HP-UX WBEM DAS (Direct Attached Storage) Provider Release Notes

HP-UX 11i v3

Version: B.11.31.1503.10.01

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Legal Notices

Contents

HP secure development lifecycle

Starting with HP-UX 11i v3 March 2013 update release, HP secure development lifecycle provides the ability to authenticate HP-UX software. Software delivered through this release has been digitally signed using HP's private key. You can now verify the authenticity of the software, before installing the products, delivered through this release.

To verify the software signatures in signed depot, the following products must be installed on your system:

- B.11.31.1303 or later of SD (Software Distributor)
- A.01.02.00 or later of HP-UX Whitelisting (`WhiteListInf`)

To verify the signatures, run: `/usr/sbin/swsign -v -s <depot_path>`

For more information, see Software Distributor documentation at http://www.hp.com/go/sd-docs.

NOTE: Ignite-UX software delivered with HP-UX 11i v3 March 2014 release or later supports verification of the software signatures in signed depot or media, during cold installation. For more information, see Ignite-UX documentation at http://www.hp.com/go/ignite-ux-docs.

1 DAS (Direct Attached Storage) Provider release notes for March 2015 web release

This document discusses the most recent product information on HP-UX WBEM DAS (Direct Attached Storage) Provider, which is supported on HP-UX 11i v3 operating systems. Table 1 (page 5) lists the product version for which the document is applicable.

Table 1 Documentation Support for DAS (Direct Attached Storage) Provider

Operating system	Version
HP-UX 11i v3	**B.11.31.1503.10.01**

Announcement

Web-Based Enterprise Management (WBEM) is an industry-wide initiative to unify the management of system, networks, and applications across multiple and diverse vendor environments. The WBEM clients use the mass storage providers to gather information about various subsystems. The WBEM standard enables the clients to subscribe to indications, and indication consumers to receive indications on the occurrence of events of interest on the managed system.

This release supports HP-UX WBEM DAS (Direct Attached Storage) Provider which is part of a suite of Mass Storage IO WBEM Providers. The other providers in this suite, supported in the current release are:

- HP-UX WBEM FC (Fibre-Channel) provider
- HP-UX WBEM RAIDSA provider
- HP-UX WBEM SAS provider
- HP-UX WBEM LAN provider
- HP-UX WBEM IOTree indication provider
- HP-UX WBEM SCSI provider

HP-UX WBEM DAS (Direct Attached Storage) Provider

This product is used to diagnose the hardware using the industry standard WBEM format. The provider enables WBEM client applications to retrieve information about DAS (Direct Attached Storage) systems.

The `HPUXStorageNativeProviderModule` monitors the following:

- Standalone disk with HP-UX firmware
- MSA 60 and MSA 70 (JBODs)

The `HPUXStorageIndicationProviderModule` monitors the following:

- DS2500 Storage Enclosure
- MSA 30 and MSA 1000/1500 (Storage Arrays)

The features supported by the provider are described below:

- Supports Instance provider feature: This feature provides information about the stand-alone or fixed disks available on the system.

  NOTE: The instance provider feature is not supported for LUNs.

- Supports Consolidated Status Provider (CSP) feature: This feature reports the consolidated status of the stand-alone or fixed disks available on the system.

- Supports Indication Provider (IP) feature

  This feature generates indications in WBEM format and delivers the events to the cimserver.

  NOTE: Indication Provider feature is not supported for LUNs.

- Supports HP-UX WBEM services to provide Web access to HP-UX data for management clients.
- Used by HP Software Management clients, `HP SIM` (Systems Insight Manager), `HP SMH` (System Management Homepage), and others.
- Supports WBEM services A.02.07 or later security features to control access to HP-UX data.
- Supports disk health test. For more information about the test, see *HP-UX* `ProviderSvcsBase` *(PSB) Administrator Guide* available at: http://www.hp.com/go/hpux-wbem-docs.

What is new in this release

In this release, there is no new feature for DAS (Direct Attached Storage) Provider.

For more information about defect fixes, see "Defects fixed in various versions" (page 11).

2 Installing HP-UX WBEM DAS (Direct Attached Storage) Provider

The WBEM DAS (Direct Attached Storage) Provider depot is available for download on the OE media and web. Starting from HP-UX 11i v3 September 2011 release, all the products namely `ProviderSvcsBase` (PSB), `SysFaultMgmt` (SFM) (System Fault Management), the I/O Providers namely HP-UX WBEM RAIDSA Provider, HP-UX WBEM SAS Provider, HP-UX WBEM FC (Fibre-Channel) Provider, HP-UX WBEM DAS (Direct Attached Storage) Provider must be installed together to maintain compatibility among the diagnostic products.

On web

September 2011 web release onwards, all the HP-UX 11i v3 version of WBEM providers and Diagnostics products, are available for download on the *WBEM Management bundle for HP-UX 11i v3* bundle page at: WBEMMgmtBundle.

NOTE: HP's WBEM Management bundle is released only on the web. All the products from the WBEM Management bundle must be installed together. This is due to product interdependency. These products might not work if they are installed individually.

Hardware requirements and OS support

Table 2 (page 7) and Table 3 (page 7) list the OS and platform support information for DAS (Direct Attached Storage) Provider.

Table 2 DAS (Direct Attached Storage) Provider OS requirement

Provider	Product name	Supported OS	Mode of delivery
DAS (Direct Attached Storage) Provider	WBEMP-Storage	HP-UX 11i v3	ISU

Table 3 DAS (Direct Attached Storage) Provider Supported Platforms

Provider	Product name	Supported platforms
DAS (Direct Attached Storage) Provider	WBEMP-Storage	**HP 9000 servers** • rp3410 • rp3440 • rp4410 • rp4440 • rp7405 • rp7410 • rp7420 • rp8400 • rp8420 • SD16, SD32, SD64 • SD16A, SD32A, SD64A • SD16B, SD32B, SD64B **HP Integrity servers** • cx2600 • cx2620 • rx1600 • rx1620

Table 3 DAS (Direct Attached Storage) Provider Supported Platforms *(continued)*

Provider	Product name	Supported platforms
		• rx2600 • rx2620 • rx2660 • rx3600 • rx4640 • rx5670 • rx6600 • rx7620 • rx7640 • rx8620 • rx8640 • SD16A, SD32A, SD64A • SD16B, SD32B, SD64B • BL60p HP Server Blade • BL860c HP Server Blade • BL870c HP Server Blade • BL860c i2, BL870c i2 & BL890c i2 • rx2800 i2 • Superdome 2 • BL860c i4, BL870c i4, BL890c i4 • rx2800 i4 • rx2900 i4 **NOTE:** • Wrapper indication provider is supported on HP 9000 servers. • Native indication provider is supported on Integrity servers.

