



IBM zSeries Expo – San Francisco

Performance Toolkit for VM Hints and Tips

September 2005
Session V98

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IBM Performance Toolkit for VM Development

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Topics

- **What are all of these files created by PERFKIT?**
- **Central Data Collection**
- **Web setup**
- **PIPES and DEFLOG**
- **Graphics**



What are all of these files PERFKIT creates?

- ★ *Console Logs*
- ★ *Exception Logs*
- ★ *History Files*
- ★ *Benchmark Logs*

Console Logs

- ★ All Console Activity
- ★ File named **yyyymmdd CONLOG A**
- ★ 3 levels kept
- ★ Contain screen control fields

During the first interval past Midnight, the oldest is erased, the others are renamed and a new CONLOG will be started

- CONLOG2 -> erased
- CONLOG1 -> CONLOG2
- CONLOG -> CONLOG1
- New -> CONLOG

View from BASIC mode with REDISP

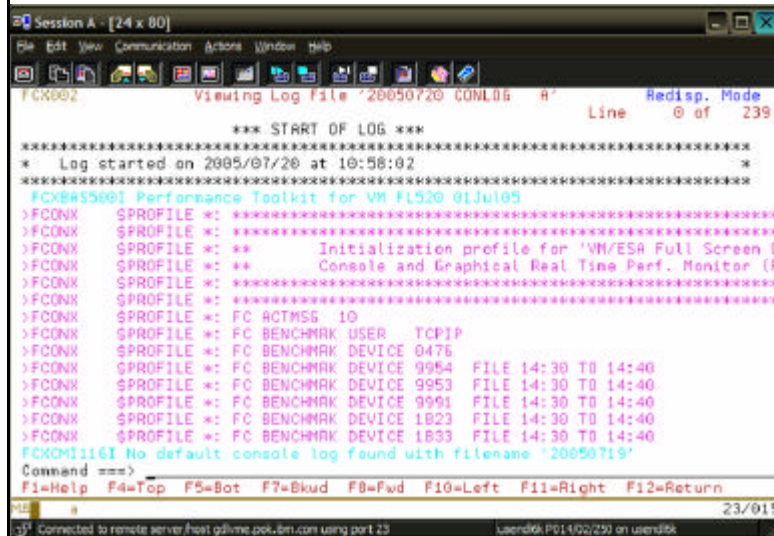
PF12 when done

Console Logs

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
20050720 CONLOG A1 V 99 Trunc=99 Size=259 Line=3 Col=1 Alt=0
(*****
(*) Log started on 2005/07/20 at 10:58:02
(*****
c FCXBS500I Performance Toolkit for VM FL520 01Jul05
~T1FC0NX $PROFILE *: *****
~T1FC0NX $PROFILE *: *****
~T1FC0NX $PROFILE *: ** Initialization profile for 'VM/ESA Full Screen
~T1FC0NX $PROFILE *: ** Console and Graphical Real Time Perf. Monitor C
~T1FC0NX $PROFILE *: *****
~T1FC0NX $PROFILE *: *****
~T1FC0NX $PROFILE *: FC ACTMSG ID
~T1FC0NX $PROFILE *: FC BENCHMARK USER TCP/IP
~T1FC0NX $PROFILE *: FC BENCHMARK DEVICE 0476
~T1FC0NX $PROFILE *: FC BENCHMARK DEVICE 9954 FILE 14:30 TO 14:40
~T1FC0NX $PROFILE *: FC BENCHMARK DEVICE 9953 FILE 14:30 TO 14:40
~T1FC0NX $PROFILE *: FC BENCHMARK DEVICE 9991 FILE 14:30 TO 14:40
=====
24/037
[Connected to remote server/host: pdvme.pok.ibm.com using port 23] usendit: P0 14/02/250 on usendit
  
```

Console Logs



```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
FCX002 Viewing Log File '20050720 CONLOG A' Line 0 of 239

