PerfDat

A new performance solution for OpenVMS

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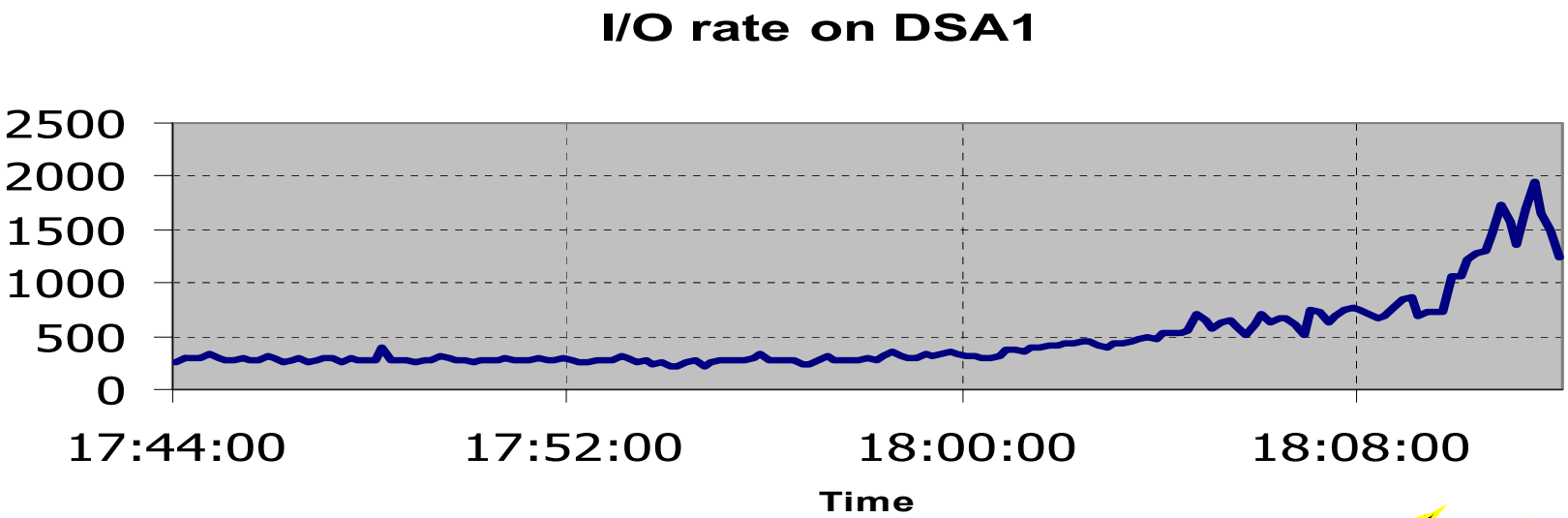
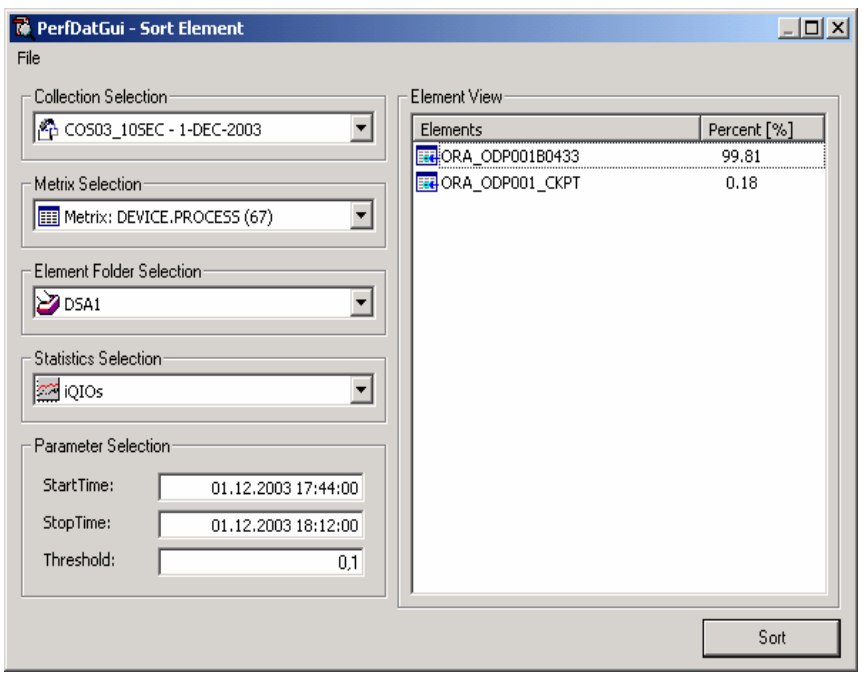
Did you ever face …

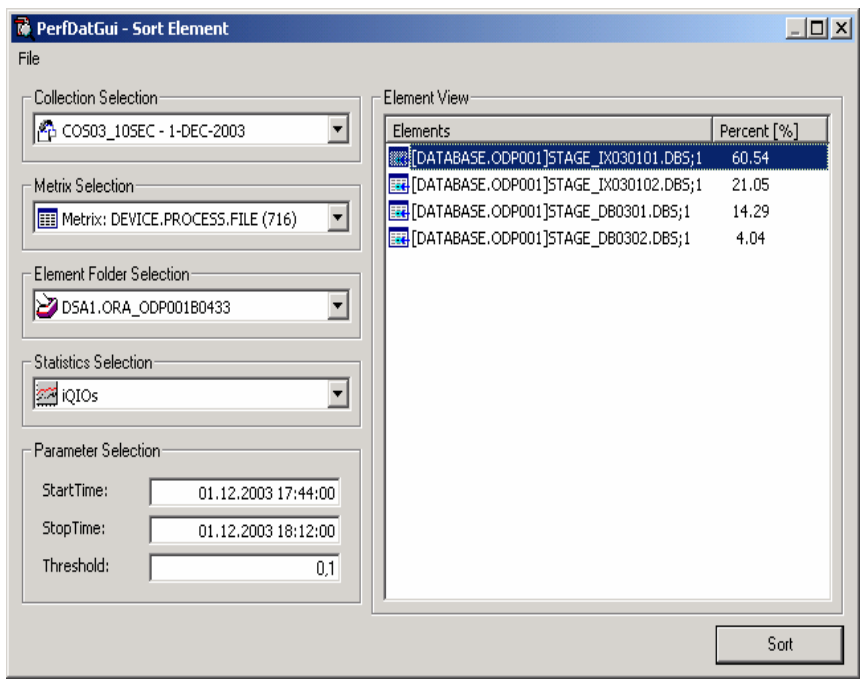


- Sudden I/O rate increase
- Massive user complaints right away
- > 100 processes active
- No process I/O request data correlation

Whould you like to identify with low effort …

- Which processes are the originators of the problem?
- Which „hot“ files are accessed by that process?





Have you ever tried …

- to get these kind of information from existing performance tools on OpenVMS?

Austrian lottery …

- Did have the problem
- Tried to identify the device I/O originator
- Recognized any conclusion was educated guess

- *This was the birth of PerfDat*

Agenda

- Requirements
- Concepts and components
- PerfDat installation
- PerfDat licensing
- Supported versions
- PerfDat links

Key design goal

- From the very beginning PerfDat was designed as a powerful solution that is capable to support all performance and capacity planning related activities during the lifetime of a system.

Key design goal (cont.)

- This includes
  - Benchmarking runs
  - Stress testing
  - System sizing
  - System characterization
  - Tuning
  - Troubleshooting and bottleneck identification
  - Investigation of performance anomalies
  - Validating the performance impact of new software / software versions / OpenVMS releases
  - Trend analysis
  - …

Requirements

- Powerful data collector
- Easy to handle and control (plug and play)
- Ability to handle huge amounts of data (> 1TByte)
- As little data management as possible
- Best practice workflow support based on a variety of statistical functions for any kind of performance analysis task in order to
  - Reduce analysis time
  - Get a clue about what is going on without expert knowledge
- Analysis tool shall not depend on the source data format – principle: “analyze what you get”

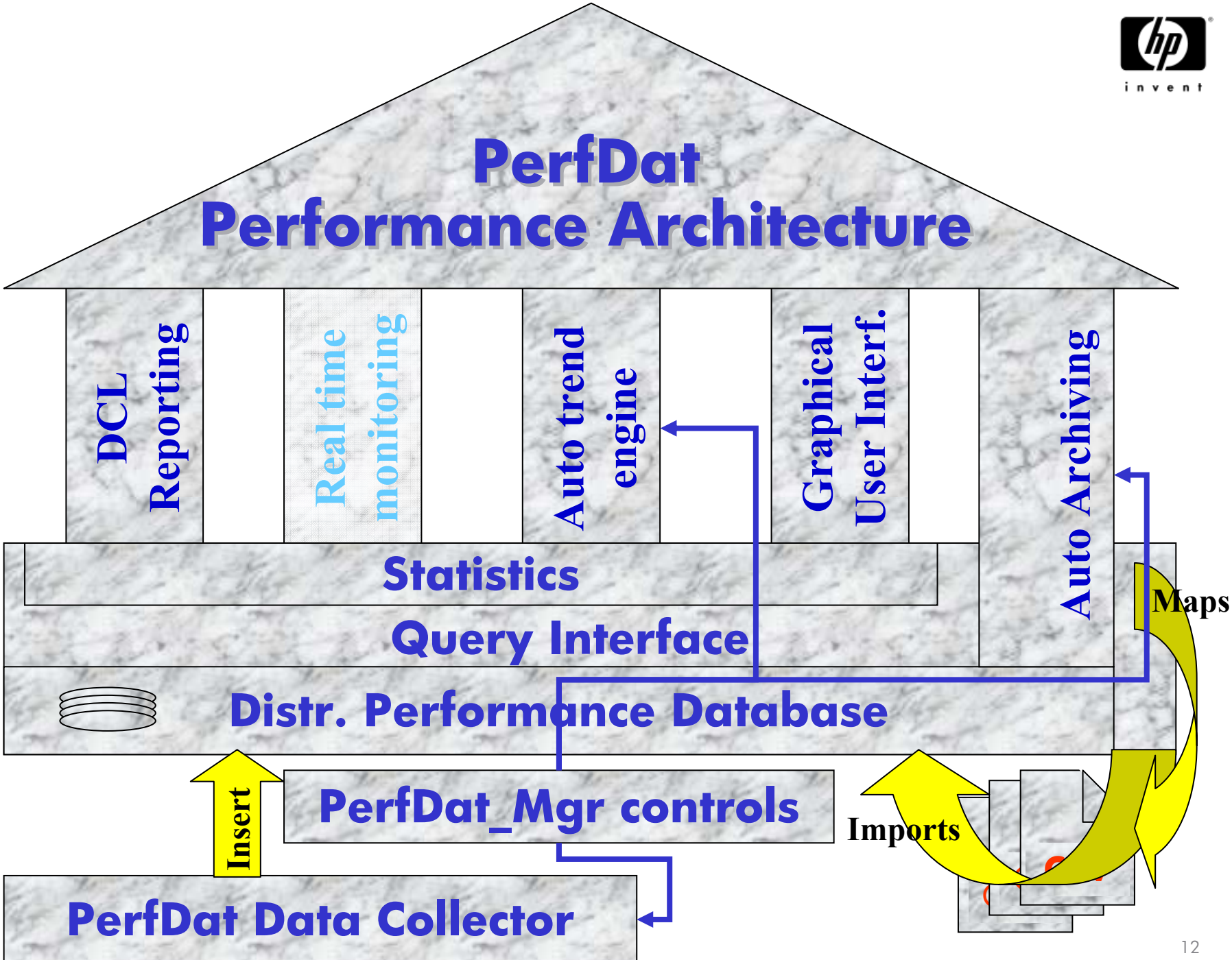
Requirements (cont.)

