

HP OpenVMS

PERFDAT V4.3

Release Notes

January 2010

Revision/Update Information
Software Version
Operating System Version

New manual.
HP PERFDAT V4.3
OpenVMS AXP V7.3-2 & higher
OpenVMS IA64 V8.2 & higher



January 2010

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Preface

Audience

This manual is intended for all system managers who have installed HP OpenVMS PERFDAT on their systems. Read this manual before you install, upgrade or use version V4.3 of HP PERFDAT.

Document Structure

- Chapter 1 contains installation information
- Chapter 2 contains support information
- Chapter 3 New Features
- Chapter 4 Bug Fixes
- Chapter 5 contains OpenVMS patch advisories

Related Documents

The manuals listed below are available in support of this version:

- HP PERFDAT V4.3 – Upgrade and Installation Manual
- HP PERFDAT V4.3 – Architecture and Technical Description
- HP PERFDAT V4.3 – DQL\$ Reference Manual
- HP PERFDAT V4.3 – PERFDAT_MGR Reference Manual

All manuals are in Portable Document Format (PDF) and are included in the PERFDAT043.A installation kit.

Extract the PERFDAT_OPENVMS_DOCU_V43.ZIP file using the OpenVMS BACKUP utility. Then transfer this file to a system such as a PC and UNZIP this file in order to access the individual manuals.

Conventions Used in this Manual

- | | |
|-----------|---|
| Special | in examples indicates text that the system displays or user type input. |
| UPCASE | in a command represents text that you have to enter as shown. |
| Lowercase | indicates variable information that a user supplies. |

Italics	
[]	in a command definition, enclose parts of the command that a user can omit.
Key	indicates a named key on the keyboard; for example, RETURN
CTRL/x	is the symbol used to represent the pressing of a control key. It indicates that the user holds down the key marked Ctrl and simultaneously pressing the appropriate key.

PERFDAT Installation Release Notes

This chapter contains information you need to know before installing or upgrading to HP PERFDAT V4.3.

HP recommends that you read the following manuals before installing or upgrading to HP PERFDAT V4.3:

- HP PERFDAT V4.3 – Release Notes (this manual)
- HP PERFDAT V4.3 – Upgrade and Installation Manual

1.1 Upgrade Path

You can upgrade directly to HP PERFDAT V4.3 from any HP PERFDAT V4.x release or any ECO level of HP PERFDAT V3.3. Use the command

```
$ MCR PERFDAT_MGR SHOW VERSION
```

to display the actual version of HP PERFDAT in use.

If you are still using HP PERFDAT V3.2 or an earlier version, it is recommended that you upgrade first to HP OpenVMS PERFDAT V3.3 and then to version V4.3. If you do not have version V3.3 please contact PERFDAT support

PERFDAT@HP.COM

to obtain the necessary kits.

1.2 Kit Content

In order to reduce the size of the installation kit the ZIP file containing the NET-SNMP V5.1.2 packages (NET-SNMP_512.ZIP) for Solaris 2.6, 7, 8 and 9 has been removed from installation kit PERFDAT043.A.

We recommend that these packages are installed on a Solaris system if you want to collect performance data from a Solaris system running one of

the operating system versions listed above with the HP PERFDAT SNMP extension.

The NET-SNMP V5.1.2 packages ZIP file can be downloaded from:

<http://www.perfdat.com/>

or

<http://www.hpperfdat.com/>

Supported Versions

2.1 Supported OpenVMS versions

HP PERFDAT V4.3 supports the following OpenVMS versions:

- OpenVMS V7.3-2 AXP
- OpenVMS V8.2 AXP
- OpenVMS V8.3 AXP
- OpenVMS V8.2 IA64
- OpenVMS V8.2-1 IA64
- OpenVMS V8.3 IA64
- OpenVMS V8.3-1H1 IA64

2.2 Discontinued OpenVMS support

The following OpenVMS versions are not supported by HP PERFDAT V4.3.