*** START OF LOG ***
*****
* Log started on 2005/07/20 at 10:58:02
*****
FCX0A5500I Performance Toolkit for VM F1.520 01Jul05
>FCONX SPROFILE *: *****
>FCONX SPROFILE *: *****
>FCONX SPROFILE *: ** Initialization profile for 'VM/ESA Full Screen D
>FCONX SPROFILE *: ** Console and Graphical Real Time Perf. Monitor (P
>FCONX SPROFILE *: *****
>FCONX SPROFILE *: *****
>FCONX SPROFILE *: FC ACTMSG IO
>FCONX SPROFILE *: FC BENCHMARK USER TCP/IP
>FCONX SPROFILE *: FC BENCHMARK DEVICE 0476
>FCONX SPROFILE *: FC BENCHMARK DEVICE 9954 FILE 14:30 TO 14:40
>FCONX SPROFILE *: FC BENCHMARK DEVICE 9953 FILE 14:30 TO 14:40
>FCONX SPROFILE *: FC BENCHMARK DEVICE 9991 FILE 14:30 TO 14:40
>FCONX SPROFILE *: FC BENCHMARK DEVICE 1B23 FILE 14:30 TO 14:40
>FCONX SPROFILE *: FC BENCHMARK DEVICE 1B33 FILE 14:30 TO 14:40
FCX0M1116I No default console log found with filename '20050719'
Command ==>
F1=Help F4=Top F5=Bot F7=Bkud F8=Fwd F10=Left F11=Right F12=Return
23/015
Connected to remote server /hsst.gdlme.pok.ibm.com using port 23
Laendik PG14/02/230 on userdisk

```

Exception Logs

When PERFKIT is running in real time mode, it provides monitoring functions that look for conditions that should not occur during normal operation of a correctly generated system. These areas are checked:

- Missing Interrupt detection on real disks
- Checking for pending RESERVE on real disks
- Real Storage size checking

Enter **EXCEPT** to view the Exception Log from MONITOR mode

History Files

Performance Toolkit for VM can maintain two different formats of Performance History data. The "new" form is recommended. The "old" form has been kept for ease of migration from FCONX

History Files

File Name	File Type	Controls	Content	Report
mmddyy	PERFLOGn	FC MONCOLL PERFLOG ON FC SETTINGS HISTFILE OLD or FC SETTINGS HISTFILE BOTH	"old" format performance history	REDHIST (FCX181)
ACUM	PERFHIST	FC MONCOLL PERFLOG ON FC SETTINGS HISTFILE OLD or FC SETTINGS HISTFILE BOTH	"old" format performance history	REDHIST (FCX181)
yyyymmdd	HISTLOGn	FC MONCOLL PERFLOG ON FC SETTINGS HISTFILE NEW or FC SETTINGS HISTFILE BOTH	"new" format performance history	REDHIST (FCX195)
ACUM	HISTSUM	FC MONCOLL PERFLOG ON FC SETTINGS HISTFILE NEW or FC SETTINGS HISTFILE BOTH	"new" format performance history	REDHIST (FCX195)

History Files

All you need is:

FC MONCOLL PERFLOG ON
FC SETTINGS HISTFILE NEW

Use Option **32** or **HISTDATA** to access the data

History Files

Session A - [24 x 80]

File Edit View Communication Actions Window Help

FCX160 File Selection: All Files with Default Filetypes Perf. Monitor

Move cursor to the history data file you are interested in and
 - enter 'G' to select the file for creating graphics
 - just hit ENTER for viewing the data

S	Filename	Filetype	FM	Created	S	Filename	Filetype	FM	Created
.	ACUM	PERFHIST	A	2005/07/20	.	ACUM	HISTSUM	A	2005/07/20
.	GDLFCFT	FCXTREND	A	2005/07/20	.	072005	PERFLOG	A	2005/07/20
.	20050720	HISTLOG	A	2005/07/20	.	071205	PERFLOG1	A	2005/07/12
.	1823	QDIOLG1	A	2005/07/12	.	1823	DEVLOG1	A	2005/07/12
.	1833	QDIOLG1	A	2005/07/12	.	1833	DEVLOG1	A	2005/07/12
.	20050712	HISTLOG1	A	2005/07/12	.	070705	PERFLOG2	A	2005/07/07
.	1823	QDIOLG2	A	2005/07/07	.	1823	DEVLOG2	A	2005/07/07
.	1833	QDIOLG2	A	2005/07/07	.	1833	DEVLOG2	A	2005/07/07
.	20050707	HISTLOG2	A	2005/07/07	.	9954	SCSILOG2	A	2005/07/07
.	9954	CPOUNLG2	A	2005/07/07	.	9954	DEVLOG2	A	2005/07/07
.	9991	SCSILOG2	A	2005/07/07	.	9991	DEVLOG2	A	2005/07/07
.	1002	QDIOLG6	B	2004/09/03					

FCXOUT1121 Cannot write to A-disk - correct problem and re-initialize PERFKIT

Command ==>

F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F12=Return

23/015

Connected to remote server /host.gd/vme.pok.ibm.com using port 23

userid@k P014/02/250 on userid@k

TREND and SUMMARY Files

File Name	File Type	Controls	Content	Report
nodeid	FCXTREND	FC MONCOLL RESET hh:mmT or FC MONCOLL RESET hh:mmR_T FCONX TRENDREC file	extended performance history	Machine Readable
nodeid	FCXSUM	FC MONCOLL RESET hh:mmS or FC MONCOLL RESET hh:mmR_S FCONX SUMREC file	extended performance history	Machine Readable

These files are similar to those generated by VMPRF

TRNDSCAN can be used to view FCXTREND files

When more than 1 file is generated the filetypes become:

FCXTRNDn or FCXSUMnn

Benchmark LOG files

PERFKIT provides the ability to capture detailed by -time logs for specified devices or users.

The **FC BENCHMARK** command is used to control collection and filing of this data.

There are a number of file types that are generated:

CACHDLG	MTUSRLG	UDEFLOG
CACHELG	QDIOLOG	UPAGELG
CPOWNLG	QEBSMLG	UQDIOLG
DEVLOG	SCSILOG	URESPLG
LXCPULG	SEEKDLG	USERLOG
LXFILLG	SEEKLLG	USTATLG
LXMEMLG	UCOMMLG	UTRANLG
LXNETLG		

Use option **33** or **BENCHmrk** to view the files available

During the first interval after midnight, these are handled the same way as the CONLOG etc.

History Files

Managing these files

PERFSVM ships with a 195 disk for older levels

During “midnight processing”, if there is an FCXRENAM EXEC, it is called to handle migrating older levels

History Files

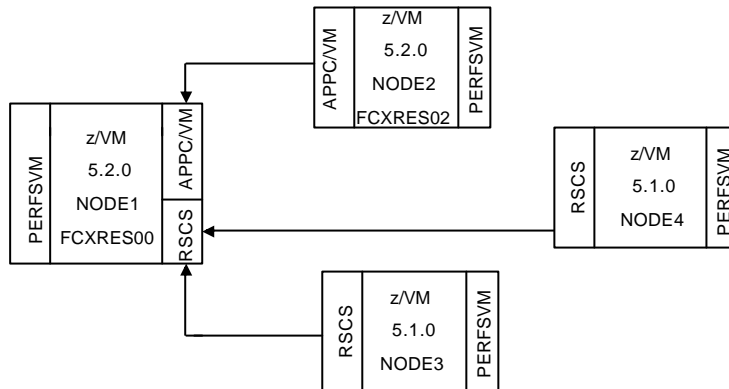
This can be extended to include other files