- Data analysis shall be done without any kind of data preprocessing
- Automatic trend reporting and data compression
- Archive and housekeeping functionality
- Data from different sources (different nodes - native data of the PerfDat data collector, mapped or imported data) shall be transparently accessed via one single common interface.
- Data analysis shall neither depend explicitly nor implicitly on the start time or sample interval of any data collection.
- Easy data transfer of the performance data base or parts of it for offline analysis

Requirements (cont.)

- Up- and downward data compatibility
- Ability to map / import data from additional data sources
- State of the art GUI
  - Easy to handle
  - Intuitive
  - Ability to visualize and analyze data from remote
- No dependency on any layered products except those available on the OpenVMS installation CD
- No dependency on any 3rd party product or any kind of shareware / freeware.

PerfDat Performance Architecture



Data Collector - Features

- Up to 3 collections in parallel
- Currently 600 statistics organized in 20 metrics
- Profile controlled – Profiles reside in the profile database and are configured via PerfDat_Mgr
- Sample interval is freely definable (Min = 1 sec)
- Each metric can be enabled/disabled independently
- For each metric (except the system metric), thresholds can be set to minimize the amount of data

Data Collector – Features (cont.)

- 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 real file names
- complete XFC integration
- Permits online monitoring

Data Collector – Features (cont.)

- Dynamic resource trimming.
  - In order to avoid performance problems due to running PerfDat, PerfDat watches its own resource consumption, and if CPU load and/or I/O load exceeds definable thresholds PerfDat automatically increases collection sample intervals and/or dismisses metrics rule based.
- Is controlled by PerfDat_Mgr

Available metrices

- System
- CPU
- Process
- User
- Image
- Device
- Device.IOSize
- Device.File
- Device.Process
- Device.Process.File

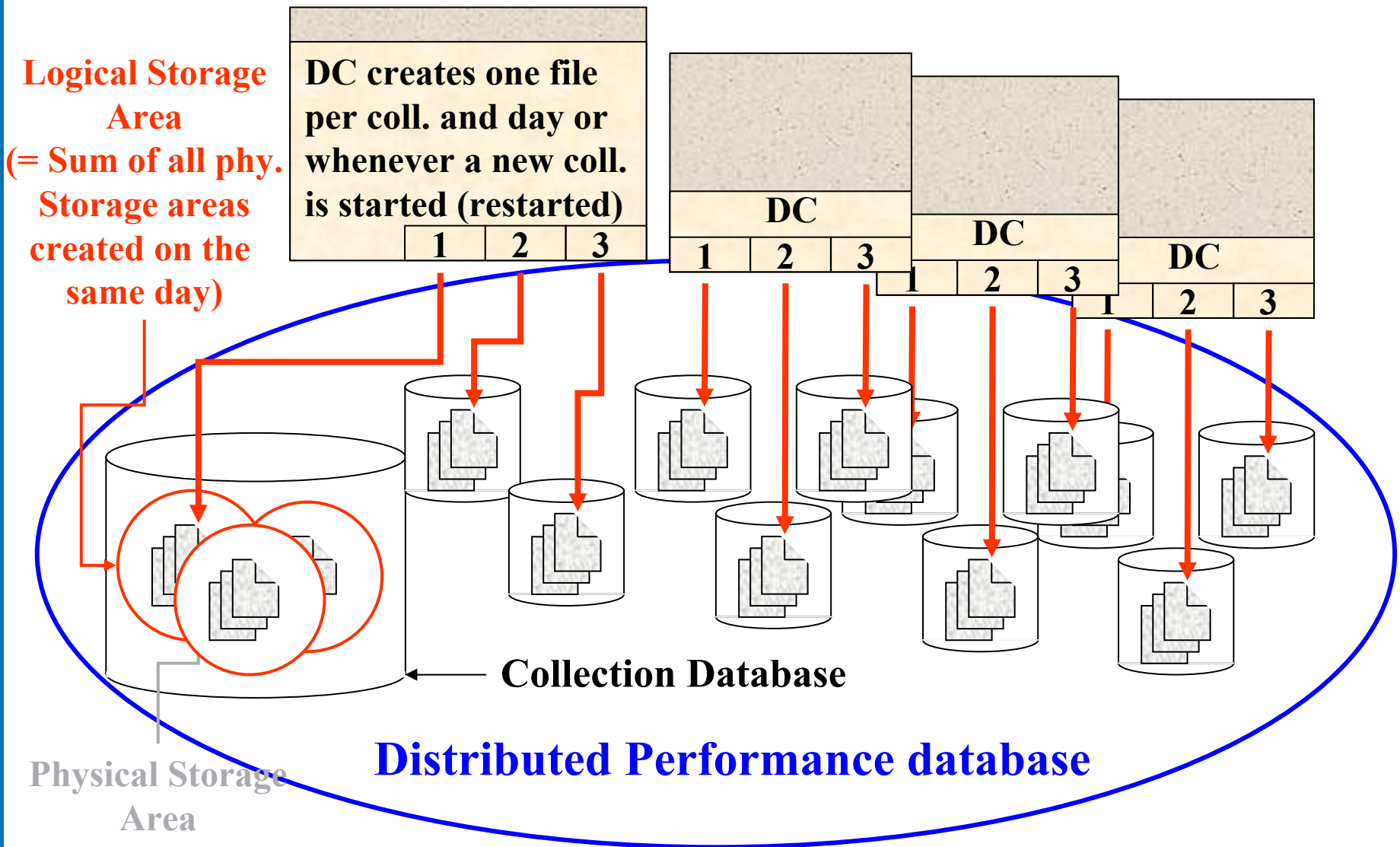
Available metrices (cont.)

- XFCVolume
- XFCVolume.IOSize
- XFCVolume.File
- XFCVolume.File.IOSize
- LANAdapter
- LANAdapter.Device
- LANProtocol
- SCSPort
- SCSPort.VC
- SCSPort.VC.Channel

Management interface - PerfDat_Mgr

- Startup and shutdown of the environment on the local node
- Add, copy, modify, delete collection profiles
- Start, stop collections
- Shows status of actual running collections
- Add, copy, modify, delete trend report profiles
- Licensing
- Start, stop and configuration of Archiver

Database Organisation



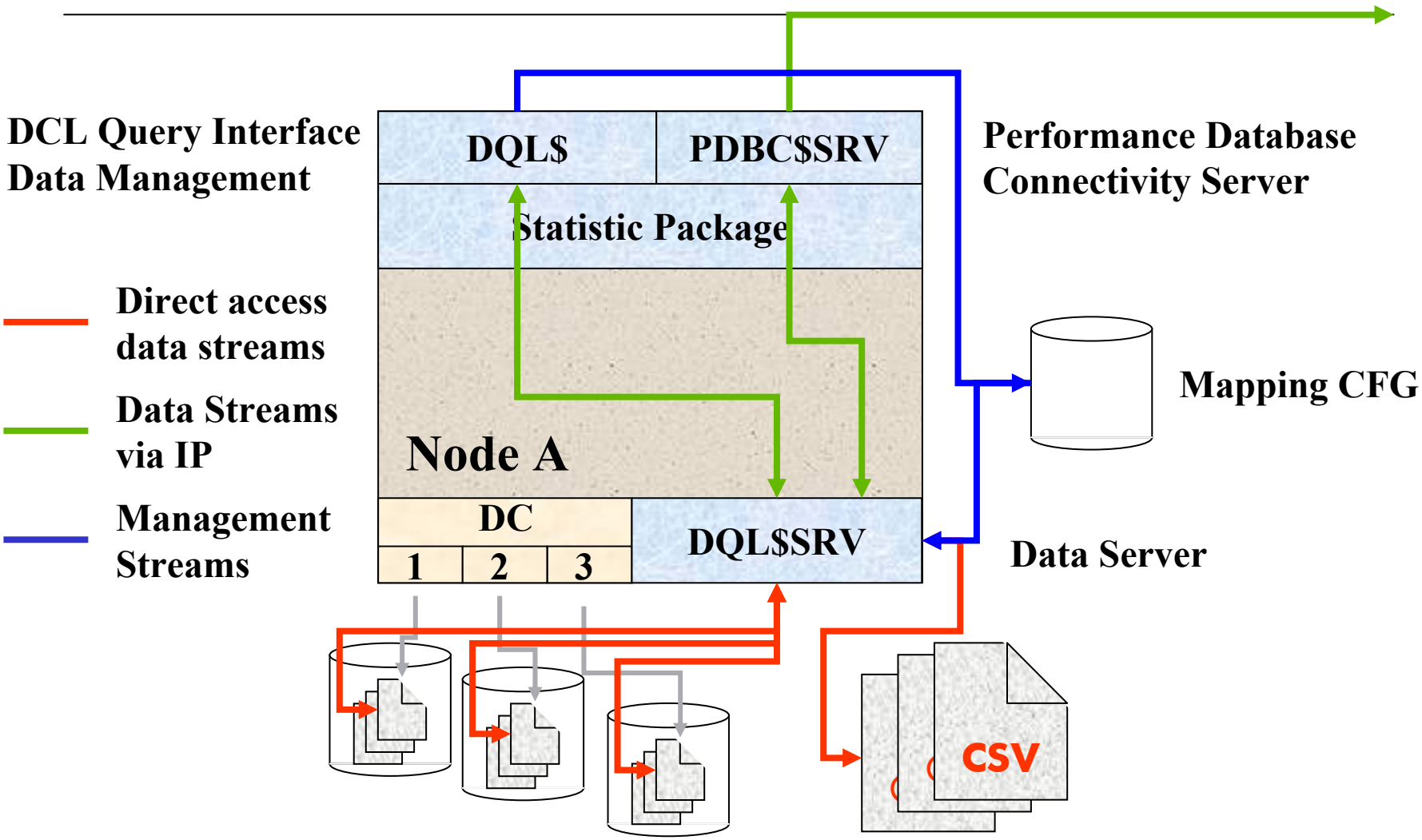
Database & Query Interface - Features

- RMS based
- Self defining
- Distributed
- Query interface (DQL$) similar to SQL
- Transparent single point access via network abstraction layer via DQL$ interface
- Up- and downward data compatibility via data abstraction layer
- Dynamic CSV file mapping capability for accessing and analyzing data from different data sources

Database & Query Interface Features (cont.)