Software requirements

DAS (Direct Attached Storage) Provider requires necessary software products to be installed as a prerequisite, on the managed system as listed in Table 4 (page 8). and Table 5 (page 8) list the software product requirements for the provider from various systems.

Table 4 DAS (Direct Attached Storage) Provider software requirement for Itanium-based system

Product	Product version
`ProviderSvcsBase` (PSB)	**C.16.00.01.01** March 2015 web release or later
`SysMgmtPlus` (SMP)	A.01.00
WBEM Services	A.02.09.04 or later

Table 5 DAS (Direct Attached Storage) Provider software requirement for PA-RISC system

Product	Product version
WBEM Services	A.02.09.04 or later
`SysMgmtPlus` (SMP)	A.01.00

Table 5 DAS (Direct Attached Storage) Provider software requirement for PA-RISC system *(continued)*

`OnlineDiag`	B.11.31.06.05
EMS-Core	A.04.00.01

NOTE:

- Fibre-Channel indication provider monitors DAS (Direct Attached Storage) hardware indications on HP-UX 11i v2 OS, so FC (Fibre-Channel) indication provider must be installed to monitor DAS (Direct Attached Storage) indications on HP-UX 11i v2 OS.
- `HPUXStorageNativeProviderModule` replaces `disk_em` and `msamon_sas` monitors on HP Integrity servers.

Disk space requirement

Table 6 (page 9) lists the disk space requirement for DAS (Direct Attached Storage) Provider.

Table 6 DAS (Direct Attached Storage) Provider disk space requirement

Provider	Disk space required
DAS (Direct Attached Storage) Provider (including CSP and IP Providers)	16696 KB

3 Mapping, adaptor list, events, and hardware monitoring supported by DAS (Direct Attached Storage) Provider

This chapter describes in detail about the mapping provider module, adaptor list, events, and hardware monitoring supported by DAS (Direct Attached Storage) Provider.

Mapping provider module with provider name, type, and events

Table 7 (page 10) lists the provider names, type, bundle names, name in events and supported platforms.

Table 7 Mapping provider module with provider name, type, and events

Provider Name	Provider Type	Supported on IA/PA	Provider Name	Provider Name in Events
ProviderDefault `WBEMMgmtBundle`	Wrapper Provider	IA/PA	`HPUXStorageIndication ProviderModule`	

	Native Provider
	RecordLog Provider (RLP)
	Consolidated Status Provider (CSP)
	Instance Provider
		IA	`HPUXStorageNative ProviderModule`	`DiskIndication Provider`
				`HPUXESCSIIndication Provider`
				`HPUXESDISKIndication Provider`
				`MsaSASIndication Provider`

	Consolidated Status Provider (CSP) Instance Provider	PA	`HPUXStorage ProviderModule`	

Events supported by DAS (Direct Attached Storage) Provider

For more information about the events that are supported by this provider, see DAS (Direct Attached Storage) Provider supported events.

Hardware monitoring supported by DAS (Direct Attached Storage) Provider, in virtualization environment

Table 8 (page 10) lists the support status for the providers in *HPVM* 4.x and *vPars/HPVM* v6.x.

Table 8 Support status for the providers in *HPVM* v4.x and *vPars/HPVM* v6.x

HPVM v4.x		*vPars/HPVM* v6.x		
Hosts	**v2/v3 guests**	**VSPs**	**v2 guests**	**v3 guests**
All supported storage devices are monitored by DAS (Direct Attached Storage) Provider.	Not supported	All supported storage devices are monitored by DAS (Direct Attached Storage) Provider.	Not supported	Not supported

4 Defects fixed in various versions

This chapter describes in detail about the defects fixed for WBEM DAS (Direct Attached Storage) Provider version B.11.31.1503.10.01 and its earlier versions in HP-UX 11i v3 OS.

For 11i v3 versions

This section lists all the defects fixed for HP-UX 11i v3 version of DAS (Direct Attached Storage) Provider.

Defect fixes in B.11.31.1503.10.01 (March 2015 web release) version

There is no defect fix in this web release.

Defect fixes in B.11.31.1503.05.01 (March 2015 release) version

Table 9 (page 11) lists all the necessary details for all the defects fixed in this release.

Table 9 B.11.31.1503.05.01

Defect ID	Description
QXCR1001357831	**Title:** Storage Native Provider Module core dumped in 1503 IC402 **Severity:** Serious **Problem and details:** `StorageNativeIndicationProvider` dumped core at the time of startup. This affects the generation of events from the provider. **Resolution:** This issue is fixed in this release.
QXCR1001355940	**Title:** `cprop/sfm` displays wrong (huge) capacity size for some large disks **Severity:** Serious **Problem and details:** `StorageNativeIndicationProvider` displays wrong (huge) capacity size for some large disks, which are in the range of around 1000 – 2000 GB. **Resolution:** This issue is fixed in this release.
QXCR1001330771	**Title:** `[CHO] [BLK]` Integrity Physical provisioning failing with DASProvider/WBEMP-Storage **Severity:** Medium **Problem and details:** Provider installation fails on Integrity platform with the below error message in install log file. `Disk log database setup failed.Aborting install.` **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1403.05.01 version

Table 10 (page 11) lists all the necessary details for all the defects fixed in this release.

Table 10 B.11.31.1403.05.01

Defect ID	Description
QXCR1001272055	**Title:** *FCProvider:* After install, initial couple of events are not generated **Severity:** Medium **Problem and details:** The initial couple of events were not getting reported, after the installation of DAS (Direct Attached Storage) Provider.

Table 10 B.11.31.1403.05.01 *(continued)*

Defect ID	Description
	Resolution: This issue is fixed in this release.
QXCR1001295696	**Title:** *1403:IC394:b77n2.cce.hp.com:* swverify failed for "`vmVirtProvider.VIRT-PROVIDER`" **Severity:** Medium **Problem and details:** Initialization of `cimserver` used to take more time, on those systems which had more than 100 disks. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1303.06.01 version

Table 11 (page 12) lists all the necessary details for all the defects fixed in this release.

