vPars A.04.xx on Integrity
❑   vPars A.04.xx on PA

Description

In a vPars environment, system activity events are decoded and reported on
all virtual partitions. When examining any single virtual partition, this can
be misleading, such that it may appear the events occurred on the virtual
partition that reported the problem.

Symptoms

A virtual partition reports an event, similar to the following:

```
>------------ Event Monitoring Service Event Notification ------------<
Notification Time: Wed May  4 15:29:44 2005
winona2 sent Event Monitor notification information:

/system/events/ipmi_fpl/ipmi_fpl is >= 3.
Its current value is CRITICAL(5).

Event data from monitor:

Event Time..........: Wed May  4 15:29:44 2005
Severity............: CRITICAL
Monitor.............: fpl_em
Event #.............: 267
System..............: winona2

Summary:
     INIT initiated
```

Workaround

Note that in a vPars environment, when system events are reported via EMS either from system firmware or an OS instance, the system events are decoded and reported on all virtual partitions. The OS instance that is shown as sending the event is not necessarily indicative of the actual virtual partition that encountered the problem.

The Reporting Entity ID is the only clue to which virtual partition reported the problem. The output will be similar to the following:

```
Reporting entity ID: 6 ( Cab 0 Cell 0 CPU 6 ) (possibly from one vPar)
```

Virtual Partition Does Not Boot After Root Mirror is Created

Related JAG or Patch ID Number

JAGaf54464

Applicable on

❑   vPars A.05.01 on Integrity
❑   vPars A.04.xx on Integrity

Description

A virtual partition does not boot from its mirror root disk because there is no longer a valid EFI to hardware path mapping in the vPars database.

Symptoms

After creating a mirror root disk, the virtual partition fails to boot from this disk. You may see messages similar to the following:

```
Load of 1/0/8/1/0.22.31.0.0.0.1 failed: Not Found
```

Workaround

After the mirror is created, use the vparefiutil -u command to add the new hardware path to EFI path mapping to the vPars database.

Note that on Integrity systems running vPars, whenever the EFI path of a boot disk changes (for example, if an OS is re-installed on the disk), the new hardware to EFI path mapping has to be updated in the vPars database. This can be done by running the vparefiutil -u command. For more information on EFI and vPars, see the "EFI and Integrity Notes" section in the document *HP-UX Virtual Partitions Administrator's Guide*.

Virtual Partition Appears to Hang After Typing control-s

Related JAG or Patch ID Number

JAGae98555

Applicable on

- ❏ vPars A.05.01 on PA
- ❏ vPars A.04.xx on PA
- ❏ vPars A.03.xx on PA

Description

While a virtual partition is shutting down, panicking, or booting, typing control-s to suspend its console output may cause the virtual partition to stop making forward progress. The virtual partition may appear to hang.

Symptoms

If a control-s is typed at the system keyboard while the virtual partition currently writing to the console is shutting down, panicking, or booting, that virtual partition may appear to hang.

Workaround

Type control-q to resume console output.

Configuring an Ultra2 or Ultra160 Card with `vparutil`

Related JAG or Patch ID Number

JAGaf00411

Applicable on

❑   vPars A.05.01 on PA
❑   vPars A.04.xx on PA
❑   vPars A.03.xx on PA

Description

On the nPartitionable servers, using the `vparutil` command to configure an Ultra2 or Ultra160 SCSI card can cause the virtual partition that owns the SCSI card to fail to boot.

Symptoms

On the nPartitionable servers, the virtual partition connected to an Ultra2 or Ultra160 SCSI boot device fails to boot after the SCSI card was configured using the `vparutil` command.

Workaround

For vPars A.03.xx, bring down all the virtual partitions and configure the card at BCH using the SCSI command to set the desired parameters. Then, boot the vPars Monitor.

For vPars A.04.xx and A.05.01, please use the `mptconfig` command. For information on `mptconfig`, see the *Ultra320 SCSI Support Guide* or the support guide for your card.

System Resets During a Crash Dump Due to Watchdog Timer

Related JAG or Patch ID Number

JAGae79790

Applicable on

❏ vPars A.05.01 on PA
❏ vPars A.04.xx on PA
❏ vPars A.03.xx on PA

Description

During a crash dump of a virtual partition, hardware heartbeats are delayed long enough such that the watchdog timer is triggered. If the watchdog timer has been configured to reset, then the entire system is reset (TOC).