- 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 is not only inserted but normalized.
- CSV export capability
- Statistic package fully integrated in data query interface

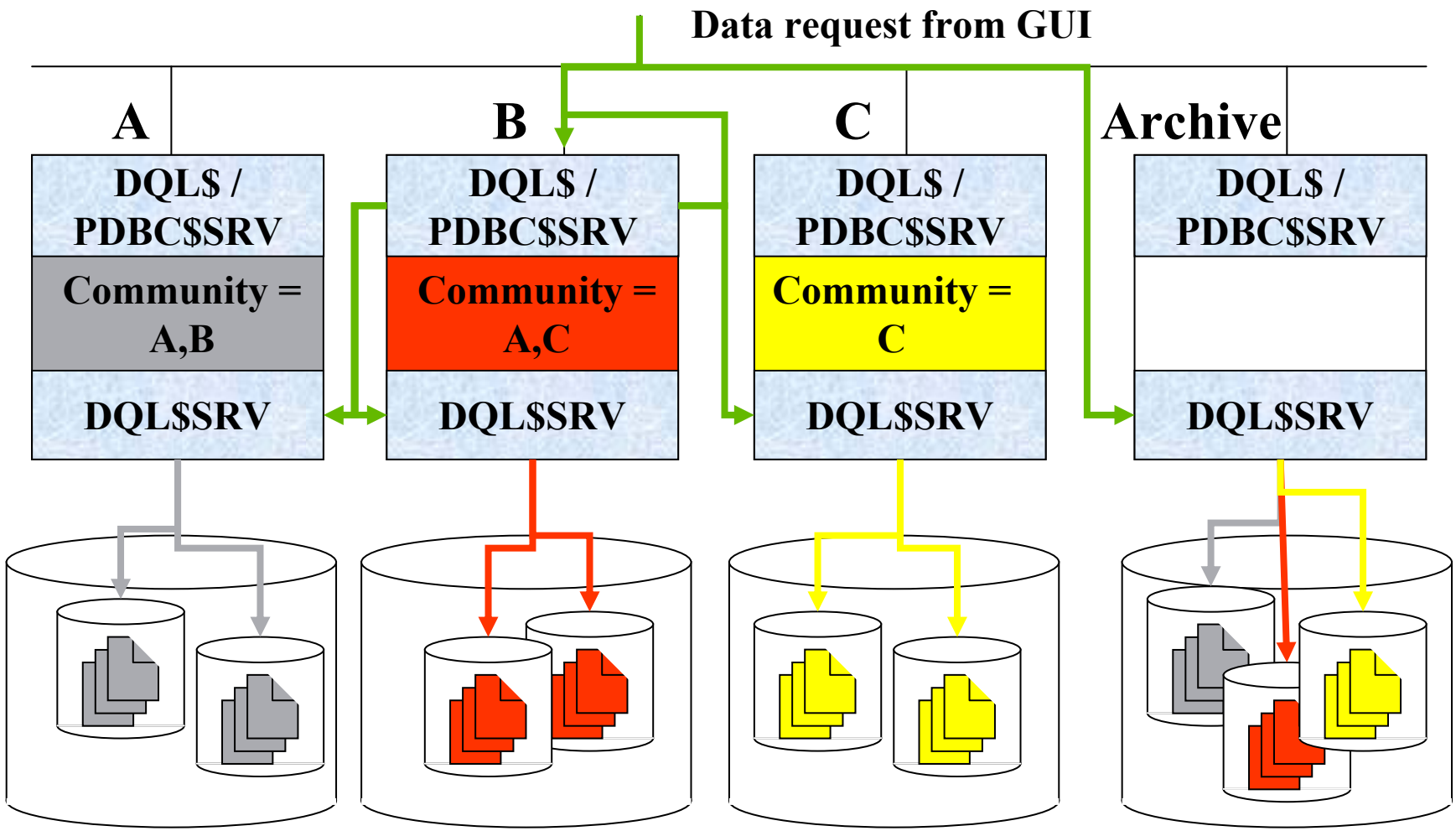
Query Interface - Components



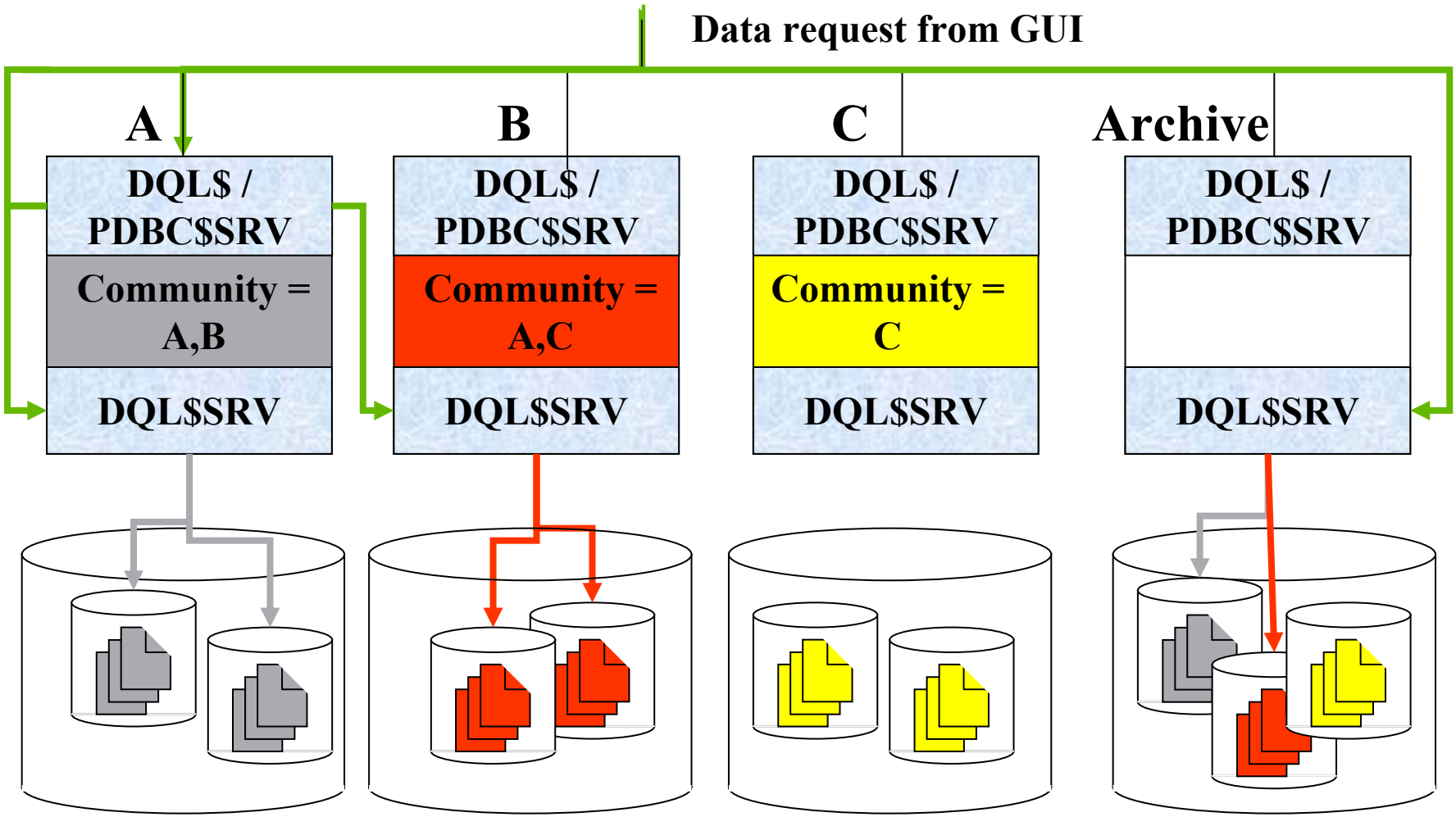
Query Interface - Community

- When accessing the performance database via a dedicated server the Community defines the database view
- Community
  - Defined via the logical PERFDAT$COMMUNITY
  - Defines the nodes of interest
  - Only data created by these nodes will be visible
- Independently of the Community definition, the local node and the archive node (if available) are always accessed

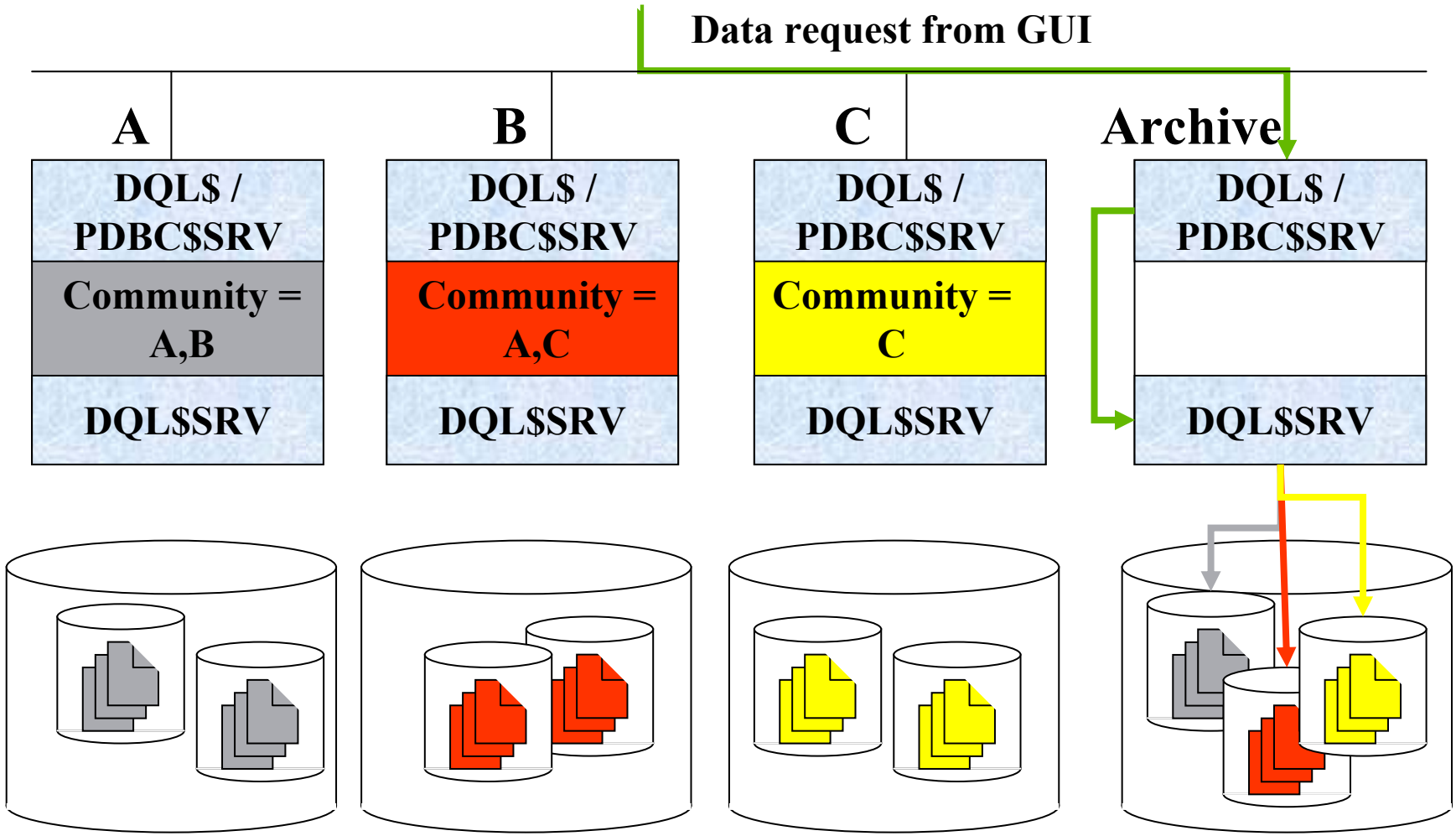
Query Interface - Data Flow



Query Interface - Data Flow



Query Interface - Data Flow



Statistic package - Features

- 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 metric (freely definable time period, statistics and elements)
- The package is part of the query interface. Thus, it is available from the GUI as well as from the command line interface (DCL) on OpenVMS.