Table 11 B.11.31.1303.06.01

Defect ID	Description
QXCR1001232692	**Title:** `lib` file is deleting while unconfig/config the provider **Severity:** Medium **Problem and details:** During the unconfiguration of DAS (Direct Attached Storage) Provider, the native library gets deleted. Therefore, configuring of DAS (Direct Attached Storage) Provider fails. **Resolution:** This issue is fixed in this release.
QXCR1001228957	**Title:** *SFM: ERROR:* "invalid input syntax for type timestamp with time zone" **Severity:** Medium **Problem and details:** The following error message is logged in DAS (Direct Attached Storage) Provider log: SFM: ERROR: invalid input syntax for type timestamp with time zone: **Resolution:** This issue is fixed in this release.
QXCR1001235345	**Title:** `HPUXStorageNativeProvider` core dump DiskComponentDataFetcher::getSerialNumber **Severity:** Medium **Problem and details:** DAS (Direct Attached Storage) Provider is generating core during provider initialization/event generation. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1209.09.01 version

Table 12 (page 12) lists all the necessary details for all the defects fixed in this release.

Table 12 B.11.31.1209.09.01

Defect ID	Description
QXCR1001221295	**Title:** Events not generated when host name is larger than 8 bytes **Severity:** Critical **Problem and details:** When the first node of the hostname is changed to a name that has more than 8 characters, DAS (Direct Attached Storage) Provider fails to report the events. This issue is fixed in this release. The events get generated even after changing the first node of system name to more than 8 characters.

Table 12 B.11.31.1209.09.01 *(continued)*

Defect ID	Description
	Resolution: This issue is fixed in this release.
QXCR1001230102	**Title:** Suppression of event is not getting reset after reboot in all Native providers **Severity:** Medium **Problem and details:** The event suppression in `HPUXStorageNativeIndicationProvider` is not getting reset after the system reboot. **Resolution:** This issue is fixed in this release.
QXCR1001223185	**Title:** Another `cimprovagnt` crashes due to lib unloaded **Severity:** Medium **Problem and details:** In the previous release, `cimprovagt` process generated a core during unload of the `HPUXStorageIndicationProviderModule`. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1209.07.01 version

Table 13 (page 13) lists all the necessary details for all the defects fixed in this release.

Table 13 B.11.31.1209.07.01

Defect ID	Description
QXCR1001110884	**Title:** *WEB1103:DAS:* core dump @ `threadStarter` **Severity:** Medium **Problem and details:** During the restart, DAS (Direct Attached Storage) Provider may crash. **Resolution:** This issue is fixed in this release.
QXCR1001200700	**Title:** *1209:*WBEMP-Storage: `createtable.sh` install script detection of db is bad **Severity:** Medium **Problem and details:** When DAS (Direct Attached Storage) Provider having large number of records in the database is upgraded, the provider upgrade fails. **Resolution:** This issue is fixed in this release.
QXCR1001198841	**Title:** `HPUXFCLPIndicationProvider` reports ghost(bogus) events **Severity:** Serious **Problem and details:** During multiple system reboot, past provider events get reported for DAS (Direct Attached Storage) Provider. This issue is fixed in this release. When the past provider events get reported, the following warning message is seen in the provider log: **WARNING!** • Started processing old `osel` log files. Old events may get reported. • You can safely ignore this message. **Resolution:** This issue is fixed in this release.
QXCR1001211075	**Title:** `HPUXStorageNativeProviderModule` leaks file descriptors. **Severity:** Serious **Problem and details:** The file descriptor leaks are seen in DAS (Direct Attached Storage) Provider. **Resolution:** This issue is fixed in this release.

Defect fix in B.11.31.1203.07.02 version

Table 14 (page 14) lists all the necessary details for the defect fixed in this release.

Table 14 B.11.31.1203.07.02

Defect ID	Description

QXCR1001188297	**Title:** *WBEMP-Storage:* `createtable.sh` install script detection of db is bad.
	Severity: Serious
	Problem and details: Upgrade of provider fails on a machine that has a database with large number of record set and the system runs out of memory while executing the query to fetch all records. The upgrade fails with the following errors
	`ERROR: database "DASPROVDB" already exists`
	`ERROR: Operation: createdb DASPROVDB failed`
	Resolution: This issue is fixed in this release.

Defect fixes in B.11.31.1203.04.01 version

Table 15 (page 14) lists all the necessary details for all the defects fixed in this release.

Table 15 B.11.31.1203.04.01

Defect ID	Description
QXCR1001134066	**Title:** `HPUXStorageNativeProvider` doesn't generate `EVENT#100` when disk inserted **Severity:** Serious **Problem and details:** `HPUXStorageNativeProvider` does not generate Event #100 when a disk is inserted. Retry logic is included, to send SCSI enquiry command if there is any failure in retrieving disk attributes. Event #100 is now being generated when a disk is inserted. **Resolution:** This issue is fixed in this release.

QXCR1001088998	**Title:** *1103:IC359:DASProvider:* differences in type of class member between PDS and Machine.
	Severity: Medium
	Problem and details:
	All the non filled properties in `CIMUtil/wbemexec` query appears as boolean.
	For example,
	• `NAME="CapabilityDescriptions" TYPE="boolean">`
	• The properties of the following DataType is incorrect:
	`NAME="EnabledState" TYPE="sint32">`
	`NAME="RequestedState" TYPE="sint32">`
	`NAME="EnabledDefault" TYPE="sint32">`
	This issue is fixed in the current release. Only the filled in data is displayed. The non filled data in `CIMUtil/wbemexec` query increases the network traffic, therefore it is not displayed. The properties of all DataType is corrected.
	Resolution: This issue is fixed in this release.

QXCR1001110569	**Title:** *WEB1103:DAS:* core dump at `getServerLocale ()` **Severity:** Medium **Problem and details:** When `cimserver` is shutdown, a core is observed. **Resolution:** This issue is fixed in this release.

