



PerfDat V2.3

New features & options

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Agenda



- Requirements
- PerfDat Architecture
- New Features & Options
- Supported versions
- Features forecast
- PerfDat links

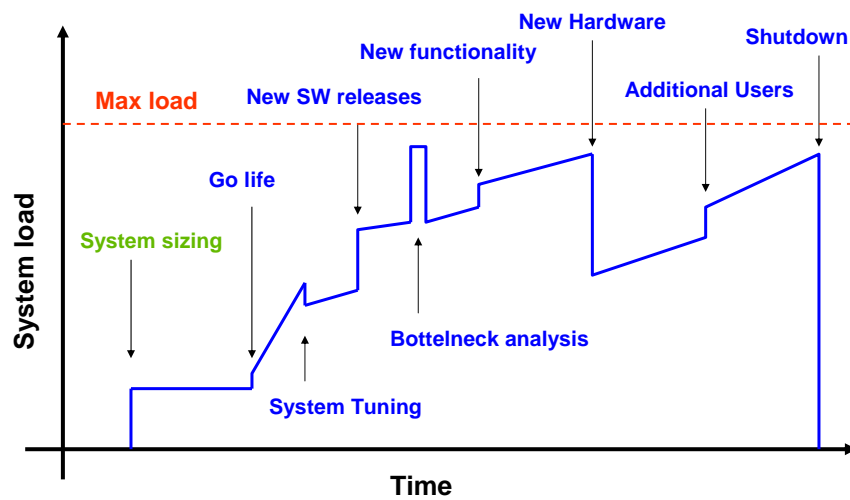


Key design goal

- From the very beginning PerfDat was designed as a powerful performance lifecycle management solution.



System lifetime





Performance lifecycle management

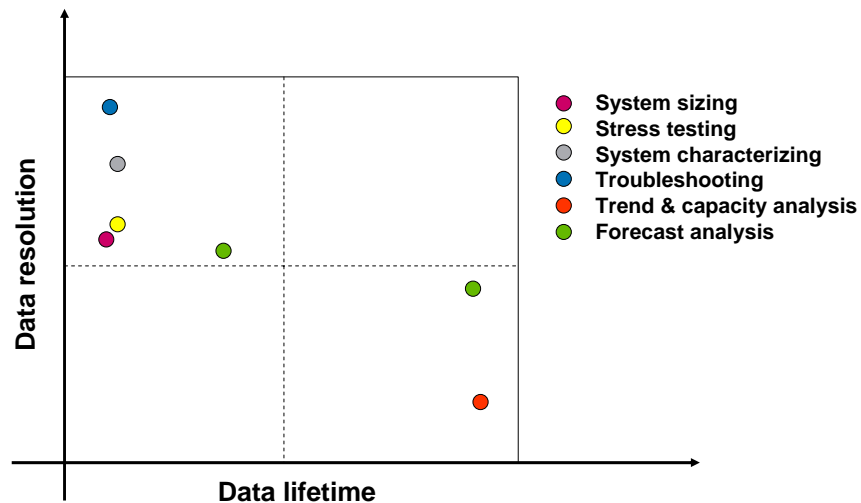
- System sizing
- Stress testing
- System characterizing
- Tuning
- Troubleshooting and bottleneck identification
- Trend & Capacity analysis
- Forecast analysis



Performance lifecycle management

- Each task requires:
 - Different quality of data
 - Data lifetime
 - Detailed data / data resolution
 - Different methods for analysing data
 - The users system view
 - All nodes that provide the same service
 - All components that are attached by the service nodes

Quality of Data (QoD)



Views on performance

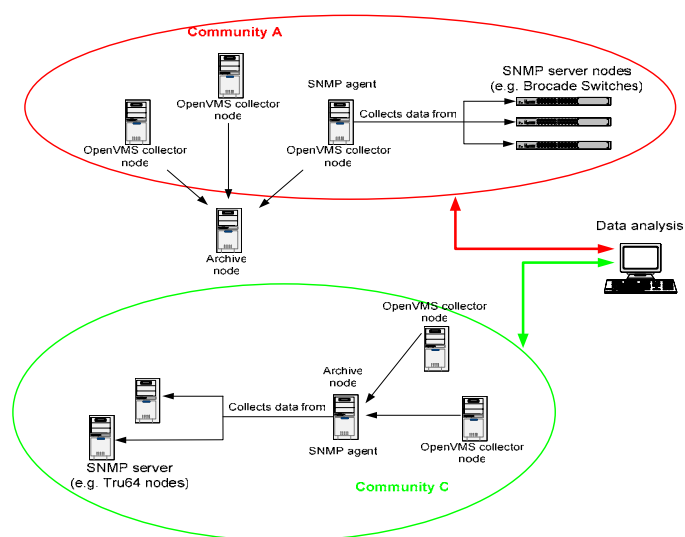
- System manager view
- Storage manager view
- DB-manager view
- Application manager view
- End-USER view

- All these views on the system performance may match but don't have to!!!