Archiving and housekeeping

- Daily log-file and temp file cleanup
- Periodical archiving of logical storage areas
- Archiving time is freely defineable
- Keep time of data is freely definable
- Logical Storage areas that are older then the actual date minus keep time are unconditionally deleted
- Trend reports are not deleted
- Archiving can be done locally or on dedicated archiving nodes

Archiving and housekeeping

- CSV-files are not processed by the archiver
- Data manually moved to PERFDAT$DB_SAVE are not processed either
- PERFDAT$DB_SAVE is used as the target directory for performance data base-lining
- Is controlled via PerfDat_Mgr

Auto trend engine

- Is triggered by the archiver (if the archiver is stopped the auto trend engine is stopped too)
- Only processes performance data of the local node
- Automatic selection and compression of performance statistics for trend- and capacity analysis.
- Time span of a trend report can be day, week, month, quarter or year.
- Trends are generated based on predefined report profiles
- Trend report profiles are defined via PerfDat_Mgr

Graphical user interface

- Delivered kit is self-contained
- Representation of line graphs
- Representation of variation functions
- Capabilities of data overlays (graphs of different time periods can be overlapped to allow visual comparison)
- Stack/unstack function
- Zoom in/out

Graphical user interface

- Shift left /right
- Data scanning
- Up to 8 curves in one graph (in overlay mode up to 16)
- Each graph is scaled separately
- Auto, native and manual scaling capability

Graphical user interface

- 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/XP

GUI - Customization

PerfDatGui - Short Time Analysis Mode

File | Configuration | Mode | Data Selection | Graphics | Scaling | Tools

Communities
Show Graphics in seperate Window
Graphics always on Top
Line Settings

Collection Working Set / Statistics Selection

Statistics | Description

Connect | Disconnect

Collection View
Accessable Collections

Configure Community

Parameter
Community Name: APPL1
Access Server: BCSXTC.AUI.CPQCORP.NET
Port: 5254

Add | Update | Delete | Delete All | Exit

Transaction Log

Start | C:\S... | Proj... | PER... | PA... | Sear... | Inbo... | Wor... | Deu... | 200... | Perf... | 20:30

Any name

Click Add & Exit

Full qualified name or IP address of access server

GUI – Data access (1)

PerfDatGui - Short Time Analysis Mode

File Configuration Mode Data Selection Graphics Scaling Tools

Data Explorer | Graphics

Communication View

Available Communities

APPL1

Connect | Disconnect

Collection View

Accessable Collections

Collection Working Set / Statistics Selection

Statistics | Description

Enter OpenVMS user name & password (operator privilege required)

Access Server Login

Username:

Password

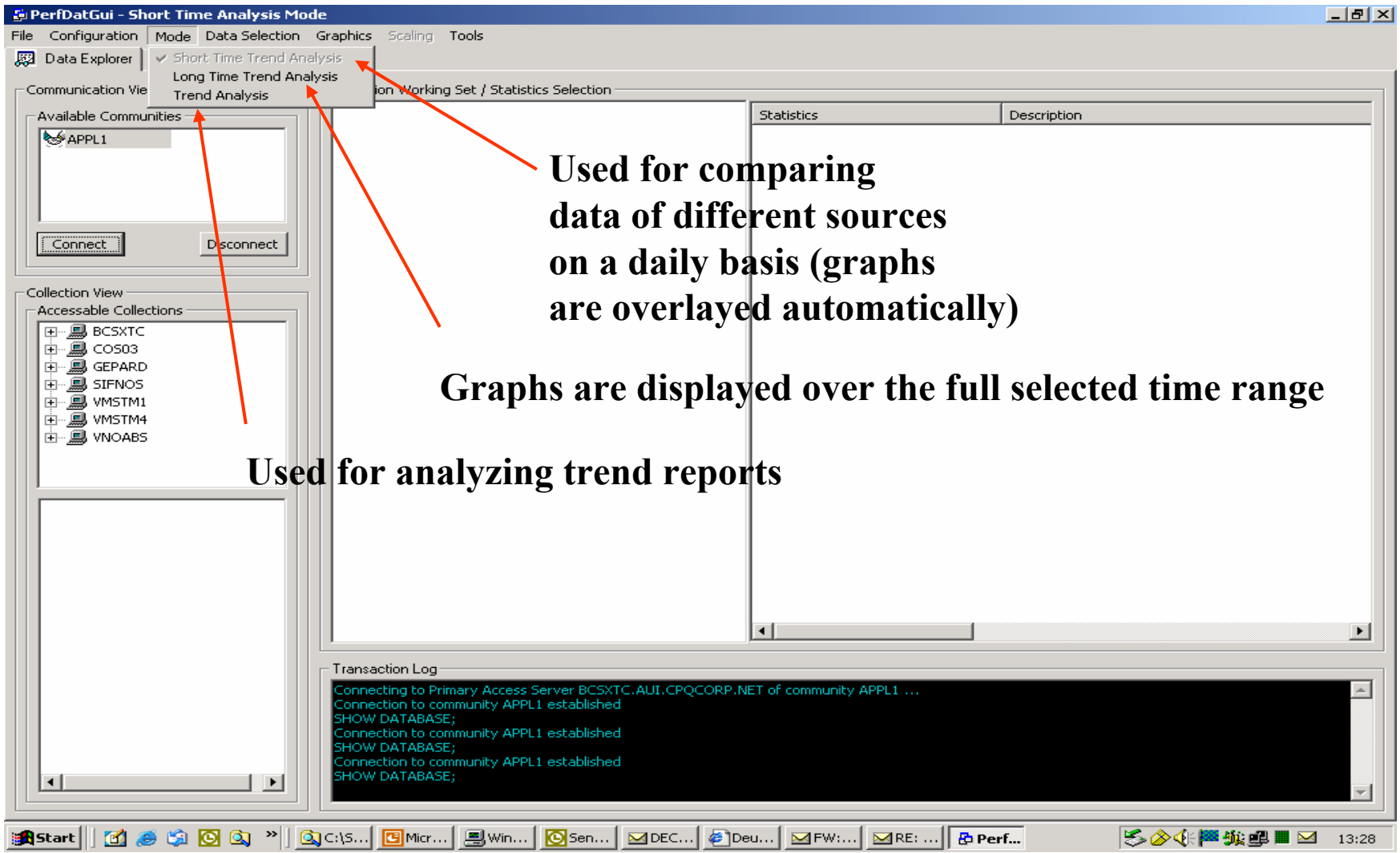
OK | Cancel

Transaction Log

Connecting to Primary Access Server BCSXTC.AUI.CPQCORP.NET of community APPL1 ...
Connection to community APPL1 established

Start | C:\S... | Micro... | Wind... | Sent ... | DECU... | Deut... | FW: ... | RE: A... | PerfD... | 13:27

GUI – mode selection



Used for comparing data of different sources on a daily basis (graphs are overlayed automatically)

Graphs are displayed over the full selected time range

Used for analyzing trend reports

GUI – Data access (2)

PerfDatGui - Short Time Analysis Mode

File Configuration Mode Data Selection Graphics Scaling Tools

Data Explorer | Graphics

Communication View

Available Communities

APPL1

Connect Disconnect

Collection View

Accessable Collections

BCSXTC
COS03
GEPARD
SIFNOS
20S
2MIN
VMSTM1
VMSTM4
VNOABS

20-FEB-2004
21-FEB-2004
22-FEB-2004
23-FEB-2004
24-FEB-2004
25-FEB-2004
26-FEB-2004
27-FEB-2004
28-FEB-2004
29-FEB-2004
1-MAR-2004
2-MAR-2004
3-MAR-2004
4-MAR-2004

Collection Working Set / Statistics Selection

Statistics | Description

Community members

Collection databases available for the member

Logical storage areas of the selected Collection DB

Selected logical storage areas are simply attached by drag and drop into the collection working set window

Transaction Log

```
Connection to community APPL1 established
SHOW DATABASE;
Connection to community APPL1 established
SHOW DATABASE;
Connection to community APPL1 established
SHOW DATABASE;
SHOW LOGICAL STORAGE AREA ALIAS SIFNOS_2
```

Start | C:\S... | Micr... | Win... | Sen... | DEC... | Deu... | FW:... | RE: ... | Perf... | 13:29

GUI – Data access (3)

PerfDatGui - Short Time Analysis Mode

File Configuration Mode Data Selection Graphics Scaling Tools

Data Explorer | Graphics

Metrics

Statistics of the selected Metric

Communication View

Available Communities

APPL1

Connect Disconnect

Collection View

Accessable Collections

BCSXTC
COS03
GEPARD
SIFNOS
20S
2MIN
VMSTM1
VMSTM4
VNOABS

18-FEB-2004
19-FEB-2004
20-FEB-2004
21-FEB-2004
22-FEB-2004
23-FEB-2004
24-FEB-2004
25-FEB-2004
26-FEB-2004
27-FEB-2004
28-FEB-2004
29-FEB-2004
1-MAR-2004
2-MAR-2004

Collection Working Set / Statistics Selection

SIFNOS_2MIN - 1-MAR-2004
Properties
Metrix: CPU (1)
Metrix: DEVICE (3)
1DKB300
DSA1
DSA2
Metrix: IMAGE (52)
Metrix: LANADAPTER (1)
Metrix: LANADAPTER.DEVICE (20)
Metrix: LANPROTOCOL (14)
Metrix: PROCESS (56)
Metrix: SCSPORT (1)
Metrix: SCSPORT.VC (1)
Metrix: SCSPORT.VC.CHANNEL (1)
Metrix: SYSTEM (1)
Metrix: USER (10)
Metrix: XFCVOLUME (5)
SIFNOS_2MIN - 2-MAR-2004
Properties
Metrix: CPU (1)
Metrix: DEVICE (3)
Metrix: IMAGE (50)
Metrix: LANADAPTER (1)
Metrix: LANADAPTER.DEVICE (20)
Metrix: LANPROTOCOL (14)
Metrix: PROCESS (54)
Metrix: SCSPORT (1)
Metrix: SCSPORT.VC (1)
Metrix: SCSPORT.VC.CHANNEL (1)

