



# PerfDat V2.3

## New features & options

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## Agenda



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

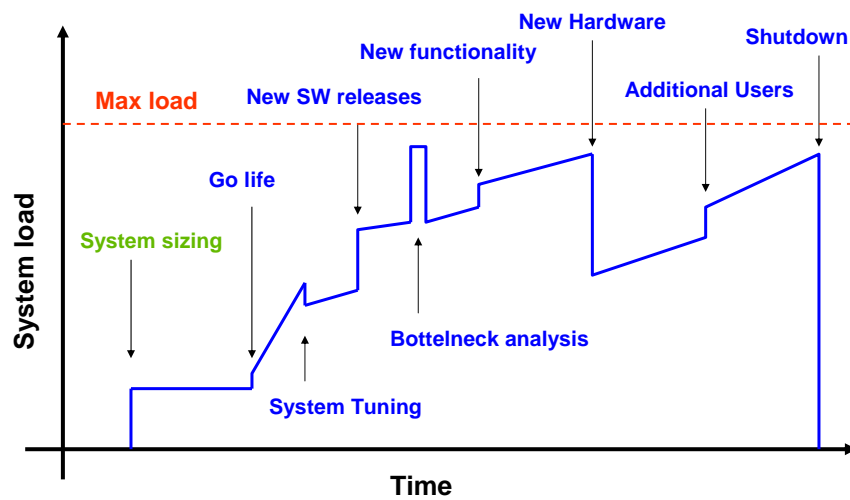


## Key design goal

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



## System lifetime





## Performance lifecycle management

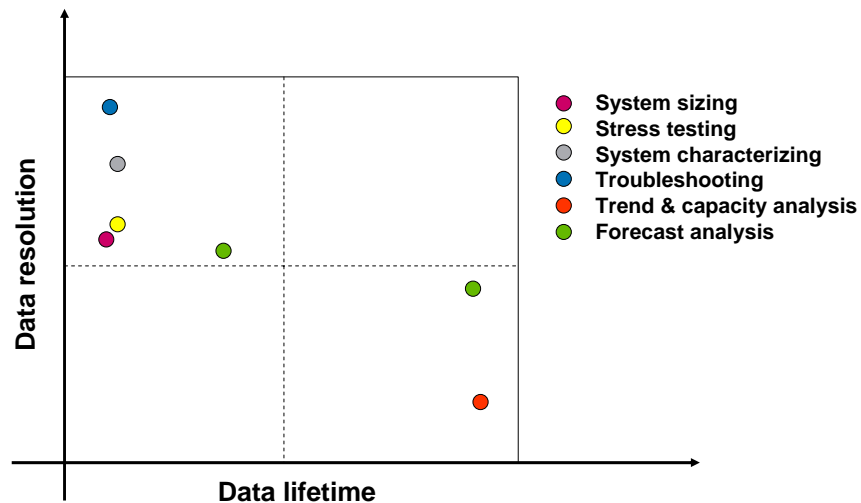
- System sizing
- Stress testing
- System characterizing
- Tuning
- Troubleshooting and bottleneck identification
- Trend & Capacity analysis
- Forecast analysis