Table 15 B.11.31.1203.04.01 *(continued)*

Defect ID	Description
QXCR1001130598	**Title:** If device attributes are not retrieved, the Event is dropped **Severity:** Serious **Problem and details:** Currently in DAS (Direct Attached Storage) Provider, the event processing stops if any of the attributes fail when an enquiry command to disk is run. This issue is fixed and the design of DAS (Direct Attached Storage) Provider is now changed. The event generation logic is made resilient to handle retrieval failures of all the properties except Vendor ID, Product ID, and firmware version **Resolution:** This issue is fixed in this release.
QXCR1001145740	**Title:** *1109:ic367:* Upgrade of provider does not retain modified config files **Severity:** Serious **Problem and details:** The upgrade of DAS (Direct Attached Storage) Provider does not retain user configurable values of config files. Changes are made to ensure that the user configurable attributes value of config files get retained after upgradation. **Resolution:** This issue is fixed in this release.
QXCR1001133148	**Title:** Error messages and unwanted warning messages in `install.log` for IO providers **Severity:** Medium **Problem and details:** The install logs present under the `/var/opt/` directory displays unwanted messages during cold install for RAIDSA, SAS, DAS (Direct Attached Storage) , and FC (Fibre-Channel) providers This defect is fixed in this release. The `createtable.sh` script is modified to check the cold install and database accordingly. **Resolution:** This issue is fixed in this release.
QXCR1001141163	**Title:** 11.31 1103 crash in `EvmConnDestroy` **Severity:** Medium **Problem and details:** DAS (Direct Attached Storage) Provider module crashes when it is enabled. **Resolution:** This issue is fixed in this release.

Defect fix in B.11.31.1109.06.02 version

Table 16 (page 15) lists all the necessary details for the defect fixed in this release.

Table 16 B.11.31.1109.06.02

Defect ID	Description
QXCR1001149757	**Title:** *1109:LR:DAS:* Component details in disk insertion event has wrong data **Severity:** Serious **Problem and details:** For disk insertion event [event no :100] , the component details shown for the new disk is wrong. The instance provider also shows wrong data for the inserted disk. This defect is seen only for disk removal and insertion behind Raid cards when in HBA mode only. This defect is now fixed in DAS (Direct Attached Storage) Provider and the provider shows correct data in the event details and in instance enumeration. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1109 version

Table 17 (page 16) lists all the necessary details for all the defects fixed in this release.

Table 17 B.11.31.1109

Defect ID	Description
QXCR1001103479	**Title:** No events for disk removal and insertion **Severity:** Serious **Problem and details:** In the previous release, DAS (Direct Attached Storage) Provider consumes health offline/online events instead of `status_change` EVM notifications. Event 100 and 101 will not be generated by the provider if the disks are behind FC/SAS card. Since events are not generated, Disk instance provider does not refresh its cache. This results in displaying the disk details even though the disk is removed or not online. This defect is fixed in this release. The disk online/offline events will be generated for disks behind FC/SAS. **Resolution:** This issue is fixed in this release.
QXCR1001120981	**Title:** DAS Provider calls `semop()` without `semget()` **Severity:** Serious **Problem and details:** In the previous release, DAS (Direct Attached Storage) Provider used semaphore with semid == 0 even when it was created/used by other application and this affected the applications. This defect is fixed in this release. DAS (Direct Attached Storage) Provider will not be using any semaphore. The usage of Semaphores is replaced by a Mutex lock. **Resolution:** This issue is fixed in this release.
QXCR1001093716	**Title:** *11.31:* `disk_em` polls every 5 minutes **Severity:** Medium **Problem and details:** In the previous release, `HPUXStorageIndicationProviderModule` registers to `disk_em`, `msamom`, `msamom_sas`, `gazemon` monitors repeatedly every 5 minutes. This causes a poll from these monitors which has to be avoided. This defect is fixed in this release. Store the PID of the monitors in the provider and register only when the PID changes that is when monitor has restarted. **Resolution:** This issue is fixed in this release.
QXCR1001085108	**Title:** *DASUnOFF:* core dump by `HPUXStorageNativeProviderModule` **Severity:** Critical **Problem and details:** In the previous release, DAS (Direct Attached Storage) Provider crashed while enabling/disabing. **Resolution:** This issue is fixed in this release.
QXCR1001124484	**Title:** *1109:DASUnoff:* Memory leak seen in `DiskPollerJob::performPolling` **Severity:** Serious **Problem and details:** In the previous release, the memory leak is seen in `DiskPollerJob.cpp:performPolling()` function. Delete in two return paths were missing for a variable allocated on heap. This defect is fixed in this release. Changes are made to delete the variable in these two return paths. **Resolution:** This issue is fixed in this release.

Table 17 B.11.31.1109 *(continued)*

Defect ID	Description
QXCR1001053727	**Title:** Garbage characters on `DiskIndicationProvider` event displayed by `evewb` event viewer **Severity:** Low **Problem and details:** In the previous release, the `HPUXStorageIndicationProviderModule` data had junk values at the end in `evweb` o/p under "Error Details/Component Data". This defect is fixed in this release. Void Pointer is passed to the EMS API which fills the "Error Details/Component Data". **Resolution:** This issue is fixed in this release.
QXCR1001051369	**Title:** *IC353a:* core file from `cimprovagt` received `SIGSEGV`, Segmentation fault. **Severity:** Serious **Problem and details:** In the previous release, core file generated by `cimprovagt`, program terminated with signal 11, resulting in segmentation fault. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1106 version

Table 18 (page 17) lists all the necessary details for all the defects fixed in this release.

Table 18 B.11.31.1106

Defect ID	Description
QXCR1001095322	**Title:** Fetcher code rewrite to improve the coverage and UNIT test cases **Severity:** Medium **Problem and details:** In the previous release, a core file was generated due to a memory corruption in DAS (Direct Attached Storage) Provider. **Resolution:** This issue is fixed in this release.
QXCR1001124484	**Title:** *1109:DASUnoff:* Memory leak seen in `DiskPollerJob::performPolling` **Severity:** Serious **Problem and details:** In the previous release, there was a memory leak at every 20 minutes time interval. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1103.15 version

Table 19 (page 17) lists all the necessary details for all the defects fixed in this release.

Table 19 B.11.31.1103.15

Defect ID	Description
QXCR1001103562	**Title:** `HPUXStorageNativeProviderModule` does not show details of a newly added disk **Severity:** Medium **Problem and details:** In the previous release, after reinserting an internal disk , the `CIMUtil` does not show the disk details. This defect is fixed in this release. The details of the reinserted disk are displayed correctly.