- OpenVMS V7.2-2 AXP
- OpenVMS V7.3 AXP
- OpenVMS V7.3-1 AXP

If you are still running HP PERFDAT on one of these OpenVMS versions and you need some of the new features provided by HP PERFDAT V4.3 please contact HP PERFDAT support (<mailto:PERFDAT@HP.COM>). We will check if the required features can be back-ported to HP PERFDAT V3.3.

New Features

This chapter contains information about new features of HP PERFDAT V4.3.

3.1 HP PERFDAT startup

3.1.1 PERFDAT\$STARTUP_QUEUE logical

If a user starts up any of the HP PERFDAT data collectors with either of the commands listed below the script

```
SYS$STARTUP:PERFDAT$STARTUP_BATCH.COM
```

is automatically executed.

```
$ MCR PERFDAT_MGR LAUNCH ALL
$ MCR PERFDAT_MGR LAUNCH PERFDAT
$ MCR PERFDAT_MGR LAUNCH PERFDAT_SNMP
$ MCR PERFDAT_MGR LAUNCH PERFDAT_EVA
$ @SYS$STARTUP:PERFDAT$STARTUP.COM
$ @SYS$STARTUP:PERFDAT_SNMP$STARTUP.COM
$ @SYS$STARTUP:PERFDAT_EVA$STARTUP.COM
```

The script SYS\$STARTUP:PERFDAT\$STARTUP_BATCH.COM submits the appropriate startup command script into a batch queue for execution. Prior to HP PERFDAT V4.3 a temporary batch queue was created and initialized whenever one of the startup commands listed above was executed.

With HP PERFDAT V4.3 the user can define the batch queue to be used as the HP PERFDAT startup queue. Now PERFDAT\$STARTUP_BATCH.COM checks if the logical PERFDAT\$STARTUP_QUEUE exists and if it refers to a valid batch queue. A batch queue is considered valid if the queue exists and the status of the queue is IDLE, BUSY or AVAILABLE. Otherwise the script creates its own temporary batch queue as prior to HP PERFDAT V4.3.

The logical PERFDAT\$STARTUP_QUEUE has to be defined system wide.

```
$ DEFINE/SYSTEM PERFDAT$STARTUP_QUEUE queue-name
```

In order to define the logical permanently it is strongly recommended to define the logical in SYS\$STARTUP:PERFDAT\$LOGICALS_CUSTOM.COM.

If this file does not exist in SYS\$STARTUP copy the template file PERFDAT\$CFG:PERFDAT\$LOGICALS_CUSTOM.TEMPLATE either into SYS\$COMMON:[SYS\$STARTUP] if you want to maintain just one common logical definition file which can also contain node specific logicals or SYS\$SPECIFIC:[SYS\$STARTUP] if you want to maintain a node-specific logical definition file.

3.2 HP PERFDAT OpenVMS data collector

3.2.1 New PROCESS statistics

HP PERFDAT V4.3 provides new process quota statistics in the PROCESS metric as listed in table 3.1:

Tab. 3.1: New process quota statistics of the PROCESS metric

Statistics	Description	Unit
iCPUTim	QUOTA Elapsed CPU time	[s]
iCPUTimInt	QUOTA Elapsed CPU time during last sample interval	[s]
iCPULim	QUOTA CPU time limit	[s]
iDIOCnt	QUOTA Direct I/O count remaining	[#]
iDIOLim	QUOTA Direct I/O limit	[#]
iBIOCnt	QUOTA Buffered I/O count remaining	[#]
iBIOLim	QUOTA Buffered I/O limit	[#]
iBytCnt	QUOTA Buffered I/O byte count remaining	[kB]
iBytLim	QUOTA Buffered I/O byte count limit	[kB]
iAstCnt	QUOTA AST count remaining	[#]
iAstLim	QUOTA AST limit	[#]
iEnqCnt	QUOTA Enqueue count remaining	[#]
iEnqLim	QUOTA Enqueue limit	[#]
iFilCnt	QUOTA Open File count remaining	[#]
iFillim	QUOTA Open File count limit	[#]
iSPrcCnt	QUOTA Sub-process count remaining	[#]
iSPrcLim	QUOTA Sub-process count limit	[#]
iTqeCnt	QUOTA Timer queue entries remaining	[#]
iTqeLim	QUOTA Timer queue entry limit	[#]

