

RAID-01 (ciss) B.11.31.1203 Mass Storage Driver Release Notes HP-UX 11i v3

Abstract

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This document provides information about the March 2012 release of the RAID-01 bundle for HP-UX 11i v3.

1 RAID-01 overview

The RAID-01 bundle in HP-UX Application Release 1203 contains version B.11.31.1203 of the `ciss` driver, which supports the following HP Smart Array controllers running on HP-UX 11i v3 platforms:

Table 1 Supported controllers

Description	Part Number	Card Type	Technology
Smart Array 5304	A7143A	PCI	SCSI U160
Smart Array 6402	A9890A	PCI-X	SCSI U320
Smart Array 6404	A9891A		
Smart Array P400	AD348A	PCIe	SAS 3 Gb
	AD397A		
Smart Array P410i	N/A (see Note)		
Smart Array P411	AM311A	PCIe	SAS 6 Gb
Smart Array P700m	508226-B21	PCIe Mezzanine	SAS 3 Gb
Smart Array P711m	513778-B21	PCIe Mezzanine	SAS 6 Gb
Smart Array P800	AD335A	PCIe	SAS 3 Gb
Smart Array P812	AM312A	PCIe	SAS 6 Gb

Note: Smart Array P410i is the embedded RAID controller in HP Integrity BL8X0c i2 servers.

NOTE: For detailed information about which cards and features are supported on specific server models, see the *HP Smart Array RAID Controllers Support Matrix* at <http://www.hp.com/go/smart-array-raid-docs>.

This release includes the following components:

Table 2 RAID-01 bundle components

Component	Description	Version
<code>ciss</code>	HP-UX driver	B.11.31.1203
<code>saconfig</code>	HP-UX Smart Array command line configuration utility	A.01.24
<code>sautil</code>	HP-UX Smart Array command line support utility	A.02.18
<code>sainfo</code>	HP-UX Smart Array information collection script	A.01.06

1.1 Driver versions

This section lists the minimum supported RAID-01 `ciss` driver version for each Smart Array host bus adapter.

Table 3 Minimum supported RAID-01 (ciss) versions for HP-UX 11i v3, by adapter

Adapter	Minimum driver version
A7143A, A9890A, A9891A	B.11.31
Smart Array P400	B.11.31.0709.01

Table 3 Minimum supported RAID-01 (ciss) versions for HP-UX 11i v3, by adapter (continued)

Adapter	Minimum driver version
Smart Array P410i	B.11.31.1005
Smart Array P411	B.11.31.1005
Smart Array P700m	B.11.31.0903
Smart Array P711m	B.11.31.1109
Smart Array P800	B.11.31.0712
Smart Array P812	B.11.31.1005

2 New and changed features in this release

2.1 New features

The following features are new with this version of RAID-01:

- **Logical drives can now be created on physical disks larger than 2 TB.** (QXCR1001160371)
The `ciss` driver now supports creating logical drives with physical disks larger than 2TB using `saconfig(1M)`.

2.2 Changed features

The following features are changed with this version of RAID-01:

- **Diagnostic message filtering is added to the `ciss` driver.** (QXCR1001146707)
The `ciss` driver is changed to log only critical messages to the system log file.

3 Problems fixed in this version

Table 4 HP-UX 11i v3 March 2012 fixes — RAID-01 B.11.31.1203

SR number	Description
QXCR1001147832	New CPU ID is not propagated to mass storage stack after an interrupt migration.
QXCR1001152548	Firmware failures occur with D2200sb enclosures.
QXCR1001154483	The <code>ciss</code> driver does not notify ESCSI stack with <code>ESCSI_TP_OFFLINE</code> event.
QXCR1001159876	The <code>sautil(1M)</code> utility shows the mode as RAID instead of HBA when the HBA is in the offline state.
QXCR1001181576	Additional statistics are needed in <code>sautil(1M)</code> .

Problems fixed in recent versions

Table 5 HP-UX 11i v3 September 2011 fixes — RAID-01 B.11.31.1109

SR number	Description
QXCR1001119028	On cards controlled by the <code>ciss</code> driver, the ANSI version is overwritten with an incorrect lower value.
QXCR1001095075	The <code>scsimgr replace_wwid</code> command fails on <code>ciss</code> devices.

4 Known problems and limitations

This section provides a list of problems and limitations known to HP when these release notes were published. If workarounds are available, they are included.

4.1 For all Smart Array controllers

- **A newly-created logical volume might not be available.**

When you create a new logical volume on a Smart Array controller, you must run the `ioscan` command to make the volume available for use.

- **Unnecessary reboot occurs when removing the `ciss` driver.**

If you use the `swremove` command to remove the dynamically loaded `ciss` driver, the Critical Resource Analysis (CRA) can fail. This causes `swremove` to incorrectly reboot the system.

Severity: Low

Corrective Action: To avoid this CRA failure, before running `swremove` install patch PHCO_36356 (or a superseding patch). Patches are available from the HP IT Resource Center at <http://itrc.hp.com/>.

Under "Maintenance and Support," click the **Patch Database** link, then search for the patch number. For more information on how to manage and install patches, see the *Patch Management User Guide for HP-UX 11.x Systems* at <http://www.hp.com/go/hpux-core-docs>.