Table 19 B.11.31.1103.15 *(continued)*

Defect ID	Description
	Resolution: This issue is fixed in this release.
QXCR1001088668	**Title:** Change read correctable error from informational to MAJOR/CRITICAL **Severity:** Serious **Problem and details:** In the previous release, event numbers 7 and 8 were supported by `HPUXStorageNativeIndicationProviderModule` on legacy Integrity and `BL870c i2` platforms. In the current release, event numbers 7 and 8 are no longer supported by `HPUXStorageNativeIndicationProviderModule` on legacy Integrity and `BL870c i2` platforms. For information about the events, see Events and their information. **Resolution:** This issue is fixed in this release.
QXCR1001083290	**Title:** Missing mutex ultimately leads to abort in "__pthread_mutex_unlock_ng ()" **Severity:** Serious **Problem and details:** In the previous release, on legacy integrity and `BL870c i2` platforms, when excessive errors are generated from a faulty component, the `DISKPROVDB` database connection with `HPUXStorageNativeIndicationProviderModule` exceeds the threshold limit. This potentially leads to core dump. In the current release, the defect is fixed and excessive errors generated from a faulty component are handled appropriately. **Resolution:** This issue is fixed in this release.
QXCR1001048147	**Title:** Enablement of Native Providers on Legacy box **Severity:** Medium **Problem and details:** In the previous release, `HPUXStorageNativeIndicationProviderModule` is not supported on legacy Integrity systems. In the current release, `HPUXStorageNativeIndicationProviderModule` is supported on legacy Integrity systems. The monitors `disk_em` and `msamon_sas` no longer generate events on legacy Integrity systems. **Resolution:** This issue is fixed in this release.
QXCR1001066416	**Title:** CSP Algorithm to calculate Worst-Of is incorrect **Severity:** Medium **Problem and details:** The consolidated status provider displays the overall status of the IO subsystem based on `GroupOperationalStatus` property severity level. The severity levels associated for `GroupOperationalStatus` property values during the previous release and the current release are tabulated below in the Table 20 (page 18): **Table 20 QXCR1001066416** **Subsystem group operational status** / **Current severity level** / **Earlier severity level** • Other(1) • Starting(8) — Has less severity level than the states `Unknown(0)` and `No Contact(12)`. — Has higher severity level than the states

Table 19 B.11.31.1103.15 *(continued)*

<table>
<tr><th>Defect ID</th><th>Description</th></tr>
<tr><td></td><td>
Table 20 QXCR1001066416 (continued)
<table>
<tr><th>Subsystem group operational status</th><th>Current severity level</th><th>Earlier severity level</th></tr>
<tr><td>• Stopping(9)
• In Service(11)
• Dormant(15)
• Power Mode(18)</td><td></td><td>Unknown(0) and No Contact(12).</td></tr>
<tr><td>• Unknown(0)
• No Contact(12)</td><td>Has less severity level than the states OK(2) and Completed(17).</td><td>Has higher severity level than the states OK(2) and Completed(17).</td></tr>
<tr><td>• OK(2)
• Completed(17)</td><td>Has the highest severity level.</td><td>Has the lowest severity level.</td></tr>
</table>
Resolution: This issue is fixed in this release.
</td></tr>
<tr><td>QXCR1001097747</td><td>Title: DASProvider does not generate indication #15
Severity: Medium
Problem and details: In the previous release, HPUXStorageNativeIndicationProviderModule does not support event 15 on legacy Integrity and BL870c i2 platforms.
In the current release, HPUXStorageNativeIndicationProviderModule supports event 15 on legacy Integrity and BL870c i2 platforms.
Resolution: This issue is fixed in this release.</td></tr>
<tr><td>QXCR1001095319</td><td>Title: Missing Poller config file in DASProvider
Severity: Medium
Problem and details: In the previous release, HPUXStorageNativeIndicationProviderModule supports a constant polling interval of 20 minutes on legacy Integrity and BL870c i2 platforms.
In the current release, a new poller configuration file included in HPUXStorageNativeIndicationProviderModule allows customers to set the polling interval on legacy Integrity and BL870c i2 platforms.
Resolution: This issue is fixed in this release.</td></tr>
<tr><td>QXCR1001091192</td><td>Title: IC359: cimprovagt dumps core on SIGSEGV
Severity: Serious
Problem and details: In the previous release, enumeration of HP_DiskDrive class does not return the component data as required.
This defect is fixed in this release and enumeration of HP_DiskDrive class returns the component data as required.
Resolution: This issue is fixed in this release.</td></tr>
</table>

Defect fixes in B.11.31.1103 version

Table 21 (page 20) lists all the necessary details for all the defects fixed in this release.

Table 21 B.11.31.1103

Defect ID	Description
QXCR1001042481	**Title:** `evweb logviewer` reports incorrect/incomplete data for `esdisk` logger **Severity:** Serious **Problem and details:** In the previous release on `BL870c i2` platform, the `evweb logviewer` command displays incorrect or incomplete event details for secondary storage devices. As a result, users will be unable to locate faulty device attached to the system. This defect is fixed in this release. A new field `Hardware Path` is added in the `evweb logviewer` output. This field provides complete hardware path of the failing hardware. **Resolution:** This issue is fixed in this release.
QXCR1001042893	**Title:** `ESCSI_LOG_ERR` are not reported in `evweb` logviewer/eventviewer **Severity:** Serious **Problem and details:** In the previous release on `BL870c i2` platform, `HPUXStorageNativeIndicationProviderModule` fails to generate `esdisk/escsi` related events on the platform. In the current release, this defect is fixed and `HPUXStorageNativeIndicationProviderModule` generate `esdisk/escsi` related events on `BL870c i2` platform. **Resolution:** This issue is fixed in this release.
QXCR1001051681	**Title:** "`VirtualSystemSerialNo`" and "`SystemSerialNo`" show "`Unavailable`" if not found **Severity:** Medium **Problem and details:** In the previous release, the `VirtualSystemSerialNo` and `SystemSerialNo` fields display incorrect value when the command `evweb logviewer` is run on `BL870c i2` platform. In the current release, these fields display appropriate values when the command `evweb logviewer` is run on `BL870c i2` platform. **Resolution:** This issue is fixed in this release.
QXCR1001056641	**Title:** *1008:DASPROVIDER:* `wbemexec getinstance` generates core file **Severity:** Serious **Problem and details:** In the previous release on `BL870c i2` platform, whenever events generated by the native indication provider is logged in the provider database, a record ID is associated with the logged record. To access or retrieve this record, the `getInstance` method is supplied with the specific record ID. If the record ID is not available in the provider database, the provider dumps core. This defect is fixed in this release. If the record ID supplied with the `getInstance` method is not available in the provider database, the provider exits gracefully without dumping core. **Resolution:** This issue is fixed in this release.
QXCR1001058688	**Title:** *DASProvider:* Test event issues **Severity:** Medium **Problem and details:** In the previous release on `BL870c i2` platform, the directly attached storage disk test command: `#/opt/dasprovider/bin/Disk_Provider_test -d` fails to generate events for all subsequent directly attached storage disks available on the system if the first instance of the disk is not supported by the `HPUXStorageNativeIndicationProviderModule`. This defect is fixed in this release, on `BL870c i2` platform. The disk tests are enhanced to send events for all the monitored paths even if the first