## 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)



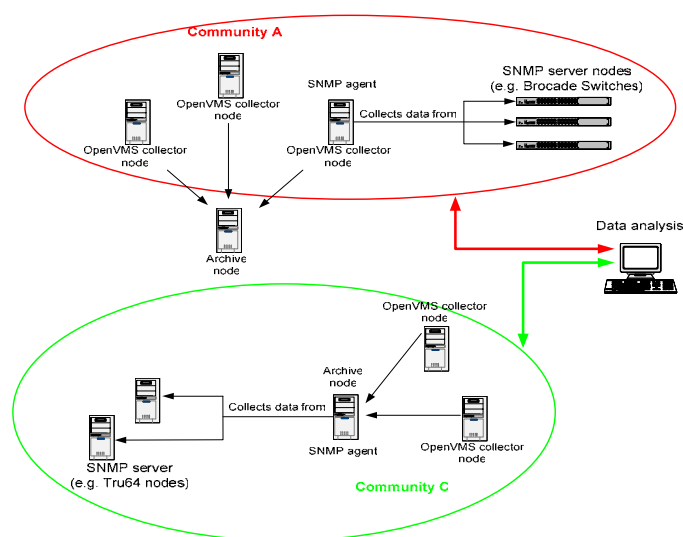
## Views on performance

- 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

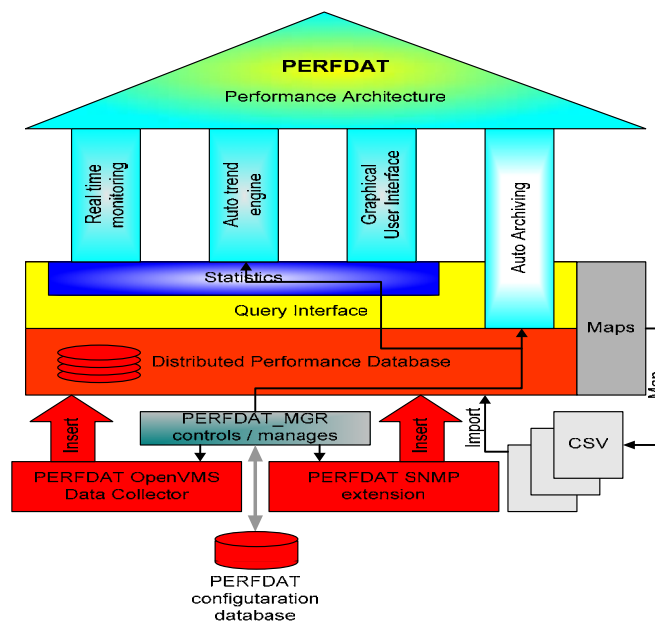
- Ability to match the users system and performance view
  - Single point of access to the performance data of all components, regardless if the components are spread all over the world or just around the corner -> Community concept
  - Data from different sources shall be transparently accessibly within 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