Key requirements

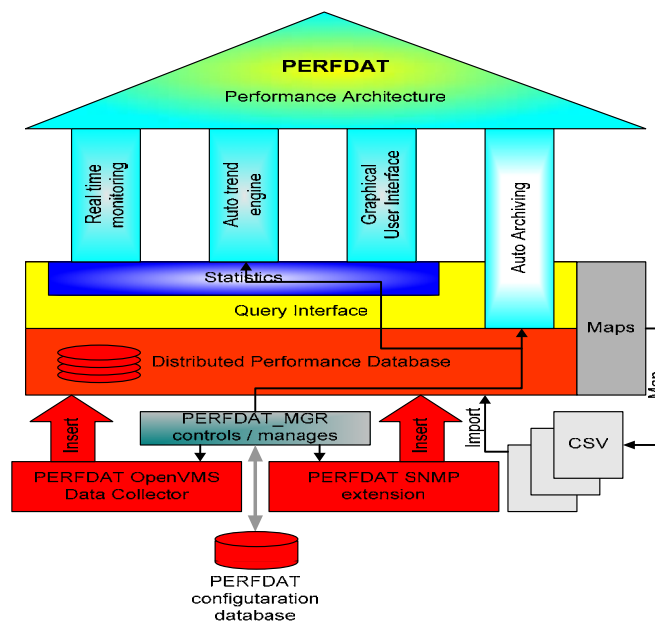
- Ability to match the users system and performance view
 - Single point of access to the performance data of all components, regardless if the components are spread all over the world or just around the corner -> Community concept
 - Data from different sources shall be transparently accessibly within Communities
- Ability to handle different QoD
 - Powerful data collector
 - Data resolution
 - Run different collections that meets different QoD requirements in parallel
 - Easy to handle and control (plug and play)
 - Ability to handle huge amount of data (> 1 TByte)
- Different analysis methods that provide best practice workflow support for performance lifecycle management tasks.

Community concept



SW-Components of PERFDAT

- OpenVMS data collector New features
- SNMP extension: New
- Distributed performance database
- PERFDAT configuration database New features
- DQL interface
- Statistics package
- Real time monitoring (not available with actual version V2.3) New features
- Auto trend engine
- Auto Archiving and housekeeping
- Management Interface (PERFDAT_MGR) New features
- Graphical User Interface for Data Analysis



OpenVMS data collector

New features



- New metrics

- DEVICE.CAPACITY

- Capacity information per file oriented device
 - Device size
 - Free space
 - Device space usage
 - Mount count
 - Error count
 - Reference count
 - Automatic path switches during last sample period
 - Manual path switches during last sample period
 - Number of path verifications during last sample period
 - Number of successful mount verifications
 - Number of failed mount verifications

OpenVMS data collector

New features



- DEVICE.PATH

- Stats per I/O path and disk device
 - Operations completed on Path
 - Error count on path
 - Path is primary path
 - Path is current path
 - Path is available
 - Path is responding

- IOPATHES

- Stats per I/O path
 - Operations completed on IO Path
 - Error count on IO path
 - Number of Devices serviced by IO path
 - Number of Devices serviced primary by IO path
 - Number of Devices serviced current by IO path
 - Number of Devices available via IO Path
 - Number of Devices responding via IO Path

OpenVMS data collector



New features

- New Stats
 - System
 - NPAG Current size
 - NPAG Initial size
 - NPAG Maximum size
 - NPAG Free space
 - NPAG Used space
 - NPAG Largest var. block
 - NPAG Smallest var. block
 - NPAG Number of free blocks
 - NPAG Free blocks on lookasides
 - NPAG lookaside space