```
/* Sample FCXRENAM EXEC for PERFKIT */
/* levels specifies how many levels to keep on the 195 disk */
levels = 5
'ACC 195 J'
/* keep "levels" levels of PERFLOGn files */
'set dateform iso'
'pipe (endchar @) cms listfile * PERFLOG* ' fm '(date noh',
'| sort 57.19 ',
'| spec w1 1 w2 10 w3 19',
'| stem howmany:'
/* erase oldest if enough levels are there */
if howmany.0 >= levels then erase howmany.1
/* copy oldest from A disk to 195 disk */
'copy * PERFLOG2 A = ' fm ' (oldd '
/* keep "levels" levels of HISTLOGn files */
'pipe (endchar @) cms listfile * HISTLOG* ' fm '(date noh',
'| sort 57.19 ',
'| spec w1 1 w2 10 w3 19',
'| stem howmany:'
/* erase oldest if enough levels are there */
if howmany.0 >= levels then erase howmany.1
/* copy oldest from A disk to 195 disk */
'copy * HISTLOG2 A = ' fm ' (oldd '
'REL J'
exit
```




Central Data Collection

- Allows efficient central performance monitoring for my remote systems
- Concurrent multiple access to the central machine's data
- Performance data retrieval from local and remote machines similar to native monitoring



Central Data Collection

NODE1 Setup Files

File FCONRMT SYSTEMS

```
*System Definition file for remote monitoring
*Node-ID PERFKIT-ID VM_Type Append Nickname
*|      |      |      |      |
NODE2  PERFSVM  z/VM5.2  N    FCXRES02
NODE3  PERFSVM  z/VM5.1  N
NODE4  PERFSVM  z/VM5.1  N
```

File FCONRMT AUTHORIZ


