Service
Tool
Description

SERVICE TOOL NAME:　　　HP PERFDAT V3.2 performance solution for OpenVMS

DESCRIPTION

HP PERFDAT is an integrated performance monitoring, management and capacity planning solution for OpenVMS Alpha and OpenVMS Itanium (HP OpenVMS industry standard 64). It has been designed and developed for the management of big environments as well an in in-depth trouble shooting tool.

The HP PERFDAT OpenVMS data collector collects up to 660 performance statistics organized in 23 metrics, and therefore it is today's most comprehensive OpenVMS performance data collector commercially available. E.g. it does not only collect I/O statistics for any device configured on the system and hot file statistics, but collects the I/O statistics per process and per process and file, which makes it easy to identify the sources of heavy I/O load. Any of the metrics can be enabled independently or disabled altogether. Several thresholds can be applied. HP PERFDAT has the ability to restrict the collection to a subset of the monitored subsystem (e.g. if the device metric

is enabled, you can define the devices to monitor separately).

Up to three performance data collections can be triggered and run in parallel.

HP PERFDAT provides the ability to monitor the performance of non-OpenVMS systems. The HP PERFDAT SNMP extension collects performance raw-data from non-OpenVMS systems that provide performance data via SNMP, converts this raw-data into human readable form and stores the data in the performance database. HP PERFDAT V3.2 supports Tru64 systems and Brocade switches out of the box.

HP PERFDAT V3.2 provides an online performance alerting feature. Online performance alerting can be enabled for any active performance data collection, independently if the data collection is performed by the OpenVMS data collector or the SNMP extension.

Once online alerting has been enabled for an active performance data collection the alerting subsystem tracks the actual values of

specific statistics collected by the OpenVMS data collector and the SNMP extension and triggers alerts if any alert condition becomes true.

The statistics to monitor, the alert conditions and the alert method (OPCOM messages, user definable command scripts) are defined by alert blocks within an alert definition file. An alert definition file is a text file for easy customization.

The data collected is stored in an RMS based, distributed and self defining high speed database. Data can be accessed via a query interface similar to SQL. Due the design of the database all performance data available in your environment can be transparently accessed from a single node, and data upward and downward compatibility is guaranteed. Moving data from one node to another, renaming data files as well as multiple file versions have no effect on the visibility of the data.

To guarantee high speed data access to all data file regardless which node services the file within the PERFDAT environment HP PERFDAT V3.2 provides a distributed performance database file cache valid throughout the whole environment.

CSV (comma separated values) files can be dynamically mapped and accessed via the query interface. Thus, data collected by other tools (e.g. application data), can be easily analyzed and compared to the performance data collected by HP PERFDAT without additional tools.

A statistic package is fully integrated for best practice workflow support in analyzing performance data. It includes standard statistics like Min, Max, Avg, standard deviation as well as correlation and deviation analysis.

The query interface of HP PERFDAT V3.2 provides the features to create cluster views and to define side specific measures.

A cluster view maps performance data of different nodes for cluster wide performance analysis. All methods and features to analyse performance data of single nodes are available for cluster views too. Consequently the workflow for cluster analysis does not differ from the workflow to analyse single node performance data

The user can create side specific measures computed from any statistics collected by defining stored procedures. Once a stored procedure is defined any the related user defined statistics (side specific measure) can be accessed as if the data are part of the distributed performance database without any additional action. Thus, any statistical method provided by the statistic package of the query interface can be applied to side specific measures too.

For automated trend analysis and capacity planning, an auto reporting engine is available, that periodically compresses data and makes full statistical analysis of the data.

The package includes a state of the art graphical user interface (GUI) with several options for viewing and analyzing collected data.

HP PERFDAT V3.2 provides an easy to handle tool for automatic Oracle Rdb performance data import into the HP PERFDAT distributed performance database from RMU/SHOW STATISTICS binary files. Once Oracle Rdb data are imported into the HP PERFDAT distributed database all methods and features (cluster views, stored procedures, correlation analysis, deviation analysis ...) provided by HP PERFDAT can be applied to analyze RDB performance data.