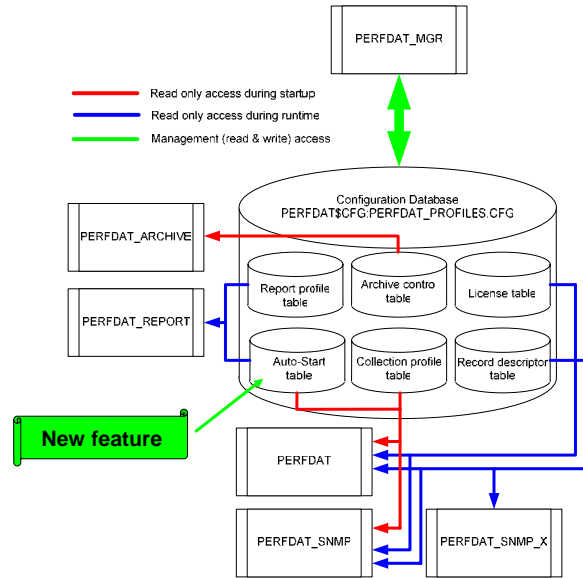
SNMP Extension

New



- Up to 64 remote nodes can be monitored in parallel
- Metrics and statistics are predefined for Tru64 nodes and Brocade switches.
- Profile controlled – profiles reside in the PERFDAT configuration database and are managed via the PERFDAT_MGR utility
- Sample interval is freely definable (minimum = 1 minute)
- Each metrics can be enabled/disabled independently
- Permits online monitoring
- Controlled by PERFDAT_MGR

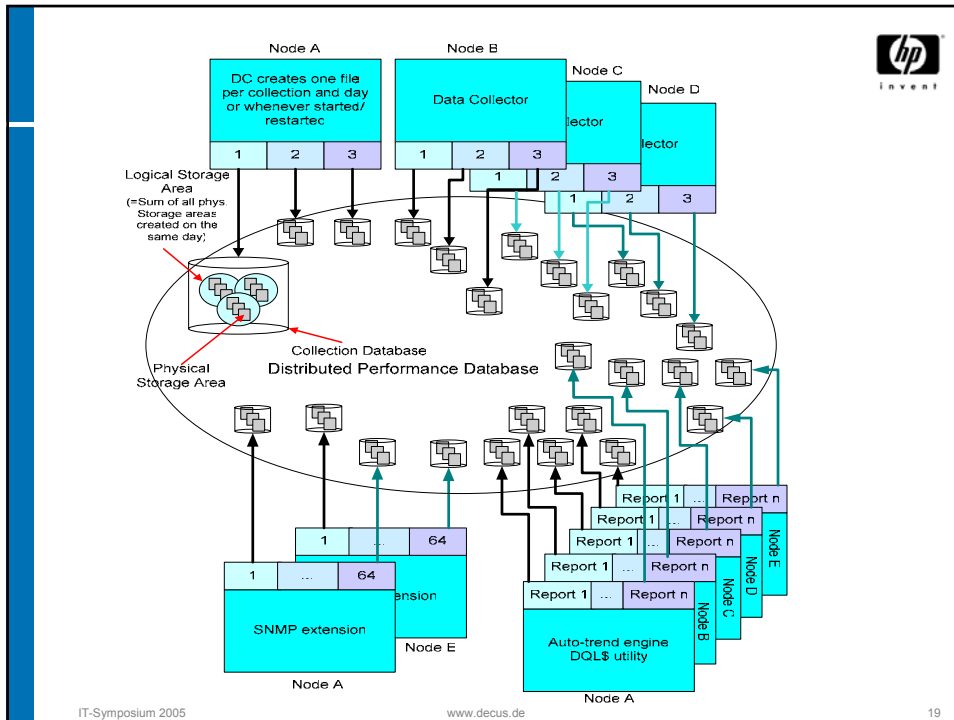
PERFDAT configuration database



Auto-trend engine

New features

- Available reports
 - Trend reports
 - Capacity reports **New**
 - Baseline reports **New**
- Extracts reports from data collected by the OpenVMS data collector as well as data collected by the SNMP extension



Installation

New features

- Auto-configuration option = plug & play feature
 - Applies default collection profiles for the OpenVMS data collector as well as all systems supported by the SNMP extension
 - Applies default reports (trend, capacity and baseline) for all supported systems (OpenVMS, Tru64, Brocade)
 - Easy configuration
 - No additional user action but adding the PerfDat startup and shutdown scripts to the side specific startup and shutdown command procedures