```
*Authorization file for local and remote data retrieval and
*command execution
*Node-ID  User-ID    Authorized for ..
* NO ENTRIES NEEDED FOR COLLECTION
```

NOTE: To enable the Web Server, you will need entries for node 1

```
NODE1  PERFSVM  z/VM5.2  N    FCXRES00
```

```
NODE1  PERFSVM  S&FSERV  DATA
```

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Central Data Collection

NODE2 Setup files

File FCONRMT SYSTEMS

*System Definition file for remote monitoring

*Node-ID PERFKIT-ID VM_Type Append Nickname

```
*|      |      |      |      |
```

*NO ENTRIES NEEDED

File FCONRMT AUTHORIZ

*Authorization file for local and remote data retrieval and
*command execution

*Node-ID	User-ID	Authorized for ..
NODE2	PERFSVM	S&FSERV DATA

Directory Entry for PERFSVM at NODE2

IUCV *IDENT FCXRES02 GLOBAL

IUCV ALLOW

UCOMDIR NAMES A


:nick.FCXRES00	:luname.*IDENT
	:tpn.FCXRES02
	:security.SAME

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Central Data Collection

NODE3 Setup Files

File FCONRMT SYSTEMS

File FCONRMT AUTHORIZ

No entries needed in either of these files, just need:

FC MONCOLL REMSEND ON RSCS nodeid userid

In FCONX \$PROFILE or entered manually

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Central Data Collection

NODE4 Setup Files

File FCONRMT SYSTEMS

File FCONRMT AUTHORIZ

No entries needed in either of these files, just need:

FC MONCOLL REMSEND ON RSCS nodeid userid

In FCONX \$PROFILE or entered manually

Central Data Collection

From PERFSVM at NODE1 enter **FCONRMT** to view the selection screen for other systems

```

Session C - [24 x 80]
File Edit View Communication Actions Window Help

PCX198 Performance Toolkit Remote Monitoring Facility Remote Data

Set Node-ID Time Exceptions & CPU Load -----> AvExcp
- GOLVM7 .... no data received : ...
- GOLVME .... no data received : ...

Select e: exception log h: history data m: monitor
Command ==>
F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F12=Return