Elements

Statistics	Description
iQIOs	Total QIO rate on device
iRqs	Total device IO request rate
iIOs	Total service IO (passing START_IO routine) rate
iIOSp	Total split service IO (passing START_IO routine) ra
iAbs	Total Aborted IOs /sec
iMbs	Total MBytes /sec
iRQtime	IO Request time [ms]
iIOtime	IO Service Time [ms]
iRQrespAcc	Accuracy of IO Request time [+/- %]
iIOrspAcc	Accuracy of IO Service time [+/- %]
iRdQIOs	Read QIO rate on device
iRdRqs	Read device IO request rate
iRdIOs	Read service IO (passing START_IO routine) rate
iRdIOSp	Read split service IO (passing START_IO routine) ra
iRdAbs	Read Aborted IOs /sec
iRdMbs	Read MBytes /sec
iRdRQtime	Read IO Request time [ms]
iRdIOtime	Read IO Service Time [ms]
iRdRQrespAcc	Accuracy of Read IO Request time [+/- %]
iRdIOrspAcc	Accuracy of Read IO Service time [+/- %]
iWrQIOs	Write QIO rate on device
iWrRqs	Write device IO request rate
iWrIOs	Write service IO (passing START_IO routine) rate
iWrIOSp	Write split service IO (passing START_IO routine) ra
iWrAbs	Write Aborted IOs /sec
iWrMbs	Write MBytes /sec

Transaction Log

```
SHOW ELEMENTS * FROM SCSPORT.VC ALIAS SIFNOS_2MIN DATE 4-MAR-2004;
SHOW ELEMENTS * FROM SCSPORT.VC.CHANNEL ALIAS SIFNOS_2MIN DATE 4-MAR-2004;
SHOW ELEMENTS * FROM SYSTEM ALIAS SIFNOS_2MIN DATE 4-MAR-2004;
SHOW ELEMENTS * FROM USER ALIAS SIFNOS_2MIN DATE 4-MAR-2004;
SHOW ELEMENTS * FROM XFCVOLUME ALIAS SIFNOS_2MIN DATE 4-MAR-2004;
SHOW LOGICAL STORAGE AREA ALIAS SIFNOS_2
SHOW STATISTICS FROM DEVICE ALIAS SIFNOS_2MIN DATE 1-MAR-2004;
```

Stats description

Start C:\S... Micr... Win... Sen... DEC... Deu... FW:... RE: ... Perf... 13:29

GUI – Select graphics

PerfDatGui - Short Time Analysis Mode

File Configuration Mode Data Selection Graphics Scaling Tools

Data Explorer | Graphics

Communication View

Available Communities: APPL1

Connect | Disconnect

Collection View

Accessable Collections: GEPARD, SIFNOS, VMSTM1, VMSTM4, VNOABS (20S, 2MIN, SPHINX, TEST)

18-FEB-2004, 19-FEB-2004, 20-FEB-2004, 21-FEB-2004, 22-FEB-2004, 23-FEB-2004, 24-FEB-2004, 25-FEB-2004, 26-FEB-2004, 27-FEB-2004, 28-FEB-2004, 29-FEB-2004, 1-MAR-2004, 2-MAR-2004, 3-MAR-2004

Collection Working Set / Statistics Selection

VNOABS_2MIN - 1-MAR-2004: Properties, Metrix: CPU (4), Metrix: DEVICE (2), Metrix: IMAGE (26), Metrix: LANADAPTER (2), Metrix: LANADAPTER.DEVICE (14), Metrix: LANPROTOCOL (8), Metrix: PROCESS (29), Metrix: SCSPORT (1), Metrix: SCSPORT.VC (1), Metrix: SCSPORT.VC.CHANNEL (3), Metrix: SYSTEM (1), VNOABS

Metrix: USE

VNOABS_2MIN: Properties, Metrix: CPU, Metrix: DEV, Metrix: IMA, Metrix: LAN, Metrix: LAN, Metrix: LAN, Metrix: PRC, Metrix: SCS, Metrix: SCS, Metrix: SCS, Metrix: SYSTEM (1), Metrix: USER (5)

VNOABS_2MIN - 3-MAR-2004

New Graph ... Strg+N
Add Data to Graph ... Strg+A
Sort Data ...
Remove Data from Graph ...
Locate Data ...
Define as Reference ...
Release Reference ...
Data Statistics ...
Correlate Data ... Strg+C
Remove Collection from Working Set

Statistics	Description
iCpuLoad	CPU Load total
iIntr	CPU Mode Interrupt
iMPSync	CPU Mode MPSync
iKernel	CPU Mode Kernel
iExec	CPU Mode Exec
iSuper	CPU Mode Super
iUser	CPU Mode User
iMemFree	MEM Free
iMemMod	MEM Modified
iNPagExpSuc	NPAG Successful Expansions
iNPagExpFail	NPAG Failed Expansions
iNPagAlloc	NPAG Total Alloc Requests Rate
	NPAG Failed Alloc Requests Rate
	PFL total
	PFL global pages
	PFL Demand Zero
	PFL read faults
	PFL modified faults
	PFL on executive faults
	PFL total page reads
	PFL modified pages written
	PFL IOs to write modified pages
iPgflFree	PGFL Total free space [MB]
iPgflFreeRate	PGFL Percentage of free space [%];

Transaction Log

```
SHOW ELEMENTS * FROM SCSPORT ALIAS VNOABS_2MIN DATE 5-MAR-2004;
SHOW ELEMENTS * FROM SCSPORT.VC ALIAS VNOABS_2MIN DATE 5-MAR-2004;
SHOW ELEMENTS * FROM SCSPORT.VC.CHANNEL ALIAS VNOABS_2MIN DATE 5-MAR-2004;
SHOW ELEMENTS * FROM SYSTEM ALIAS VNOABS_2MIN DATE 5-MAR-2004;
SHOW ELEMENTS * FROM USER ALIAS VNOABS_2MIN DATE 5-MAR-2004;
SHOW LOGICAL STORAGE AREA ALIAS VNOABS_2
SHOW STATISTICS FROM SYSTEM ALIAS VNOABS_2MIN DATE 1-MAR-2004;
```

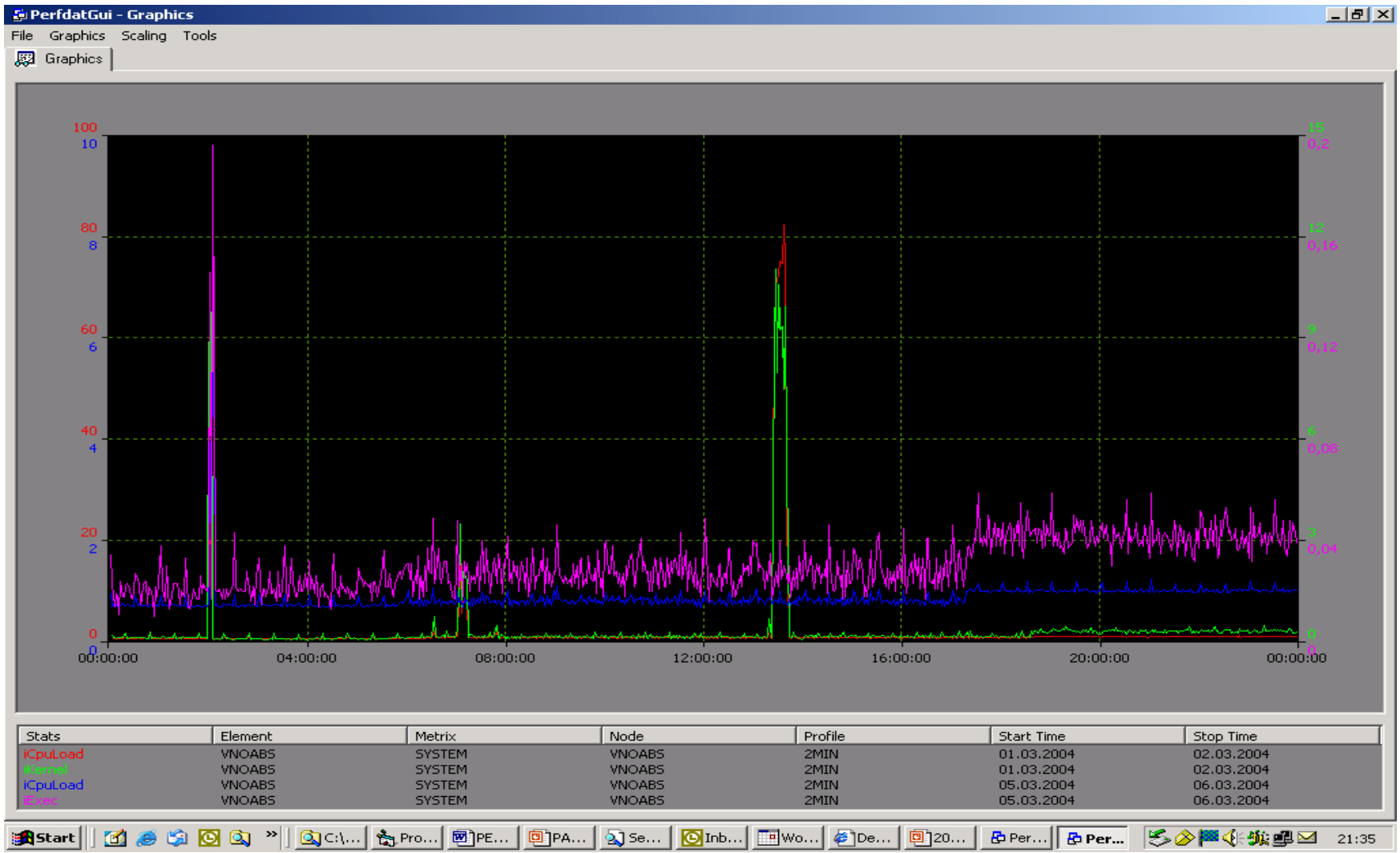
Start | C:\S... | Micr... | Win... | Sen... | DEC... | Deu... | FW:... | RE: ... | Perf... | 13:33

Select element

Select stats to display

Select „New Graph“ - or - „Add Graph“ if you want to add the data to an existing graph