Table 21 B.11.31.1103 *(continued)*

Defect ID	Description
	instance of the disk is not supported by the `HPUXStorageNativeIndicationProviderModule`. **Resolution:** This issue is fixed in this release.
QXCR1001068706	**Title:** *Instance & CSP:* User Context must be changed to 4 **Severity:** Serious **Problem and details:** In the previous release on HP-UX 11i v3 OS, enumeration of classes available in DAS (Direct Attached Storage) Instance provider and DAS (Direct Attached Storage) Consolidated Status provider fails for a user with non-root privileges. This defect is fixed in this release. Enumeration of classes available in DAS (Direct Attached Storage) Instance provider and DAS (Direct Attached Storage) Consolidated Status provider is successful even for a normal user. **Resolution:** This issue is fixed in this release.
QXCR1001056608	**Title:** `NativeDiskIndicationProvider` does not report disk removal event **Severity:** Serious **Problem and details:** In the previous release on `BL870c i2` platform, when an internal disk is removed from the system events are not generated by `HPUXStorageNativeIndicationProviderModule`. Due to this, SMH (System Management Homepage) application displays incorrect status of the removed disk as **OK**. This defect is fixed in this release. `HPUXStorageNativeIndicationProviderModule` generates indication when an internal disk is removed from the system, as a result the SMH (System Management Homepage) application displays correct status of the removed disk. **Resolution:** This issue is fixed in this release.
QXCR1001078598	**Title:** `FCNativeIndicationProviderModule`: Events are not saved to `evweb` at random **Severity:** Serious **Problem and details:** In the previous release on `BL870c i2` platform, when the `cimserver/HPUXStorageNativeIndicationProviderModule` is restarted, the Indication Identifier index is reset. If the `evweb` current database already has events with the same event number or Indication Identifier index, such duplicate events are not logged in the `evweb` database. When events with the same event number are being reported frequently, the events will be logged in the `/var/opt/sfm/log/event.log` file and the `syslog` file. In the current release on `BL870c i2` platform, when the `cimserver/HPUXStorageNativeIndicationProviderModule` is restarted, the Indication Identifier is concatenated with a timestamp along with the event number and Index. With this modification, the Indication Identifier can never be duplicated and all the events generated by the provider are unique which gets logged in the `evweb` database. **Resolution:** This issue is fixed in this release.
QXCR1001083536	**Title:** Change the web link in event to BSC (now HPSC) link **Severity:** Medium **Problem and details:** In the previous release, when the command `evweb eventviewer` is run on `BL870c i2` platform, the field `Latest information on this event` displays incorrect location for the event details page. In the current release, when the command `evweb eventviewer` is run on `BL870c i2` platform, the field `Latest information on this event`

Table 21 B.11.31.1103 *(continued)*

Defect ID	Description
	displays the correct location as: Events and their information for the event details page. **Resolution:** This issue is fixed in this release.
QXCR1001075851	**Title:** Memory leak on `HPUXStorageNativeProvider` **Severity:** Medium **Problem and details:** In the previous release, the `HPUXStorageNativeProviderModule` leaks memory, on legacy Integrity and `BL870c i2` platforms, when the module receives an `evm` notification about the IO subsystem status change. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1009 version

Table 22 (page 22) lists all the necessary details for all the defects fixed in this release.

Table 22 B.11.31.1009

Defect ID	Description
QXCR1001008709	**Title:** Core dump on B'eer by `cimprovagt` (`HPUXStorageNativeProviderModule`) **Severity:** Serious **Problem and details:** In the previous release, `HPUXStorageNativeProviderModule` dumps core when directly attached disk, which is not supported by HP disk firmware, is removed from HP Superdome 2 platform. **Resolution:** This issue is fixed in this release.
QXCR1000992649	**Title:** *1003:IC345:DAS:* Some of the event details are in integers instead of hex values **Severity:** Medium **Problem and details:** In the previous release, when `evweb logviewer` command is run on the new Integrity platform, the `Sense code` and `Information field` values of the Native indication provider are displayed in integer format. These values must be displayed in Hexadecimal format. In the current release, `Sense code` and `Information field` values of the Native indication provider are displayed in Hexadecimal format when the `evweb logviewer` command is run on all the platforms. **Resolution:** This issue is fixed in this release.
QXCR1000993005	**Title:** *1003:IC345:Providers:* Event details are not formatted on Legacy **Severity:** Medium **Problem and details:** In the previous release, DAS (Direct Attached Storage) Provider event details were not formatted correctly on legacy systems. **Resolution:** This issue is fixed in this release.
QXCR1000996182	**Title:** WBEMP-Storage does not cleanup `/diskaldata` file from 0903.1131 update **Severity:** Medium **Problem and details:** While installing the `WBEMP-Storage` module, version B.11.31.0903 on HP-UX system, a temporary file `/diskaldata` is created and does not get deleted after successful installation. In the current version of the product, the temporary file gets deleted after successful installation of the module. **Resolution:** This issue is fixed in this release.

Table 22 B.11.31.1009 *(continued)*

Defect ID	Description
QXCR1001022697	**Title:** IO Providers validation on *HPVM* guests **Severity:** Medium **Problem and details:** In the previous release, DAS (Direct Attached Storage) indication and Consolidated Status provider displays erroneous data on HP Virtual Machine guest systems. In this release, DAS (Direct Attached Storage) indication and Consolidated Status providers are disabled on HP Virtual Machine guest systems. **Resolution:** This issue is fixed in this release.
QXCR1001023857	**Title:** Disk Exerciser does not show up in *HP SMH* until `cimserver` restart is done **Severity:** Medium **Problem and details:** In the previous release, the Disk exerciser tool (shipped in the product bundle) does not work after bundle installation or upgrade. `cimserver` or `CDM-ProvidersModule` has to be restarted to make the Disk exerciser tool work. This defect is fixed in this release and the Disk exerciser tool works correctly after the bundle installation or upgradation. **Resolution:** This issue is fixed in this release.
QXCR1000996827/ **QXCR1001023213**	**Title:** `CIM_AlertIndication.NetworkAddresses[]` must contain all IP address for Wrapper *PSB:* Network Address must contain all IP address for Native Indication Provider **Severity:** Medium **Problem and details:** In the previous release, DAS (Direct Attached Storage) indication provider does not display multiple IP addresses supported for a system. In this release, DAS (Direct Attached Storage) indication provider displays multiple IP addresses supported for a system. **Resolution:** This issue is fixed in this release.
QXCR1001029288	**Title:** Buccaneer HP-UX `HP_DiskDrive` provider returns 0 instances **Severity:** Serious **Problem and details:** In the previous release, on HP-UX system, enumerate instance of HP-UX `HP_DiskDrive` class returns incorrect data when DAS (Direct Attached Storage) port controllers are not present on new Integrity servers. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.1004 version

Table 23 (page 23) lists all the necessary details for all the defects fixed in this release.