MSD C 05/003
Connected to remote server host golvm7.pdx.ibm.com using port 23
usendlak P0 14/02/200 on usendlak
  
```

Central Data Collection

Summary:

- PERFKIT FL520 will "pull" data from other PERFKIT FL520 systems using APPC/VM when that system is identified in the FCONRMT SYSTEMS file with a resource name
- PERFKIT FL520 will receive data "pushed" from other PERFKIT FL510 systems using RSCS



Web Setup

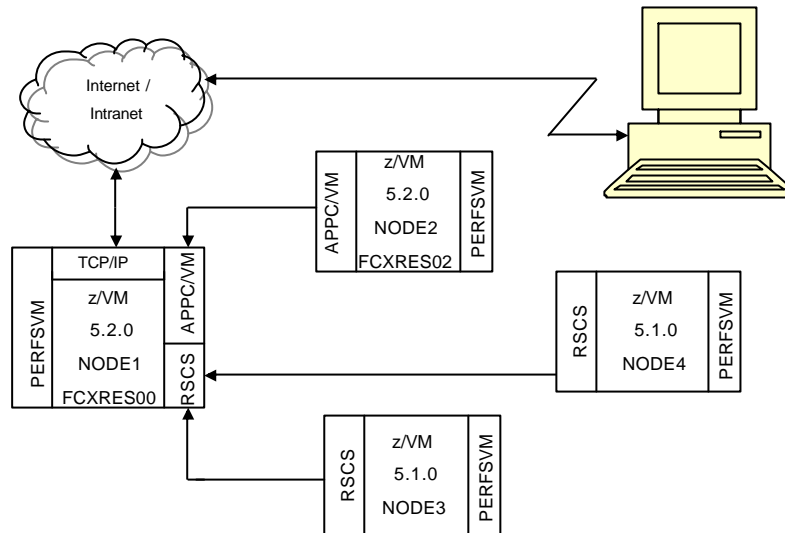
Performance Toolkit for VM includes an internet interface intended to:

- Provide a graphical user interface based on standard web browsers, thus automatically allowing its use from any of the common supported platforms
- Allow the use of the interface with a minimum of additional prerequisites

The PERFKIT web interface is designed to process only the subset of HTTP requests it expects for a performance retrieval session.

The internet interface works directly with the "store and forward" logic.

Web Setup



Web Setup

To setup web access you need to:

1. Implement S&F Server - See [Central Data Collection](#)
2. Implement IUCV connection to TCPIP machine
3. Activate the interface
4. Test the interface

Web Setup

2. Implement IUCV connection to TCPIP machine

- Decide on a TCP/IP port number to be used
- Update the PROFILE TCPIP on the TCPIP machine

PORT

.....

nn TCP PERFSVM NOAUTOLOG; Performance Toolkit for VM Internet Server

Or for SSL:

nn TCP PERFSVM NOAUTOLOG SECURE *filename/label*; Performance Toolkit for VM Internet Server SSL

.....

- Update FCONX \$PROFILE to activate the webserver interface

FC MONCOLL WEBSERV ON TCPIP TCPIP **nn** IDTEST FILE FCONRMT PASSFILE *

Or for SSL:

FC MONCOLL WEBSERV ON SSL TCPIP TCPIP 81 IDTEST RACF

SEE THE PERFKIT book for more information on userid verification in the "Internet Interface" Section

- Activate the interface – Restart PERFKIT, you should see messages similar to:

FCXTCP571I Connected to TCP/IP server TCPIP on path 0004

FCXTCP575I Host IP address is 11.22.33.44:**nn**

FCXTCP590I WebServer interface activated

- Activate your web browser and select the URL for Performance Toolkit

<http://11.22.33.44:nn> or for SSL <https://11.22.33.44:nn>

Web Setup

Web Server Logon - Microsoft Internet Explorer

Address: <http://11.22.33.44:nn>

Search the Web with Google

IBM Performance Toolkit for VM

Remote Performance Monitoring Session Setup

Web Server Logon

You are connected to the data retrieval interface of the Performance Toolkit for VM on system **GOLPCFT**. Data retrieval authorization is based on your VM user identification on that system. Please enter your userid and password (CP).

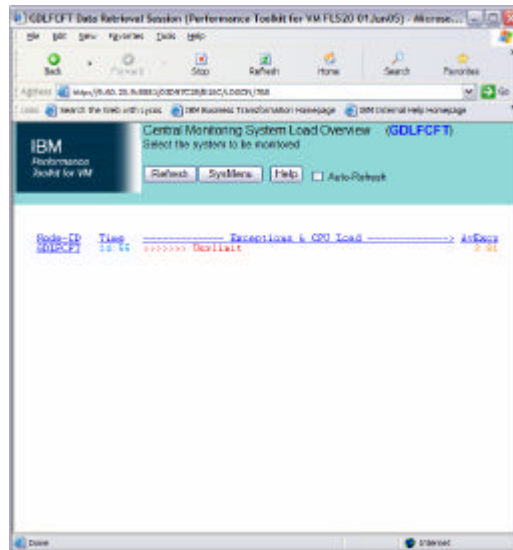
User ID: Password:

Desired screen layout:

max. data lines: line length:

Up to 12 KB of data can be retrieved per selection, including all control information. Output may be truncated if space is not sufficient for all lines.

Web Setup



PIPES and DEFLOG

PIPES and DEFLOG

The CMS PIPELINES **VMC** stage can be used to access data from the PERFKIT Server machine.
It is restricted to passing back 80 byte wide lines, Most PERFKIT reports are greater than 80 bytes wide.
Use the **FControl DEFLog** subcommand to define your own logs based on PERFKIT LOG reports

1. Define the new log file in the **FCONX \$PROFILE** file.
2. Test the new log by entering it's name from MONITOR mode
3. Define the REXX EXEC with the PIPE **VMC** stage to get the data

PIPES and DEFLOG

SCHEDlog is too wide for VMC

1FCX145 Run 2005/08/01 14:54:02 SCHEDLOG Page 1
Scheduler Queue Lengths, by Time
From 2005/08/01 14:24:00 GDLVM7
To 2005/08/01 14:54:00 CPU 2084-332 SN 2069A
For 1800 Secs 00:30:00 This is a performance report for system XYZ z/VM V.5.2.0 SLU 0000

Interval	VMDBK	Users in Dispatch List										Lim	In Eligible List										Class 1	Sum of	Sum of	Storage (Pages)			
End Time	in Q	Q0	Q1	Q2	Q3	Q0	Q1	Q2	Q3	Lst	E1	E2	E3	E1	E2	E3	T	-Slice	Shares	Shares	Consid	Q0	Q1	Q2	Q3				
>>Mean>>	16	5.6	.3	.0	10	.0	.0	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0	.087	3%	21628	1373k	22440	40	0	266k				
14:24:00	19	8.0	.0	.0	11	.0	.0	.0	.0	1.0	.0	.0	.0	.0	.0	.0	.112	3%	28398	1379k	33695	0	0	265k					
14:29:00	16	6.0	.0	.0	10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.099	3%	19398	1376k	32382	0	0	263k					
14:34:00	16	5.0	1.0	.0	10	.0	.0	.0	.0	1.0	.0	.0	.0	.0	.0	.0	.091	3%	16898	1370k	20832	196	0	266k					
14:39:00	17	6.0	1.0	.0	10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.082	3%	25398	1370k	21018	85	0	266k					
14:44:00	17	6.0	.0	.0	11	.0	.0	.0	.0	1.0	.0	.0	.0	.0	.0	.0	.078	3%	25398	1372k	19692	0	0	267k					
14:49:00	15	5.0	.0	.0	10	.0	.0	.0	.0	1.0	.0	.0	.0	.0	.0	.0	.075	3%	25155	1372k	15149	0	0	266k					
14:54:00	14	3.0	.0	.0	11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.072	3%	10755	1372k	14316	0	0	268k					

PIPES and DEFLOG

VMC only returns the first 80 bytes