3.2.2 Process and job summary statistics of the SYSTEM metric are collected independently of whether or not the PROCESS metric is enabled

Prior to HP PERFDAT V4.3 the process and job summary statistics of the SYSTEM metric listed in table 3.2 were derived from the data of the PROCESS metric. Thus, if one started an OpenVMS data collection using a collection profile with the PROCESS metric disabled, these process and job summary statistics of the SYSTEM metric contained no valid data.

Tab. 3.2: Process and job summary statistics of the SYSTEM metric derived from the PROCESS metric prior to HP PERFDAT V4.3

Statistics	Description	Unit
iJobCnt	JOB interactive job count	[#]
iBJobCnt	JOB batch job count	[#]
iNJobCnt	JOB network job count	[#]
iJobLim	JOB interactive job limit	[#]
iBJobLim	JOB batch job limit	[#]
iNJobLim	JOB network job limit	[#]
iPrcCnt	PRC current process count	[#]
iStateCUR	PRC number of current processes	[#]
iStateCOM	PRC number of process in COM state	[#]
iStateCOMO	PRC number of process in COMO state	[#]
iStateLEF	PRC number of process in LEF state	[#]
iStateLEFO	PRC number of process in LEFO state	[#]
iStateHIB	PRC number of process in HIB state	[#]
iStateHIBO	PRC number of process in HIBO state	[#]
iStateCEF	PRC number of processes in CEF state	[#]
iStateSUSP	PRC number of processes in SUSP state	[#]
iStateSUSPO	PRC number of processes in SUSPO state	[#]
iStateMWAIT	PRC number of processes in MWAIT state	[#]
iStateCOLPG	PRC number of processes in COLPAG (collided page wait) state	[#]
iStatePFW	PRC number of processes in PFW (pagefault wait) state	[#]
iStateFPG	PRC number of processes in FPG (free page wait) state	[#]

With HP PERFDAT V4.3 the process and job summary statistics of the SYSTEM metric listed above are collected independently of whether or not the PROCESS metric is enabled.

3.3 *HP PERFDAT SNMP extension*

3.3.1 New algorithm to request Brocade switch performance data

When running Brocade switch data collections prior to HP PERFDAT V4.3, the user may have faced the problem that the SNMP extension sent the following OPCOM message almost every second sample interval

```
PERFDAT_SNMP_0-W-GETELEM, raw data queue empty for metrix /PORT/
```

indicating that no data had been collected from the target Brocade switch. This issue depended on the Brocade firmware version in use.

Some of the Brocade firmware versions exhibited inconsistent and strange behavior. The response to a SNMP GET request is delayed excessively or sometimes the firmware responds erroneously with 'NOSUCHNAME', indicating that the requested OID seemingly does not exist (i.e. V2.6.2). If the same data is requested using the SNMP GETNEXT method instead everything works fine.

With HP PERFDAT V4.3 the sequence of SNMP GET and GETNEXT requests has been modified to request performance data from Brocade switches to overcome this issue and to guarantee that performance data is collected continuously from Brocade switches even if a firmware version is installed that exhibits the strange behavior described above.

3.4 *HP PERFDAT EVA extension*

3.4.1 HSV3x0 and HSV4x0 support

The EVA extension of HP PERFDAT V4.3 supports the HP Enterprise Virtual Arrays (EVA) HSV3x0 and HSV4x0 controllers. Thus, performance data can be collected from EVA4400, EVA6400 and EVA8400.