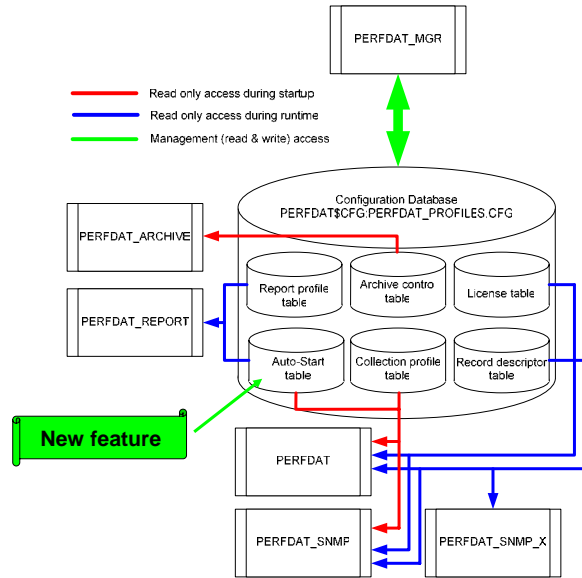
New



- 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



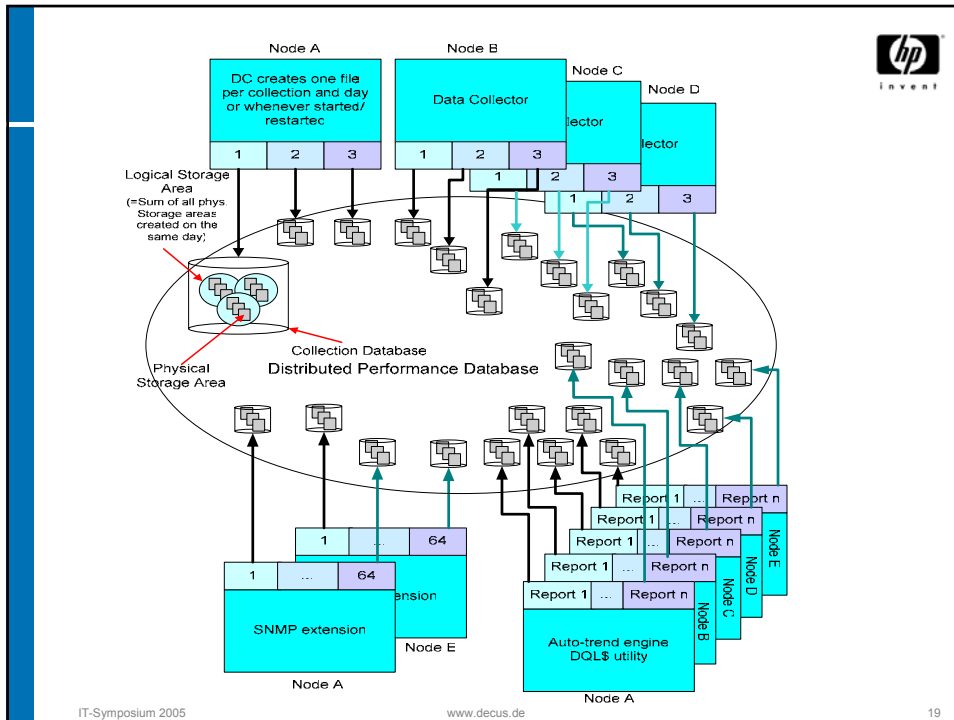
## PERFDAT configuration database



## 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

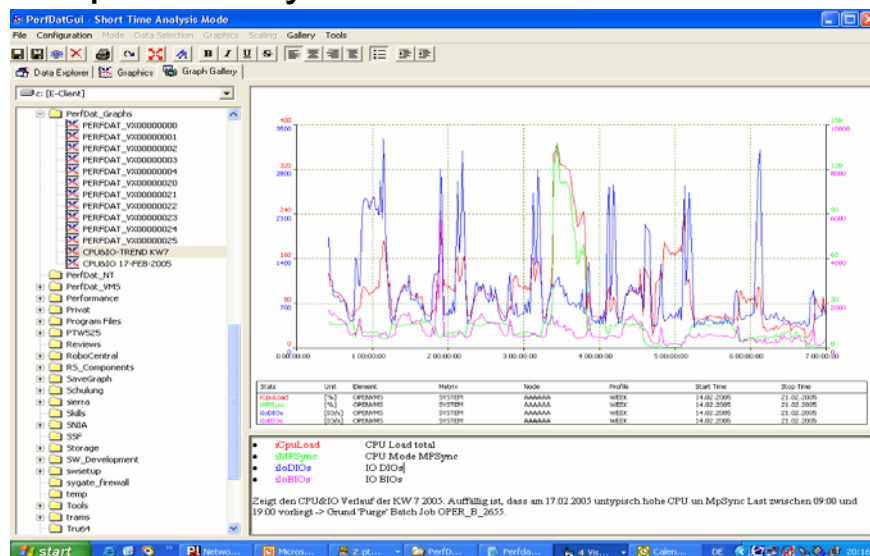
## Graphical user interface

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

Stats	Collection	Metric	Element	Date
CpuLoad	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
MPsync	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
IOdIOs	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005
IOBIOs	AAAAAA_DEFAULT	SYSTEM	OPENVMS	17-FEB-2005



## 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: VMSTH\_DEFAULT - 2-APR-2005; Filter Parameter: StartTime: 02.04.2005 00:03:00, StopTime: 03.04.2005.
- Reference Definition:** Data Collection: VMSTH\_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).
- Element / Statistics Selection Table:**

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

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## 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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## Full correlation report

The screenshot shows the PerfDadGui software interface. A 'Full Correlation Report' dialog box is open, displaying a table of metrics and their correlation with elements. The table is as follows:

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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## 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](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](mailto:PerfDat@hp.com)
  - Wolfgang.Burger@hp.com
  - +43-1-86630-2547
  - +43-664-8379528