MAIN FEATURES

- Multithreaded OpenVMS data collector
- SNMP extension to monitor non OpenVMS systems
- Online performance alerting
- Data is stored in a distributed, self defining high speed database (based on RMS)
- Query interface similar to SQL
- Auto reporting engine for capacity planning and trend analysis
- Auto archiving functionality
- Statistic package
- Graphics package on Windows 2000 and Windows XP
- Single point management (HP PERFDAT Manager)

OpenVMS DATA COLLECTOR

- Up to 3 collections in parallel
- Currently 660 statistics organized in 20 metrics
- Profile controlled
- Each metric can be enabled/disabled independently
- For each metric (except the system metric), thresholds can be defined to minimize the amount of data
- Metrics can be restricted to single / multiple devices, processes, users, images and volumes
- Device metric allows I/O resolution to single process, files and files per process (not only hot file statistic but also the originator of hot files can be identified)
- Files in the device- and XFC statistics not only resolved to file ID's but also to their actual file names
- complete XFC integration
- full LAN and network protocol support
- Dynamic resource trimming. In order to avoid performance problems due to running the service tool, HP

PERFDAT watches its own resource consumption, and if CPU load and/or I/O load exceeds definable threshold HP PERFDAT automatically increases collections sample intervals and/or dismisses metrics rule based.
- Permits online monitoring

SNMP extension

- Up to 64 remote systems can be monitored in parallel
- Metrics and statistics are predefined for Tru64 systems and Brocade switches.
- Profile controlled
- Sample interval is freely definable (minimum = 1 minute)
- Each metric can be enabled/disabled independently
- Supported systems:
  - Tru64
  - Brocade switches
- Permits online monitoring

ONLINE PERFORMANCE ALERTING

- Can be enables for any active performance data collection of the OpenVMS data collector and the SNMP extension
- Tracks the actual values of specific statistics and triggers alerts if any alert condition becomes true
- The statistics to monitor, the alert conditions and the alert methods are defined by alert blocks within so called alert definition files
- Available alert methods
  - OPCOM messages (default)
  - Call to user definable command procedures
- Alert definition files are text files for easy customization

Database & Query Interface

- RMS based
- Self defining
- Distributed
- Query interface (DQL) similar to SQL
- Transparent single point access due to implemented network abstraction layer via DQL interface
- Up- and downward data compatibility due to integrated data abstraction layer
- Dynamic CSV file mapping capability for accessing and analyzing data from different data sources
- Multi file version support
- No root file involved. This has the advantage that single files can be moved to other nodes and accessed without restoring the whole database
- CSV import capability. Data are not only inserted but normalized.
- CSV export capability
- Statistic package fully integrated in data query interface
- Stored procedures (= user defined statistics).
- Data Clustering (= ability to define cluster views. This feature enables the user to run cluster wide data analysis without any change in the workflow. All methods and features to analyse performance data of single nodes are available for cluster views too).
- Distributed performance database file name cache for high speed data access.

AUTO REPORT ENGINE

- Automatic selection and compression of performance statistics for trend- and capacity analysis

ARCHIVE AND HOUSEKEEPING

- Daily log- and temp file cleanup
- archiving of completed data collections with freely definable time periods
- Archiving can be done locally or on dedicated archiving nodes

MANAGEMENT UTILITY

- Single point management utility
- Controls the complete environment (collector, online alerting, auto report engine and archiving)

STATISTIC PACKAGE

- Min/max calculations
- Mean value calculations
- Standard deviation
- Correlation
- Integral and mean value based deviation calculation
- Integral and mean value sorting of each element of a metrics (free definable time period, statistics and elements)
- The package is part of the query interface. Thus, it is available from the GUI as well from the command line interface (DCL) on OpenVMS.