Table 23 B.11.31.1004

Defect ID	Description
QXCR1001013221	**Title:** Correct events to be logged into RAIDSA provider database **Severity:** Serious **Problem and details:** In the previous release, events generated by all I/O indication providers were logged in DAS (Direct Attached Storage) Provider database `DISKPROVDB`, available at the location:`/opt/psb/db/pgsql/bin/psql`

Table 23 B.11.31.1004 *(continued)*

Defect ID	Description
	In this release, events generated only by DAS (Direct Attached Storage) indication provider gets logged in the `DISKPROVDB` database, available at the location: `/opt/psb/db/pgsql/bin/psql`. **Resolution:** This issue is fixed in this release.
QXCR1001012655/ **QXCR1000996830**	**Title:** Populating fields for Indications generated by SAS/RAIDSA/FC/DAS Wrapper *PSB:* WBEM Indication provider must populate SystemGUID **Severity:** Medium **Problem and details:** In the previous release, following fields were not populated with appropriate values from the indications generated by `HPUXStorageIndicationProviderModule` and `HPUXStorageNativeIndicationProviderModule`: • Event Threshold • Event TimeWindow • SystemSerialNumber • SystemFirmwareVersion • SystemGUID In this release, these fields are populated from the indications generated by `HPUXStorageIndicationProviderModule` and `HPUXStorageNativeIndicationProviderModule`. **Resolution:** This issue is fixed in this release.
QXCR1001001392	**Title:** *1003:IC347:FC:* FC events are not generated after OE update from 0903 to 1003 **Severity:** Serious **Problem and details:** In the previous release, after OE install, reboot, or upgrade, DAS (Direct Attached Storage) indication module times-out while registering with EMS. This defect is fixed in this release by increasing the time-out value of EMS registration. **Resolution:** This issue is fixed in this release.
QXCR1000947233	**Title:** *RAIDSA 1003 Iter1:* `loggerconfig` files to have provider specific names **Severity:** Medium **Problem and details:** In the previous release, system log configuration file for DAS (Direct Attached Storage) Provider available at: `/var/opt/storageprovider/conf` is termed as `PSBLoggerConfig.xml`. In this release, the log configuration file for DAS (Direct Attached Storage) Provider available at: `/var/opt/storageprovider/conf` is termed as `DASLoggerConfig.xml`. **Resolution:** This issue is fixed in this release.
QXCR1001016011	**Title:** Memory leaks in `ComponentData` in PSB **Severity:** Medium **Problem and details:** In the previous release, Memory leak encountered due to `ComponentData` indication properties of `HPUXStorageIndicationProviderModule`. **Resolution:** This issue is fixed in this release.
QXCR1000965458	**Title:** Moncheck display an illegal severity level as "??" **Severity:** Medium

Table 23 B.11.31.1004 *(continued)*

Defect ID	Description
	Problem and details: In the previous release, the `moncheck` displayed an illegal severity level as "??" This defect is fixed in this release. The provider registers with the ems Registrar for events with severity greater than or equal to 1. **Resolution:** This issue is fixed in this release.

Defect fix in B.11.31.1003.01 version

Table 24 (page 25) lists all the necessary details for the defect fixed in this release.

Table 24 B.11.31.1003.01

Defect ID	Description
QXCR1000952059	**Title:** Disk Provider returns misleading CIM_ERR_NOT_FOUND when no DAS **Severity:** Medium **Problem and details:** DAS (Direct Attached Storage) Provider reports information only for disks attached in the system. When `enumerateInstance` method is invoked on `HP_DiskDrive` class on a system that does not have any disks attached, the following error message is displayed: CIM_ERR_NOT_FOUND: Information on direct attached disks could not be retrieved. The provider will not report or monitor any disks. This error message is misleading and implies a fault condition where none exists. In this release, the error message is made clear and states the following: CIM_ERR_NOT_FOUND: No direct attached disks could be found on the system. The provider will not report or monitor any disks. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.0909.02 version

Table 25 (page 25) lists all the necessary details for all the defects fixed in this release.

Table 25 B.11.31.0909.02

Defect ID	Description
QXCR1000938587	**Title:** DAS provider thread leak resulting in zombie processes **Severity:** Critical **Problem and details:** In the previous release, when an application requests thread creation on a system on which DAS (Direct Attached Storage) Provider is running, the request is not processed if the provider has created threads beyond the threshold value set on the system. Due to this, warning messages are logged in the `system log` file as DAS (Direct Attached Storage) Provider thread spawns over a period of time. This defect is fixed in this release and warning messages are not logged in the `system log` file as DAS (Direct Attached Storage) Provider thread does not spawn over a period of time. **Resolution:** This issue is fixed in this release.
QXCR1000958375	**Title:** LUNs showing as degraded when they are not **Severity:** Serious **Problem and details:** In the previous release, the status of LUNs in the SMH (System Management Homepage) page are displayed as `degraded` even when the status of LUNs are not degraded.

Table 25 B.11.31.0909.02 *(continued)*

Defect ID	Description
	This defect is fixed in this release and the LUN status is displayed appropriately in the SMH (System Management Homepage) page. **Resolution:** This issue is fixed in this release.

Defect fixes in B.11.31.0909.01 version

Table 26 (page 26) lists all the necessary details for all the defects fixed in this release.