GUI – Graphics Example



GUI – Graphics Options

PerfdatGui - Graphics

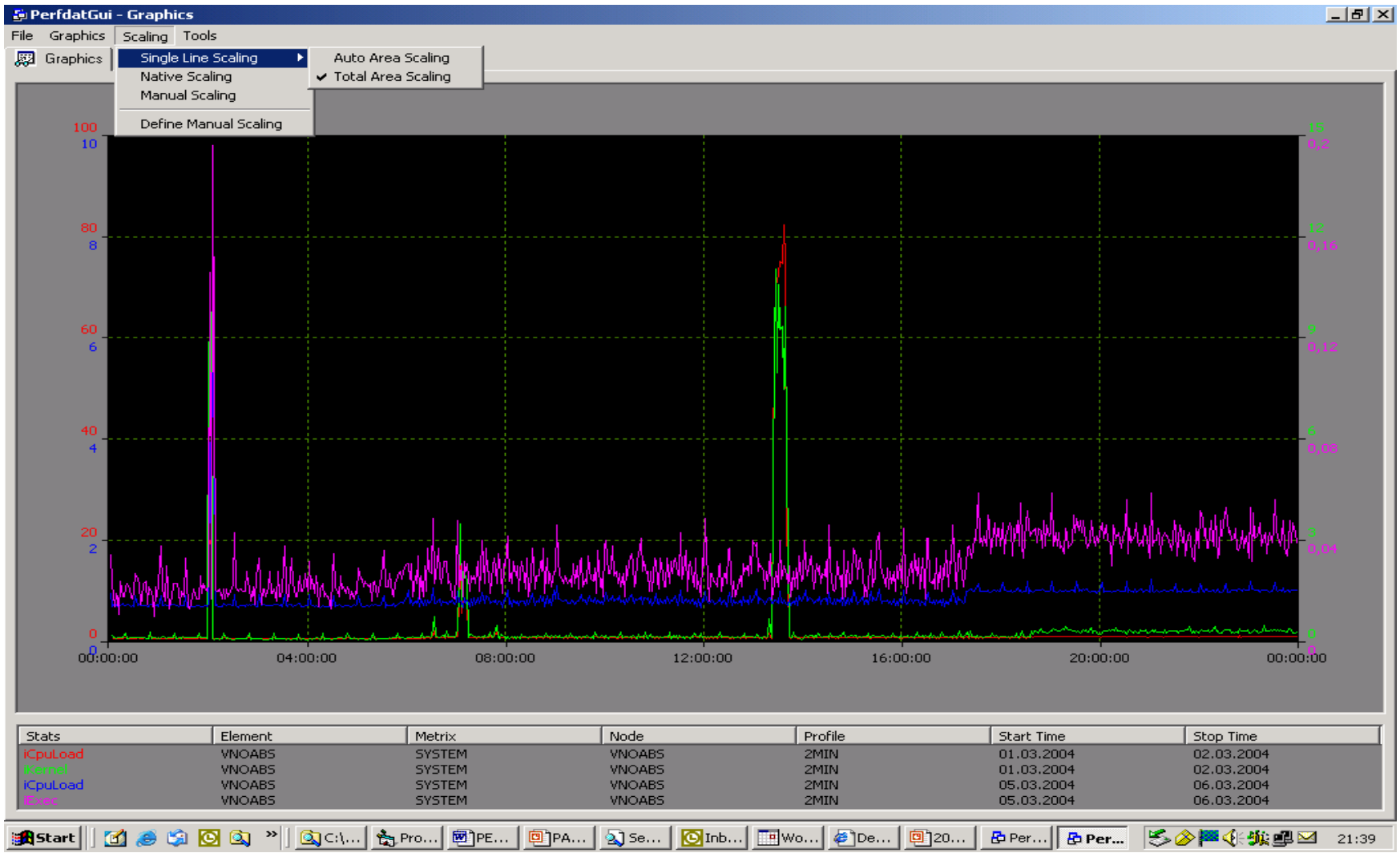
File Graphics Scaling Tools

Graphics

- ✔ Line Graph ...
- Frequency Distribution ...
- Zoom in Strg+I
- Zoom out Strg+O
- Zoom manual Strg+M
- Shift Left Strg+L
- Shift Right Strg+R
- Enable Overlay
- Manual Overlay Strg+Y
- Disable Overlay
- View Data Strg+W
- Stack Strg+S
- Unstack Strg+U

Stats	Element	Metrix	Node	Profile	Start Time	Stop Time
iCpuLoad	VNOABS	SYSTEM	VNOABS	2MIN	01.03.2004	02.03.2004
iKernel	VNOABS	SYSTEM	VNOABS	2MIN	01.03.2004	02.03.2004
iCpuLoad	VNOABS	SYSTEM	VNOABS	2MIN	05.03.2004	06.03.2004
iExec	VNOABS	SYSTEM	VNOABS	2MIN	05.03.2004	06.03.2004

GUI – Scaling Options



GUI – Data sorting (1)

PerfDatGui - Short Time Analysis Mode

File Configuration Mode Data Selection Graphics Scaling Tools

Data Explorer | Graphics

Communication View

Available Communities

APPL1

Connect Disconnect

Collection View

Accessable Collections

BCSXTC
COS03
10SEC
GEPARD
SIFNOS
VMSTM1
VMSTM4
VNOABS
20S

1-DEC-2003

Collection Working Set / Statistics Selection

Metrix: SCSPORT.VC (1)
Metrix: SCSPORT.VC.CHANNEL (3)
Metrix: SYSTEM (1)
Metrix: USER (4)
VNOABS_2MIN - 5-MAR-2004
Properties
Metrix: CPU (4)
Metrix: DEVICE (2)
Metrix: IMAGE (23)
Metrix: LANADAPTER (2)
Metrix: LANADAPTER.DEVICE (14)
Metrix: LANPROTOCOL (8)
Metrix: PROCESS (25)
Metrix: SCSPORT (1)
Metrix: SCSPORT.VC (1)
Metrix: SCSPORT.VC.CHANNEL (3)
Metrix: SYSTEM (1)
Metrix: USER (4)
COS03_10SEC - 1-DEC-2003
Properties
Metrix: CPU (2)
Metrix: DEVICE (10)
Metrix: DEVICE.FILE (220)
Metrix: DEVICE.IOSIZE
Metrix: DEVICE.PROCE
Metrix: DEVICE.PROCE
Metrix: IMAGE (48)
Metrix: PROCESS (52)
Metrix: SYSTEM (1)
Metrix: USER (9)

Statistics	Description
iQIOs	Total QIO rate on file
iRqs	Total device IO request on file
iIOs	Total service IO rate
iAbs	Total Aborted IOs /sec
iMbs	Total MBytes /sec
iRdQIOs	Read QIO rate on file
iRdRqs	Read device IO request on file
iRdIOs	Read service IO rate
iRdAbs	Read Aborted IOs /sec
iRdMbs	Read MBytes /sec
iWrQIOs	Write QIO rate on file
iWrRqs	Write device IO request on file
iWrIOs	Write service IO rate
iWrAbs	Write Aborted IOs /sec
iWrMbs	Write MBytes /sec
iCtlQIOs	Ctrl QIO rate on file
iCtlRqs	Ctrl device IO request on file
iCtlIOs	Ctrl service IO rate
iCtlAbs	Ctrl Aborted IOs /sec
iCtlMbs	Ctrl MBytes /sec
	FID (64 Bit)
	IO request threshold

New Graph ... Strg+N
Add Data to Graph ... Strg+A
Sort Data ...
Remove Data from Graph ...
Locate Data ...
Define as Reference ...
Release Reference ...
Data Statistics ...
Correlate Data ... Strg+C
Remove Collection from Working Set

Transaction Log

```
SHOW ELEMENTS * FROM DEVICE.
SHOW ELEMENTS * FROM IMAGE A
SHOW ELEMENTS * FROM PROCES
SHOW ELEMENTS * FROM SYSTEM
SHOW ELEMENTS * FROM USER ALIAS COS03_10SEC DATE 1-DEC-2003;
SHOW LOGICAL STORAGE AREA ALIAS COS03_10
SHOW STATISTICS FROM DEVICE.FILE ALIAS COS03_10SEC DATE 1-DEC-2003;
```

Start | C:\S... | Micr... | Win... | Sen... | DEC... | Deu... | FW:... | RE: ... | Perf... | 13:35

GUI – Data sorting (2)

PerfDatGui - Sort Element

File

Collection Selection

COS03_10SEC - 1-DEC-2003

Metrix Selection

Metrix: DEVICE.FILE (220)

Element Folder Selection

DSA0

Statistics Selection

iQIOs

Parameter Selection

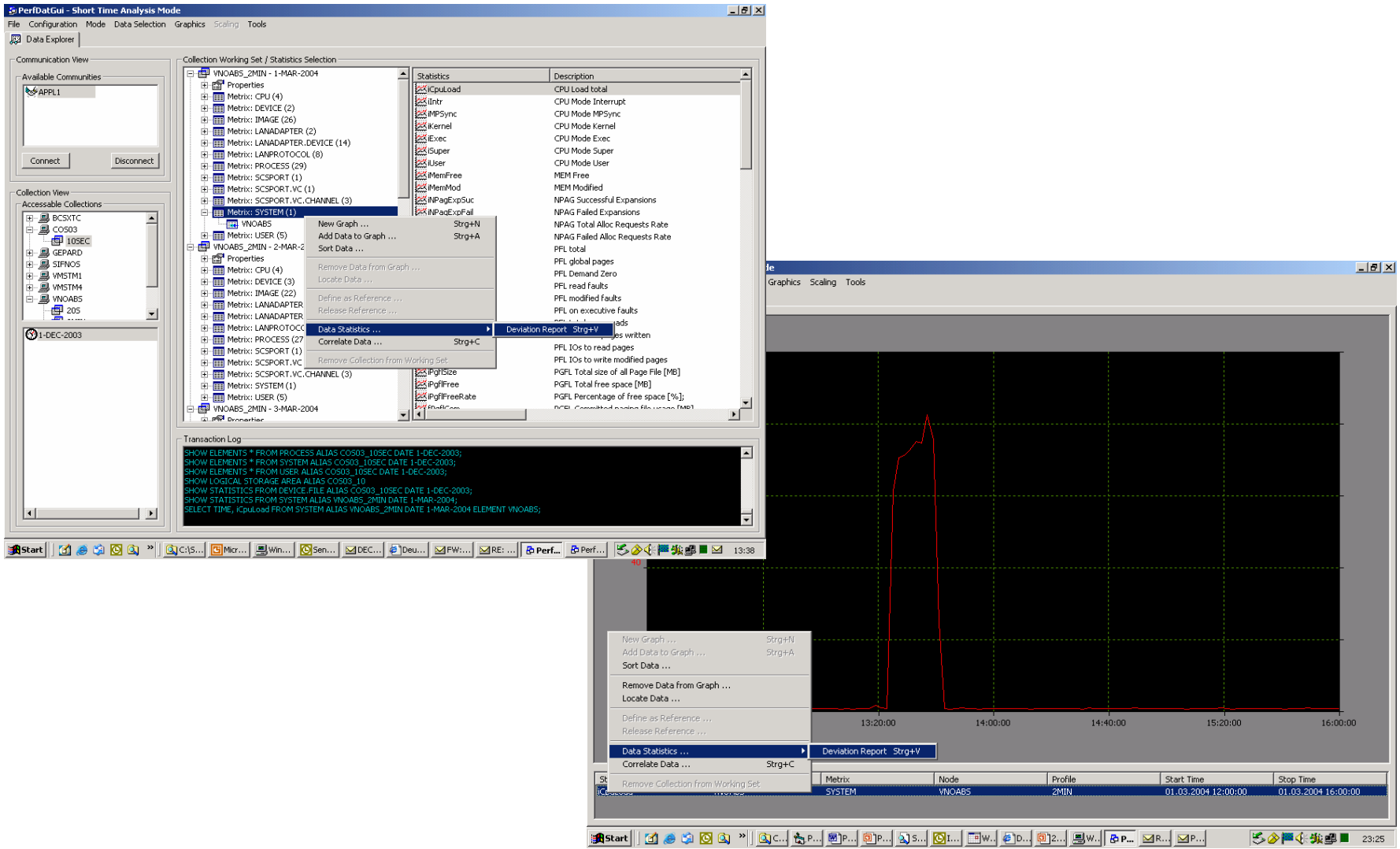
StartTime:	01.12.2003 17:35:00
StopTime:	01.12.2003 23:38:34
Threshold:	0