TOOLS

- PERFDAT_IMPORT_RDB utility
  This easy to handle utility provides the feature to import Oracle Rdb performance data from RMU/SHOW STATISTICS binary files into the HP PERFDAT distributed performance database. Once Oracle Rdb data are imported into the HP PERFDAT distributed database all methods and features provided by HP PERFDAT can be applied to analyze Oracle Rdb performance data.

- PERFDAT_LOADCSV.COM utility
This utility located is a generic CSV load utility to load a bunch of CSV files containing data of any kind into the PERFDAT distributed performance database at once.

- DQLGETTOPSTAT.COM utility
This utility can be used to extract the data of the top consuming elements of a statistics from the PERFDAT collection databases. E.g. this utility can be used to search for the top CPU consuming process during a freely definable time interval. Depending on the input parameters applied to the utility the data of the statistics selected of these top elements are either exported to a CSV file or the data of these elements are displayed as line graphs in a PNG file.

HP PERFDAT WINDOWS GUI

- Nothing else to be installed besides the delivered kit
- Representation of line graphs
- Representation of variation functions
- capabilities of data overlays (graphs of different time periods can be overlapped to allow visual comparison)
- Full cluster analysis capability
- Stack/unstack function
- Zoom in/out
- Shift left /right
- Data scanning
- Auto/native scaling
- Up to 8 curves in one graph (in overlay mode up to 16)
- Each graph is scaled separately
- auto, native and manual scaling capability
- Correlation- and deviation analysis capability
- Multi window support for multi screen systems

- Online deviation calculation of free definable statistics
- Export capability to Excel
- Fully supported on Win2000/2003 and XP

HARDWARE REQUIREMENTS

Processors Supported

Any Alpha system capable of running the OpenVMS Alpha Operating System Version 7.2-2 to 8.2 or any Itanium Integrity servers capable of running OpenVMS for Itanium V8.2 and V8.2-1.

PC hardware

Pentium IV, 1.5 GHz, 256 MB RAM

Disk Space Requirements

Disk space required for installation on OpenVMS:

approx. 10,000 blocks

Disk space required for data files:

This depends on the sample interval of the data collector and on the amount of collected items (statistics). A 30 sec interval on a stand alone node with 10 disks and the default statistics enabled will result in a data file with about 400,000 blocks (per node and day).

SOFTWARE REQUIREMENTS

For Alpha Systems:
- OpenVMS AXP V 7.2-2 to V 8.2

For Itanium Systems:
- OpenVMS IA64 V 8.2 to V8.2-1

For both Architectures:
- Installed/configured and running TCPIP Services for OpenVMS.

HP PERFDAT GUI

- Win2000/2003 or XP

No further software is required to run HP PERFDAT on any OpenVMS node.

SOFTWARE LICENSING

Software licenses can be requested via PERFDAT@HP.COM or your local HP support. When installing HP PERFDAT the first time, a 30 day test license is automatically applied. After that time a license must be purchased. For more information about HP's licensing terms and policies, contact your local HP office or PERFDAT@HP.COM

CLUSTER ENVIRONMENT

HP PERFDAT is fully supported when installed on any valid and licensed OpenVMS Cluster configuration without restrictions.

GROWTH CONSIDERATIONS

The minimum hardware and software requirements for any future version of this tool may be different from the requirements for the current version.

ORDERING INFORMATION

Please contact PERFDAT@HP.COM for service ordering information.

TRADEMARK INFORMATION

© 2006 Hewlett-Packard Company
Confidential computer software. Valid license from HP and/or its subsidiaries required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial license. Neither HP nor any of its subsidiaries shall be liable for technical or editorial errors or omissions contained herein. The information in this document is provided "as is" without warranty of any kind and is subject to change without notice. The warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty.

All other product names mentioned herein may be trademarks of their respective companies.