NOTE: If you remove the dynamically loaded `ciss` driver *while it is in use*, or if you remove the statically loaded `ciss` driver at any time, you must perform a reboot. This is normal behavior under these conditions, and is not affected by patch PHCO_36356.

- **Automatic hot-plug is not detected.**

The HP Smart Array Controllers do not automatically detect the hot-plug of internal disks.

Corrective Action: After replacing a physical disk, run the `sautil` command with the `scan` option.

4.2 For SAS (Serial-Attached SCSI) Smart Array controllers

- **SATA disks are not supported when the controller is in HBA mode.**
- **New Smart Array P700m controller installations should be on HP-UX 11i v3 March 2010 release or later.**

If you are considering a new installation of an HP Smart Array P700m Controller, HP recommends that you configure it on HP-UX 11i v3 March 2010 release or later.

New installation of a P700m controller is **not** recommended on HP-UX 11i v3 releases prior to March 2010. HP-UX 11i v3 releases prior to March 2010 might not guarantee that P700m Device Special Files (DSFs) persist between releases. This can cause data on arrays to become unavailable when you upgrade to the March 2010 (or later) release of HP-UX 11i v3.

- **SAS Storage Enclosure Status display issue in `sautil` command output.**

SAS storage enclosures (SES devices) and their status appear in the outputs of `sautil /dev/cissX` (extensive output) or `sautil /dev/cissX -s` (shortened output) commands. Devices appear in the SAS/SATA DEVICE SUMMARY section, and in the detailed information provided for each DISK device and SES device in the command output.

The status of a SAS SES device is always FAILED. The FAILED status does not indicate that the enclosure is not functioning. It means that it is not a DISK device.

Corrective Action: None. You can continue to use the SAS storage enclosures. You can also use `sautil` to download enclosure firmware when needed.

For more information, see the *HP Smart Array SAS Controllers for Integrity Servers Support Guide* at <http://www.hp.com/go/smart-array-raid-docs>.

- **HP-UX installation fails.**

Installation of HP-UX 11i v3 fails when installing to an array of eight 146 GB SAS disks configured as a single RAID 0 logical volume.

Corrective Actions:

- **Option 1:** Install patch PHCO_36555. Patches are available from the HP IT Resource Center, at:
<http://itrc.hp.com/>
Under “Maintenance and Support,” click the Patch Database link, then search for the patch number. For more information on how to manage and install patches, see the *Patch Management User Guide for HP-UX 11.x Systems* at:
<http://www.hp.com/go/hpux-core-docs>
- **Option 2:** Reconfigure the RAID 0 logical drive to use seven or fewer 146 GB disks.

4.3 For parallel SCSI Smart Array controllers

- **Partially disconnected disks and external cables are not properly detected by `ioscan`.**

If you remove all but one cable connecting external storage enclosures, or if you remove physical disks that are part of a logical drive from the enclosures, `saconfig` and `sautil` show the status of the logical drive as `FAILED`. However, `ioscan` reports the status of the disks incorrectly.

Corrective Action: Reconnect the cables or reinsert the disks, then reset the Smart Array controller using the `sautil reset_ctlr` command. After the controller is reset, `ioscan` correctly reports the status of the disks as `CLAIMED`.

- **Disconnected external storage enclosures are not properly detected by `ioscan`.**

If you disconnect all cables connecting a Smart Array controller to external storage enclosures, `saconfig` and `sautil` show the status of the logical drives as `FAILED`. However, `ioscan` continues to report the status of the disks as `CLAIMED`.

Corrective Action: Reset the Smart Array controller using the `sautil reset_ctlr` command. When the controller is reset, `ioscan` correctly reports the status of the disks as `NO_HW`.

- **Controller fails when two connectors are used on the same channel.**

Each channel has two connectors (one internal and one external), but only one connector can be used per channel at any given time. If you attempt to boot the system with storage devices connected to the internal and external connectors on the same channel, the controller fails.

Corrective Action: Shut down and power off the system, fix the cabling issue, and power on the system.

5 Compatibility and installation requirements

This section describes the compatibility information and installation requirements for this release. For specific installation instructions, see the installation guide or support guide for your controller. These documents are listed in the “[Related information](#)” section.

5.1 Required software

- **OS Platform and Version Compatibility**

Before installing the Smart Array Controller software, install a supported HP-UX Operating System. To determine the supported HP-UX versions for your system, see the *HP Smart Array RAID Controllers Support Matrix* at <http://www.hp.com/go/smart-array-raid-docs>.

- **Locating Software for the Smart Array Controllers**

The HP-UX driver and utilities are not shipped with the controller, but are available through Software Depot at:

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

Search for **RAID-01**.

5.2 Operating system and version compatibility

This release is specific for HP-UX 11i v3 (B.11.31).

5.3 Hardware requirements

This version of RAID-01 runs on HP Integrity and HP 9000 servers with the HP-UX 11i v3 (B.11.31) operating system.

5.4 Other requirements

- **HP Support Tools Manager (STM) and Event Monitoring Service (EMS)**

You must use STM vD.01.00 or later and EMS vA.04.20 or later for support with Smart Array controllers.

- **HP-UX Virtual Partitions (vPars)**

You must install vPars vA.05.05 or later to use Smart Array Controllers in a vPars environment.

6 Related information

The latest documentation for RAID-01 is available in English at <http://www.hp.com/go/smart-array-raid-docs>.

7 Software availability in native languages

The RAID-01 product is available only in the English language.