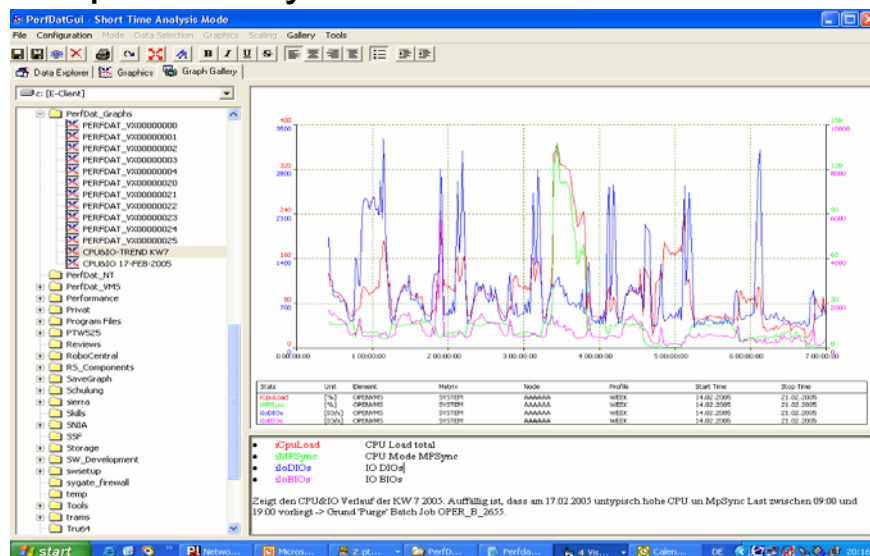
Graphical user interface

New features



- Graph Gallery
- Top statistics explorer & queries
- Private query definition & explorer
- Toolbars to increase handling efficiency
- Full correlation report
- Full deviation report
- Window size and location capturing

Graph Gallery





Graph Gallery - features

- Save Graph option enables you to save performance graphs locally on your PC
- Graphs can be renamed
- Comments can be edited within Word compatible editor
- Full screen mode for presentations
- Replay feature
 - Enables the user to reload the graph from the database without selecting the elements and stats from the data explorer.



Top statistics explorer

Default Query Explorer

Select predefined query to apply
Select Node Type
OpenVMS

Select Query

- CPU
 - Top CPU load rate
 - Top CPU Mpsync
 - Top CPU Interrupt mode
 - Top CPU Kernel mode
 - Top CPU Exec mode
 - Top CPU User mode
- DEVICE
 - Top QIO rate
 - Top Read QIO rate
 - Top Write QIO rate
 - Top service IO rate
 - Top Read service IO rate
 - Top Write service IO rate
 - Top throughput rate
 - Top Read Throughput rate
 - Top Write Throughput rate
 - Top Queue Length
- STORAGE
 - Top CPU load
 - Top MEM allocation
 - Top DIO load
 - Top EIO load
 - Top PPL rate
- PROCESS
 - Top CPU load
 - Top MEM allocation
 - Top DIO load
 - Top EIO load
 - Top PPL rate
- USER
 - Top CPU load
 - Top MEM allocation
 - Top DIO load

Select Time Range

Select full available time range

Start Time: 00:00:00
Stop Time: 23:59:59

Collector matching the selected query

Selectable Collections

- VMSTIM_DEFAULT - 1-APR-2005
- VMSTIM_DEFAULT - 2-APR-2005
- VMSTIM_DEFAULT - 31-MAR-2005

Close Execute



Top statistics - features

- Selects the 6 top resource consuming elements of a specific statistics within a selected time range and displays it automatically
- Reduces effort for graph selection
- Only these collections attached are displayed the selected top stats can be applied to (stats / metric is enabled for the collection)
- Top statistics can be changed easily by the user
- Available for all supported systems (OpenVMS, Brocade, Tru64)
- Can be launched from the data explorer as well as from the graph window
- All top statistics can be applied from the pull down menu too.



Private query explorer

Select query to execute

Available Queries

- Collection dependent / Time independent
 - CPU load & MpSync (VMSTM1 - VMSTM4)
 - DIOs & BIOs (VMSTM1 - VMSTM4)
- Collection independent
 - IO to System Query**
 - MEM usage query
- Collection independent / Time dependent
 - CPU load & MpSync (1 & 2.4.2005)
 - Explicite

Select Time Range

Select full available time range

Start Time: 00:03:00

Stop Time: 23:59:59

Collections matching the selected query

Selectable Collections

- VMSTM2_DEFAULT - 1-APR-2005
- VMSTM2_DEFAULT - 2-APR-2005
- VMSTM4_DEFAULT - 2-APR-2005

Stats	Collection	Matrix	Element	Date
CpuLoad	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
MPISync	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
ItoDIOs	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
ItoBIOs	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005