Table 26 B.11.31.0909.01

Defect ID	Description
QXCR1000896835	**Title:** Class used in property pages to report consolidated status is not proper **Severity:** Medium **Problem and details:** In the previous release, the `getwbemstatus` function in the XML page uses the class `HP_DiskDrive` to get the consolidated status of the disks, but the consolidated status is provided by the class `HP_DiskCollection`. This defect is fixed in this release and the XML page is modified to get the consolidated status from the class `HP_DiskCollection`. Appropriate status is displayed on the SMH (System Management Homepage) page. **Resolution:** This issue is fixed in this release.
QXCR1000893566	**Title:** *IC334:CERT:konapa01:*file diskaldata was found on root dir after cold install **Severity:** Critical **Problem and details:** In the previous release, a file named `diskaldata` is created in the root directory of a system when DAS (Direct Attached Storage) Provider is started. The file size is negligible and users can ignore the occurrence of the file. This file can be deleted, but the file may reappear. This defect is fixed in this release and the file `diskaldata` is not created in the root directory of the system. **Resolution:** This issue is fixed in this release.
QXCR1000894271	**Title:** *IC334:* `cimprovagt` dumped core file for `SIGABRT` **Severity:** Serious **Problem and details:** In the previous release, a core file is created randomly in the `/var/opt/wbem` directory. Occurrence of this file does not affect normal working of the product. This defect is fixed in this release and the core file is not created in the `/var/opt/wbem` directory. **Resolution:** This issue is fixed in this release.

5 Known problems, issues, limitations, and workaround

This section explains in detail, about various problems, issues, limitations, and their workarounds for HP-UX WBEM DAS (Direct Attached Storage) Provider across many releases.

Known problems

The following are the known issues, tabulated from multiple releases.

- **Problem and details:**

  After updating a system from HP-UX 11i Base OE B.11.31.1009 (September 2010) to HP-UX 11i Base OE B.11.31.1103 (March 2011) using update-ux(1M), the WBEMP-Storage. `STORAGE-PROV-RUN` fileset is not configured. Trying to configure the fileset using `swconfig` (1M) also fails.

  The following is seen in the `/var/adm/sw/swagent.log` file:

```
* Running "configure" script for fileset "WBEMP-Storage.STORAGE-PROV-RUN".
NOTE: Disabling old Disk Native Provider.
ERROR:
   PGC00617: Disabling the provider module...
   PGS00414: Connection timed out.
NOTE: Removing old Disk Native Provider.
NOTE:
   PGC00614: Deleting the provider module...
   PGC00607: The provider is deleted successfully.
NOTE: Creating the Disk log database
NOTE: Disk log database setup completed.
NOTE: Registering Storage WBEM Indication Provider schema
NOTE: Registering Storage WBEM Instance Provider schema
NOTE: Registering Storage WBEM Record Log Provider
NOTE: Registering Storage Native Control Provider
NOTE: Registering the Storage WBEM Native Provider.
ERROR: The "configure" script for "WBEMP-Storage.STORAGE-PROV-RUN" failed (exit code "1"). The script
location was "/var/adm/sw/products/WBEMP-Storage.2/STORAGE-PROV-RUN/configure".
```

  Workaround:

  Uninstall the currently running DAS (Direct Attached Storage) Provider (where the problem is seen) and install either DAS (Direct Attached Storage) Provider version B.11.31.1106 or B.11.31.1109.05.01.

- When DAS (Direct Attached Storage) Provider B.11.31.1103.15 or later is installed on legacy Integrity systems, `disk_em` and `msamon_sas` are not launched regardless of the diagnostics mode. `HPUXDiskNativeIndicationProvider` always natively monitors the hardware and generates WBEM events. The reverse wrapper, DAS (Direct Attached Storage) `_WbemWrapperMonitor`, and/or `MSA_WbemWrapperMonitor` may be launched depending on the connected hardware. These reverse wrappers convert the WBEM event to the corresponding EMS event.

  The introduction of this native support adds to support the following EMS resource paths:

  `/storage/events/DAS_wrapper_wbem`

  `/storage/events/MSA_wrapper_wbem`

  On the other hand, as the process for `disk_em` and `msamon_sas` are not launched, the corresponding EMS resource paths are not monitored:

  `/storage/events/disks/default`

  `/storage/events/enclosures/msamon_sas`

- **Problem and details:**

  The events are lost when diagnostic products are upgraded on a DRD cloned disk.

  Description:

  Prior to September 2012 release version of diagnostics product, the postgres 7.4.2 version was supported. However version 8.4.8 is shipped from September 2012 release. Due to the

missing data compatibility between PostgreSQL version 7.4.2 (prior to September 2012) and 8.4.8 (September 2012 release or later) when diagnostics products are upgraded from prior to September 2012 release to September 2012 web release and later, the postgres data need to be migrated to 8.4.8 format. Data migration involves backup in 7.4.2 version using the `pg_dumpall` and restore in 8.4.8 version using the psql operations. Both of these operations requires a running postgres service. But in the DRD environment there is a limitation that no service can be run on the cloned disk when products are either installed or upgraded. This limits diagnostics product upgrade steps from taking the backup of the postgres 7.4.2 data. As a result, the data such as events and error records is lost during such circumstances.

Workaround:

You can select any of the following two alternatives:

1. To install the product on the DRD cloned disk as a normal upgrade scenario. The scenario will be same as fresh installation and user may refer to event.log for historical event data.
2. To have a seamless migration of the data from postgres 7.4.2 version. In this case, the user is required to perform the manual steps listed in the *Installation scenarios of Postgres 8.4.8* guide at: www.hp.com/go/hpux-diagnostics-sfm-docs.

Limitations

The product has the following limitation:

- It is a read-only provider and hence does not allow users to modify, create, or delete instances.

6 Related documentation

This chapter lists out the related information about WBEM provider documents and localization.

Table 27 (page 29) lists the available documentation for the WBEM providers:

Table 27 WBEM provider related documents

Description	Location
CIM Tutorial	http://www.dmtf.org/standards/cim
Information about HP WBEM Services	http://software.hp.com and http://www.hp.com
Overview of the indication schema	http://www.openpegasus.org/WBEMIndications
Provider Datasheets	The datasheets are available at the following location: http://www.hp.com/go/hpux-networking-docs

Localized version of the software

The product is supported only in English locale (LANG=C). Behavior of the product is random and variable, when LANG value is set to any other language code other than C. Documentation support for this product is also available only in English locale.

7 Documentation feedback

HP welcomes your feedback. HP is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hp.com**). Include the document title and part number, version number, or the URL when submitting your feedback. All submissions become the property of HP.

More on HP-UX documentation

For more information on documentation and other manuals of Diagnostics, see Diagnostics home.

For more information on documentation and other manuals of WBEM providers and HP-UX DAS (Direct Attached Storage) Provider, see HP-UX Online Diagnostics Software and look for HP-UX DAS (Direct Attached Storage) Provider related documents.

Support policy for HP-UX

For more information about support policy for HP-UX, see HP-UX support policy.