Element View

Elements	Percent [%]
[PERFDAT.DB]PERFDAT_COS03_10SEC_2003-12-01.DAT;2	58.35
[PERFDAT.DB]PERFDAT_COS03_10SEC_2003-12-01.DAT;1	8.94
[VMS$COMMON.SYSEXE]TCPIP$HOST.DAT;1	6.04
[SYS0.TCPIP$ETC]IPNODES.DAT;1	3.16
[PERFDAT.DB]PERFDAT_COS03_10SEC_2003-12-01.DAT;1	3.10
[EWS.LOG]EWS_AGENT_ON_COS03.LOG;21	1.00
[000000]INDEXF.SYS;1	0.44
[PERFDAT.LOG]PERFDAT.LOG;1	0.39
[VMS$COMMON.SYSLIB]PLIRTL_D56_TV.EXE;1	0.36
[VMS$COMMON.SYSLIB]LIBRTL.EXE;1	0.34
[VMS$COMMON.SYSLIB]DECC$SHR_EV56.EXE;1	0.27
[VMS$COMMON.SYSEXE]MONITOR_TV.EXE;1	0.25
[VMS$COMMON.SYSLIB]LIBRTL_D56_TV.EXE;1	0.23
[VMS$COMMON.SYSLIB]TIE$SHARE.EXE;1	0.19
[VMS$COMMON.SYSLIB]TIE$EMULAT_TV.EXE;1	0.16
[VMS$COMMON.SYSLIB]CMA$TIS_SHR.EXE;1	0.13
[VMS$COMMON.SYSLIB]DPML$SHR.EXE;1	0.13

Sort

GUI – deviation report (1)



GUI – deviation report (2)

PerfDatGui - Deviation Report

File

Dialog | Report

Source Definition

Data Collection: VNOABS_2MIN - 1-MAR-2004

Metrix Selection: Metrix: PROCESS (29)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Filter Parameter

StartTime: 01.03.2004 12:00:00

StopTime: 01.03.2004 16:00:00

Reference Definition

Data Collection: VNOABS_2MIN - 4-MAR-2004

Filter Parameter

StartTime: 04.03.2004 12:00:00

StopTime: 04.03.2004 16:00:00

Calculation Options

Arithmetic mean value

Integral mean value

Element / Statistics Selection

Elements:

- DQL$SRV_BG683
- DTSS$CLERK
- ERRFMT
- FASTPATH_SERVER
- IPCACP
- JOB_CONTROL
- LANACP
- LES$ACP_V30
- NET$ACP
- NET$EVD
- OPCOM
- PERFDAT
- PERFDAT_ARCHIVE
- PERFDAT_REPORT
- REMACP
- SECURITY_SERVER
- SERVER_00CC
- SERVER_00CD
- SMISERVER
- SWAPPER
- SYSTEM
- TCPIP$INET_ACP
- TP_SERVER

Stats	Description
iCpuLoad	CPU Load total
iKernel	CPU Mode kernel
iExec	CPU Mode exec
iSuper	CPU Mode super
iUser	CPU Mode user
iMem	MEM Memory allocated by ...
iGlbMem	MEM Gbl Memory allocated ...
iPriMem	MEM Private Memory alloca...
iPfl	PFL total
iPflIO	PFL IO rate
iPflFOR	PFL on read faults
iPflFOW	PFL on write faults
iPflFOE	PFL on executive faults
iPgflFree	PGFL Free Page File Pages
iPgflCom	PGFL Percentage of commi...
iDIO	IO Direct IO rate
iBIO	IO Buffered IO rate
iCputhres	CPU load threshold
iMemthres	Memory usage threshold
iIOthres	IO request threshold

Create Report

GUI – deviation report (3)

PerfDatGui - Deviation Report

File

Dialog | Report

Source Definition

Data Collection: VNOABS_2MIN - 1-MAR-2004

Metrix Selection: Metrix: PROCESS (29)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Filter Parameter

StartTime: 01.03.2004 12:00:00

StopTime: 01.03.2004 16:00:00

Reference Definition

Data Collection: VNOABS_2MIN - 4-MAR-2004

Filter Parameter

StartTime: 04.03.2004 12:00:00

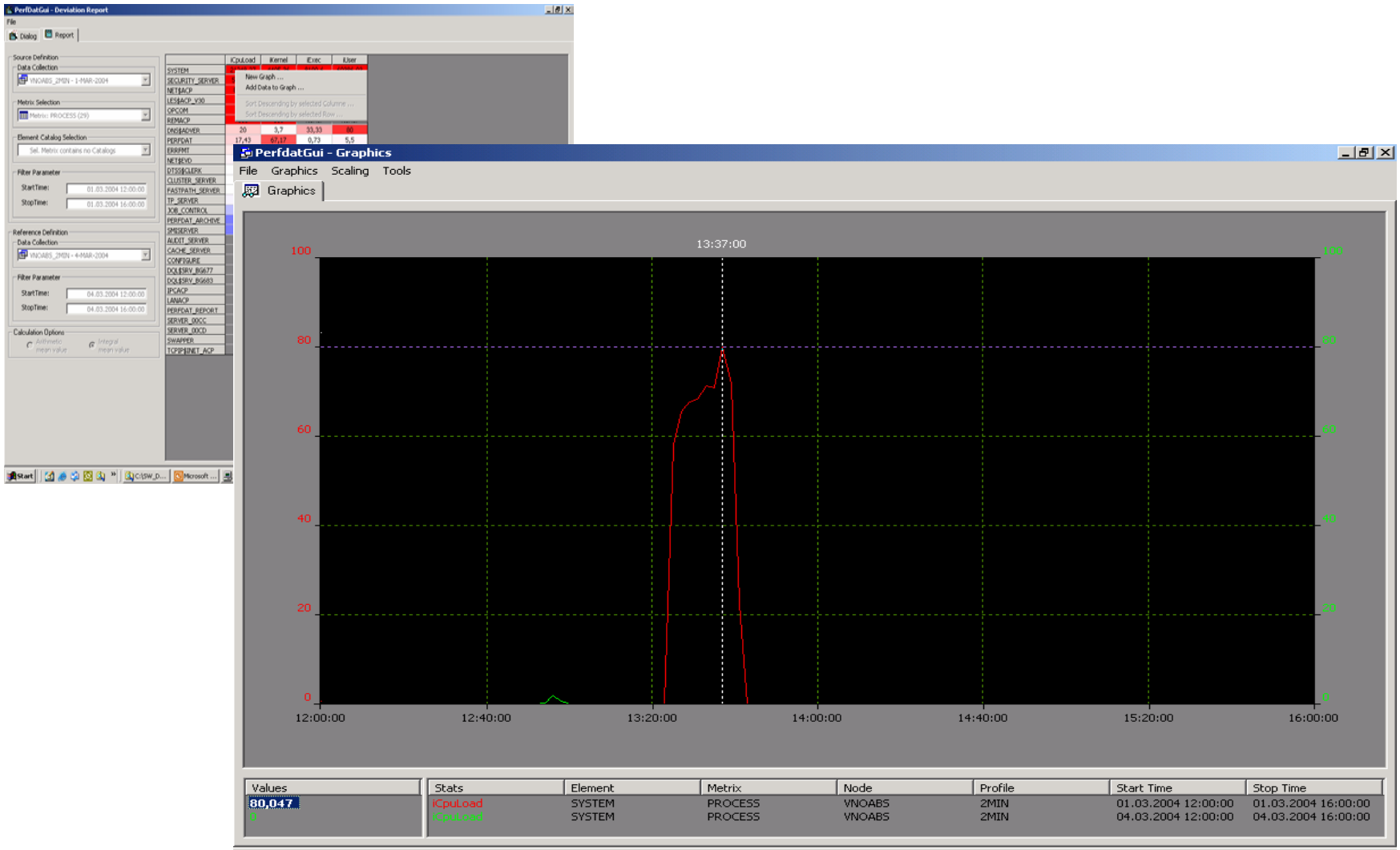
StopTime: 04.03.2004 16:00:00

Calculation Options

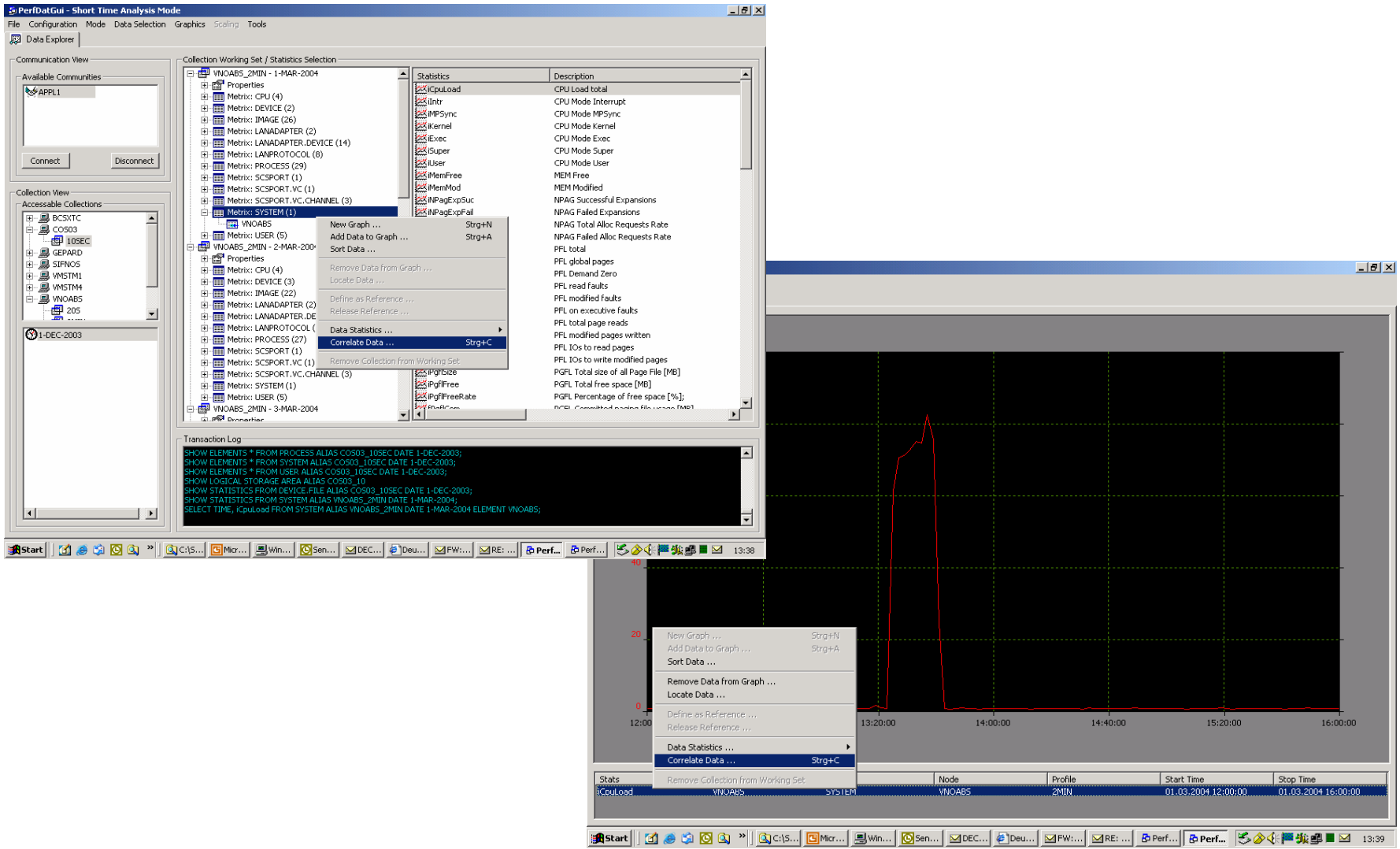
Arithmetic mean value | Integral mean value