Query Description

Displays Cpu load, MPISync, DIOs, BIOs

Close Execute



Private query - features

- In order to simplify graph selection, the user can define his own data queries.
- Simply done by clicking the 'Save Graph' toolbar button in the graph window.
- Graph queries are analysed and the saved query is automatically added to the right category:
 - Collection independent
 - Collection independent / time dependent
 - Collection dependent / time independent
 - Explicit
- Only these collections attached are displayed in the private query explorer the selected query can be applied to (matches the private query category and stats / metrics are enabled for the collection)
- All private queries can be applied from the pull down menu too.
- Maintenance tool available (modifying queries, comments

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Full deviation report

The screenshot shows the 'PerfDatGui - Full Deviation Report' dialog box. It contains the following sections:

- Source Definition:** Data Collection: VMSTH4_DEFAULT - 2-APR-2005; Filter Parameter: StartTime: 02.04.2005 00:03:00, StopTime: 03.04.2005.
- Reference Definition:** Data Collection: VMSTH4_DEFAULT - 1-APR-2005; Filter Parameter: StartTime: 01.04.2005 00:03:00, StopTime: 02.04.2005; Threshold: 20.
- Calculation Options:** Arithmetic (unchecked), Integral (checked), Mean value (checked).
- Element / Statistics Selection Table:**

Element	Elements
CPU	1
DEVICE	2
DEVICE_CAPACITY	2
DEVICE_PATH	0
IMAGE	26
LOGON_TIMES	0
LAN_ADAPTER	6
LAN_ADAPTER_DEVICE	23
LAN_PROTOCOL	7
PROCESS	27
SYSTEMS	1
USER	7
WFCVOLUME	2

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28



Full deviation report - features

- Enables the user compare all stats of all elements for any metric of different collections
- Time range is freely definable
- Reports contains these stats, elements and metrics that match the freely definable threshold criterion
- Graphs can be directly selected from the report
- Calculation can be done arithmetical or integral
- Can be launched from the data explorer as well as from the graph window
- Most valuable to find out if anything has changed with low effort

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29



Full correlation report

The screenshot shows the PerfDadGui interface with a 'Full Correlation Report' dialog box open. The dialog box has several sections:

- Collection Selection:** VMS1TH_DEFAULT - 2-APR-2005
- Metric Selection:** Metric: SYSTEM (1)
- Element Selection:** OPENNMS
- Statistics Selection:** Statistics
- Parameter Selection:** Start Time: 02.04.2005 00:03:00, Stop Time: 03.04.2005, Threshold: 80

The 'Element View' table in the dialog box lists the following metrics and their corresponding element counts:

Metric	Elements
CPU	1
DEVICE	2
DEVICE_CAPACITY	2
DEVICE_PATH	0
IMAGE	26
IPATHES	0
LANADAPTER	6
LANADAPTER_DEVICE	23
LANPROTOCOL	7
PROCESS	27
SYSTEM	1
USER	7
KFCVOLUME	2

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30





Full correlation report - features

- Enables the user correlate a selected statistics of an element / metric with all stats, elements and metrics available of a collection
- Time range is freely definable
- Reports contains these stats, elements and metrics that match the freely definable threshold criterion
- Graphs can be directly selected from the report
- Can be launched from the data explorer as well as from the graph window
- Most valuable to identify dependencies between stats / elements



Supported Versions

- OpenVMS AXP V7.2-2
- OpenVMS AXP V7.3
- OpenVMS AXP V7.3-1
- OpenVMS AXP V7.3-2
- OpenVMS AXP V8.2 
- OpenVMS Itanium V8.2 
- GUI – supported on Win2000 / XP



Features forecast

- Selective file monitoring
- Real time monitoring & alerting
- More systems supported by SNMP extension
- HSV support
- Depending on requests Win2000/Win2003 support
- More OpenVMS stats
- More analysis features like
 - Collection group support
 - Linear regression
 - ...



Links

- Download side within HP intranet
 - http://bcsxtc.aut.hp.com/Perfdat/Perfdat_download.html
- External web-side will be available within the next weeks
- In the meanwhile please contact your local HP support for downloading PERFDAT or:
 - PerfDat@hp.com
 - Wolfgang.Burger@hp.com
 - +43-1-86630-2547
 - +43-664-8379528