To collect data from HSV3x0 and HSV4x0 controllers using the EVA extension of HP PERFDAT V4.3 the firmware revision XCS 09522 or any

higher version of the controller firmware has to be installed on the HSV controllers.

3.4.2 New DISKGROUP statistics

HP PERFDAT V4.3 provides new statistics in the DISKGROUP metric for HP Enterprise Virtual Arrays (EVA) data collections as listed in table 3.3:

Tab. 3.3: New statistics of the DISKGROUP metric

Statistics	Description	Unit
iVDReqs	VDisk summary Total Requests (Read & Write)	[1/s]
iVDRdReqs	VDisk summary Read Requests	[1/s]
iVDRdHitReqs	VDisk summary Read Hit Requests	[1/s]
iVDRdMissReqs	VDisk summary Read Miss Requests	[1/s]
iVDWrReqs	VDisk summary Write Request	[1/s]
iVDRdRatio	VDisk summary Read Ratio (iVDRdReqs / iVDReqs)	[%]
iVDRdHitRatio	VDisk summary Read Hit Ratio (iVDRdHitReqs / iVDRdReqs)	[%]
iVDMB	VDisk summary Total Throughput (Read & Write)	[MB/s]
iVDRdMB	VDisk summary Read Throughput	[MB/s]
iVDRdHitMB	VDisk summary Read Hit Throughput	[MB/s]
iVDRdMissMB	VDisk summary Read Miss Throughput	[MB/s]
iVDWrMB	VDisk summary Write Throughput	[MB/s]
iVDFlushMB	VDisk summary Data Flushed	[MB/s]
iVDPrefetchMB	VDisk summary Data Prefetched	[MB/s]
iVDMirrorMB	VDisk summary Data Mirrored	[MB/s]
iPDReqs	PDisk summary Total Requests (Read & Write)	[1/s]
iPDRdReqs	PDisk summary Read Request	[1/s]
iPDWrReqs	PDisk summary Write Request	[1/s]
iPDMB	PDisk summary Total Throughput (Read & Write)	[MB/s]
iPDRdMB	PDisk summary Read Throughput	[MB/s]
iPDWrMB	PDisk summary Write Throughput	[MB/s]

3.5 *PERFDAT_MGR utility*

3.5.1 `/NOINSTANT_UPDATE` is the default for starting EVA data collections.

If the user interactively starts an EVA data collection with the `START COLLECTION` command of the `PERFDAT_MGR` utility the qualifier `/INSTANT_UPDATE` can be applied. This qualifier defines whether or not an EVA configuration scan is triggered instantaneously when an EVA configuration change is detected by the EVA extension. If the instantaneous configuration update option is disabled the EVA configuration scan is scheduled to be executed at midnight. Thus, the EVA extension does not influence active Command View sessions. The penalty incurred with this setting is that the performance data of any new configuration item is not collected until the EVA configuration scan has been performed (i.e. at midnight).

If, prior to HP `PERFDAT V4.3`, the qualifier was omitted the EVA collection was started with the instantaneous configuration option enabled.

Starting with HP `PERFDAT V4.3` the EVA collection is started with the instantaneous configuration option disabled if the qualifier is omitted.

3.5.2 Defaults for the configuration of EVA auto start entries have changed.

If one configures an auto start entry for an EVA data collection using the `PERFDAT_MGR` utility the user is prompted to enable or disable instantaneous EVA friendly name updates whenever a configuration change is detected by the EVA extension of HP `PERFDAT`.

[Instantaneous EVA config scan when EVA config change is detected:](#)

Prior to HP `PERFDAT V4.3` the default for this query when adding a new EVA auto start entry to the HP `PERFDAT` configuration database was 'YES'. The default is now 'NO'.