	iCpuLoad	iKernel	iExec	iUser
SYSTEM	21248,27	4405,36	8199,6	69386,03
SECURITY_SERVER	5574,73	3749,48	NoRef	7399,97
NET$ACP	800,26	600,17	NoRef	NoRef
LES$ACP_V30	200	200	NoRef	NoRef
OPCOM	100	100	NoRef	NoRef
REMACP	100	100	NoRef	NoRef
DNS$ADVER	20	3,7	33,33	80
PERFDAT	17,43	67,17	0,73	5,5
ERRFMT	9,99	-23,53	349,96	NoSrc
NET$EVD	5,35	6,13	NoRef	3,71
DTSS$CLERK	0,01	-24,99	50	100
CLUSTER_SERVER	0	0	NoRef	NoRef
FASTPATH_SERVER	0	0	NoRef	NoRef
TP_SERVER	-5,63	-4,96	-10	NoRef
JOB_CONTROL	-25	-25	NoRef	NoRef
PERFDAT_ARCHIVE	-50	-50	NoRef	NoRef
SMISERVER	-50	-50	NoRef	NoRef
AUDIT_SERVER	NoSrc	NoSrc	NoRef	NoRef
CACHE_SERVER	NoRef	NoRef	NoRef	NoRef
CONFIGURE	NoRef	NoRef	NoRef	NoRef
DQL$SRV_BG677	NoRef	NoRef	NoRef	NoRef
DQL$SRV_BG683	NoRef	NoRef	NoRef	NoRef
IPCACP	NoRef	NoRef	NoRef	NoRef
LANACP	NoSrc	NoSrc	NoRef	NoRef
PERFDAT_REPORT	NoRef	NoRef	NoRef	NoRef
SERVER_00CC	NoRef	NoRef	NoRef	NoRef
SERVER_00CD	NoRef	NoRef	NoRef	NoRef
SWAPPER	NoRef	NoRef	NoRef	NoRef
TCPIP$INET_ACP	NoRef	NoRef	NoRef	NoRef

GUI – Graph selection from deviation report



GUI – correlating data (1)



GUI – correlating data (2)

PerfDatGui - Correlation Report

File

Dialog | Report

Selected Collection

Data Collection: VNOABS_2MIN - 1-MAR-2004

Filter Parameter

StartTime: 01.03.2004 12:00:00 StopTime: 01.03.2004 16:00:00

Source Definition

Metrix Selection: Metrix: PROCESS (29)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Statistics Selection: iCpuLoad

Elements	Percent [%]
AUDIT_SERVER	
CACHE_SERVER	
CLUSTER_SERVER	
CONFIGURE	
DNS$ADVER	
DQL$SRV_BG677	
DQL$SRV_BG683	

Sort

Reference Definition

Metrix Selection: Metrix: SYSTEM (1)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Statistics Selection: iCpuLoad

Elements	Percent [%]
VNOABS	

Sort

Correlate

GUI – deviation report (3)

PerfDatGui - Correlation Report

File

Dialog | Report

Selected Collection

Data Collection: VNOABS_2MIN - 1-MAR-2004

Filter Parameter

StartTime: 01.03.2004 12:00:00 StopTime: 01.03.2004 16:00:00

Source Definition

Metrix Selection: Metrix: PROCESS (29)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Statistics Selection: iCpuLoad

Reference Definition

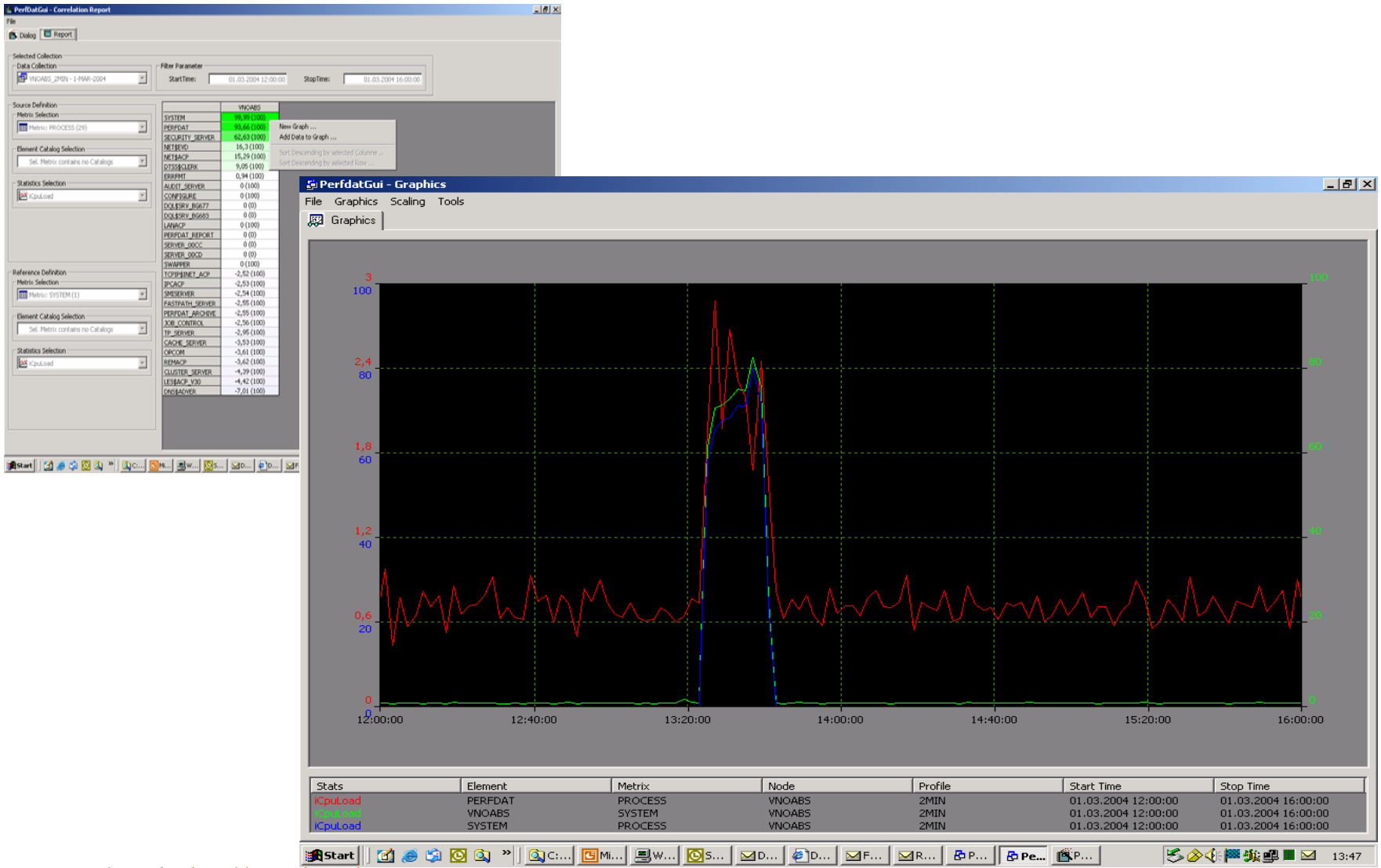
Metrix Selection: Metrix: SYSTEM (1)

Element Catalog Selection: Sel. Metrix contains no Catalogs

Statistics Selection: iCpuLoad

	VNOABS
SYSTEM	99,99 (100)
PERFDAT	93,66 (100)
SECURITY_SERVER	62,63 (100)
NET$EVD	16,3 (100)
NET$ACP	15,29 (100)
DTSS$CLERK	9,05 (100)
ERRFMT	0,94 (100)
AUDIT_SERVER	0 (100)
CONFIGURE	0 (100)
DQL$SRV_BG677	0 (0)
DQL$SRV_BG683	0 (0)
LANACP	0 (100)
PERFDAT_REPORT	0 (0)
SERVER_00CC	0 (0)
SERVER_00CD	0 (0)
SWAPPER	0 (100)
TCPIP$INET_ACP	-2,52 (100)
IPCACP	-2,53 (100)
SMISERVER	-2,54 (100)
FASTPATH_SERVER	-2,55 (100)
PERFDAT_ARCHIVE	-2,55 (100)
JOB_CONTROL	-2,56 (100)
TP_SERVER	-2,95 (100)
CACHE_SERVER	-3,53 (100)

GUI – Graph selection from correlation report



OpenVMS installation

- @SYS$STARTUP:VMSINSTAL PERFDAT022
  - Enter the device where the common resources should reside (images, CFG file, locally archived data, trend report data, saved data)
    - Make sure that highwater marking is disabled on that volume
  - Enter data collector working device
    - The data collector writes to this device
    - Make sure that highwater marking is disabled on that volume
    - Choose device with low I/O activity or use separate device
    - Can share device of PerfDat common resources

OpenVMS installation

- Enter the archive node in your environment, if any.
  - If you intend to use an archive node make sure that FTP client is enabled on the local node
- Enter a valid license key
  - If you have already applied a valid license key or you install PerfDat and you don't have one, ignore the input request. The installation procedure continues anyway
- Enter the community members as a comma separated list
  - No quotation marks
- Perform the post installation activities recommended by the installation procedure

GUI installation

- Click SETUP
  - Follow the instructions provided by the setup procedure

Licensing

- No traditional LMF
- Only the OpenVMS components have to be licensed
- GUI needs no license
- License can be applied during installation or via PerfDat_Mgr
  - PERFDAT_MGR> LOAD LICENSE *key*
- Kit is provided with a 30 day temp. license key

Supported Versions

- OpenVMS AXP 7.2-1
- OpenVMS AXP 7.2-2
- OpenVMS AXP 7.3
- OpenVMS AXP 7.3-1
- OpenVMS AXP 7.3-2
- OpenVMS Itanium V8.1
- GUI – supported on Win2000 / XP

Contact information

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invent