Symptoms

A system (or nPartition) is reset when a virtual partition is performing a crash dump.

Workaround

From the GSP, use the AR command to set the watchdog timer to not automatically restart the system (or nPartition). Examples are below.

On non-nPartitionable servers, use the following procedure:

```
GSP> ar
Current System restart settings:
   Automatic System restart: Enabled
   ASR Alert Level Triggers:  13

Do you want to modify this configuration? (Y/[N]) y
   Current Automatic System restart: Enabled
   Do you want to modify it? (Y/[N]) y
   New Automatic System restart (Enabled / Disabled):  disabled
   New Automatic System restart: Disabled
   Confirm? (Y/[N]): y
```

```
-> Automatic System restart will be updated.
   Current Triggering alert levels are: 13
   Do you want to modify them? (Y/[N]): n

Automatic System Restart configuration has been updated
GSP Host Name:  keira
GSP>
```

On nPartitionable servers, use the following procedure:

```
GSP> cm

               Enter HE to get a list of available commands


GSP:CM> ar

This command modifies the automatic system restart
configuration of
the selected partition.

     #   Name
    ---  ----
     0)  vpar8cell
     1)  vpar4cell
     2)  vpar3cell

    Select a partition number: 2

    Automatic system restart for partition 2 is currently
enabled.
Do you want to disable automatic system restart? (Y/[N]) y

    -> Automatic system restart is disabled.
GSP:CM>
```

Topology of A5158A Changes from Fabric to Public Loop After the Virtual Partition Reboots

Related JAG or Patch ID Number

JAGaf15533

Applicable on

❏ vPars A.05.01 on PA
❏ vPars A.04.xx on PA
❏ vPars A.03.xx on PA

Description

When the A5158A is connected to the Brocade 2800 or 12000 switch, the topology of the A5158A changes after the virtual partition reboots.

Symptoms

Before a reboot, the topology shows PTTOPT_FABRIC:

```
vpar1# tdutil /dev/td0
                        Vendor ID is = 0x00103c
                      Device ID is = 0x001028
            TL Chip Revision No is = 2.3
        PCI Sub-system Vendor ID is = 0x00103c
            PCI Sub-system ID is = 0x000006
                        Topology = PTTOPT_FABRIC
                             ...
```

After a reboot, the topology shows PUBLIC_LOOP:

```
vpar1# tdutil /dev/td0
                      Vendor ID is = 0x00103c
                      Device ID is = 0x001028
            TL Chip Revision No is = 2.3
        PCI Sub-system Vendor ID is = 0x00103c
            PCI Sub-system ID is = 0x000006
                        Topology = PUBLIC_LOOP
                             ...
```

Logging into the switch, the switch information before the reboot shows:

```
brocade01:admin> switchshow
switchName:      brocade01
switchType:      2.4
switchState:     Online
switchMode:      Native
   ...
port  0: -- No_Module
port  1: -- No_Module
port  2: -- No_Module
port  3: sw  Online F-Port 50:06:0b:00:00:10:23:fa
port  4: sw  Online F-Port 50:06:0b:00:00:00:f4:28
   ...
```

The switch information after the reboot shows:

```
brocade01:admin> switchshow
switchName:      brocade01
switchType:      2.4
switchState:     Online
switchMode:      Native
   ...
port  0: -- No_Module
port  1: -- No_Module
port  2: -- No_Module
port  3: sw  Online F-Port 50:06:0b:00:00:10:23:fa
port  4: sw  Online L-Port 1 public
   ...
```

Workaround

To permanently set the device to fabric, set the setting on the switch. For example,

```
switch> portcfggport port_#,1
```

where *port_#* is the port number of the switch that is connected to the A5158A card and 1 represents "true"

To temporarily set this device (the setting will not remain after an OS reboot), reset the device from the HP-UX system:

```
   vpar1# tdutil /dev/td0 reset
   Reset Done
   vpar1# tdutil /dev/td0
                        Vendor ID is = 0x00103c
                        Device ID is = 0x001028
```

```
            TL Chip Revision No is = 2.3
   PCI Sub-system Vendor ID is = 0x00103c
         PCI Sub-system ID is = 0x000006
                    Topology = PTTOPT_FABRIC

                          ...
```