For detailed information about adding a new auto-start entry to the HP `PERFDAT` configuration database please refer to the online help of the `PERFDAT_MGR` utility or the manual:

- HP `PERFDAT – PERFDAT_MGR Reference manual`

3.6 *DQL\$ utility*

3.6.1 CREATE GRAPH - User definable logical PERFDAT\$SCRATCH

The CREATE GRAPH command is used to create PNG formatted graphs that can be viewed directly with your WEB browser. This command facilitates automated WEB based graphing and data analysis.

When the user executes a CREATE GRAPH command the following tasks are performed:

- The data is selected from the HP PERFDAT collection database and stored into a temporary CSV file.
- Subsequently the image PERFDAT_CSV2PNG.EXE is called which reads the data from the temporary CSV file and creates the PNG formatted graph.

Prior to HP PERFDAT V4.3 this temporary CSV file was always stored in the directory PERFDAT\$GRAPH. If the user who executed the CREATE GRAPH command was not the owner of the PERFDAT\$GRAPH directory audit alerts were triggered.

With HP PERFDAT V4.3 the logical PERFDAT\$SCRATCH can be defined. Now, the temporary CSV file is stored in the directory referenced by the PERFDAT\$SCRATCH logical. Only if the logical PERFDAT\$SCRATCH does not exist or if the logical does not reference a valid directory the CSV file is stored in the PERFDAT\$GRAPH directory.

For detailed information about CREATE GRAPH command please refer to the online help of the DQL\$ utility or the manual:

- HP PERFDAT – DQL\$ Reference manual

3.7 *HP PERFDAT logicals*

3.7.1 New control logicals

- PERFDAT\$SCRATCH
If the logical PERFDAT\$SCRATCH exists and if it references a valid directory all temporary CSV files created by the CREATE GRAPH

command of the DQL\$ utility are stored in this directory. The logical has to be defined system-wide. For detailed information about this logical please refer to section 3.6.1 of this manual.

- **PERFDAT\$STARTUP_QUEUE**
If a user starts up any of the HP PERFDAT data collectors the appropriate startup command scripts are submitted into a batch queue for execution. If this logical exists and it refers to a valid batch queue the command scripts are submitted to this batch queue. A batch queue is considered valid if the queue exists and the status of the queue is IDLE, BUSY or AVAILABLE. Otherwise a temporary batch queue is created. For detailed information about this logical please refer to section 3.1.1 of this manual.

Bug Fixes

4.1 *PERFDAT_MGR utility*

4.1.1 Start of an EVA collection fails if the /INSTANT_UPDATE qualifier is applied

If the user manually starts an EVA data collection using the PERFDAT_MGR command START COLLECTION with the /INSTANT_UPDATE qualifier applied the command fails with:

`%CLIF-SYNTAX, error parsing 'INSTANT_UPDATE'`
`-CLI-E-ENTNF, specified entity not found in command tables`

Important OpenVMS patch advisory

If one of the OpenVMS releases listed below is installed on your system:

- OpenVMS V8.3 AXP
- OpenVMS V8.3 IA64
- OpenVMS V8.3-1H1 IA64

please ensure that the following OpenVMS patches are also installed:

- OpenVMS V8.3 AXP VMS83A_SYS-V1000
- OpenVMS V8.3 IA64 VMS83I_SYS-V0800
- OpenVMS V8.3-1H1 IA64 VMS831H1I_SYS-V0300

These patches fix a bug in the OpenVMS PMS sub-system that may crash the system if the PMS sub-system is released by HP PERDAT.

The HP PERFDAT OpenVMS data collector allocates the PMS sub-system in order to provide the statistics for the following metrics:

- DEVICE
- DEVICE.IOTIMEHIST
- DEVICE.FILE
- DEVICE.PROCESS
- DEVCE.PROCESS.FILE

Note

If you do not have these patches installed do not stop the HP PERFDAT OpenVMS data collector and do not upgrade HP PERFDAT (a HP PERFDAT upgrade implicitly stops the OpenVMS data collector) to V4.3 until you have installed these patches and you have rebooted your system.