```
/* vmc interface for SCHEDLOG */
parse arg where
if where = " then where = 'PERFSVM'
'pipe vmc ' where ' SCHEDLOG',
'| stem results. ',
'| > FCX145 results a'
```

PIPES and DEFLOG

PIPES and DEFLOG

```

FCONX $PROFILE A1 F 80 Trunc=80 Size=474 Line=131 Col=1 Alt=0
* Sample DEFLOG for right hand side of SCHEDLOG for use with VMC
FC DEFL SCH3 DESC Sample Right half of SCHEDLOG
FC DEFL SCH3 H1 . Class 1 Sun of Sun of <----- Storage (Pages) ----->
FC DEFL SCH3 H2 Interval Elapsed Abs. Rel. Total <----- Total WSS ----->
FC DEFL SCH3 H3 End Time T-Slice Shares Shares Consid 00 01 02 03
* T-Slice
FC DEFL SCH3 COL 11 LEN 8 COPY SCHEDLOG LAST COL 77
* Abs Shares
FC DEFL SCH3 COL 20 LEN 7 COPY SCHEDLOG LAST COL 86
* Rel Shares
FC DEFL SCH3 COL 27 LEN 7 COPY SCHEDLOG LAST COL 93
* Total Consid
FC DEFL SCH3 COL 33 LEN 7 COPY SCHEDLOG LAST COL 99
* 00
FC DEFL SCH3 COL 40 LEN 7 COPY SCHEDLOG LAST COL 106
* 01
FC DEFL SCH3 COL 47 LEN 5 COPY SCHEDLOG LAST COL 113
* 02
FC DEFL SCH3 COL 53 LEN 5 COPY SCHEDLOG LAST COL 119
* 03
FC DEFL SCH3 COL 59 LEN 5 COPY SCHEDLOG LAST COL 125
=====
1=Hlp 2=Add 3=Quit 4=Tab 5=Schg 6=? 7=Bkwd 8=Fud 9=Rpt 10=R/L 11=Sp/Jn 12=Cursor
23/80?

```

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PIPES and DEFLOG

Sample REXX EXEC with VMC stage

```

/* vmc interface for SCHEDLOG */
parse arg where
if where = '' then where = 'PERFSVM'
'pipe vmc ' where ' SCHEDLOG',
'| stem results. ',
'| > FCX145 results a'

'pipe vmc ' where ' SCH3',
'| stem results3. ',
'| > FCX145 results3 a'

```

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PIPES and DEFLOG

```

Session C - [24 x 80]
File Edit View Communication Actions Window Help
FCX145 RESULTS3 R1 V 80 Trunc=80 Size=28 Line=6 Col=1 Alt=0
0 *** Top of File ***
1 FCX187 CPU 2084 SER 2069A Interval 13:29:00 - 13:34:00 Remote
2
3 Class 1 Sum of Sum of <----- Storage (Pages) ----->
4 Interval Elapsed Abs. Rel. Total <----- Total WSS ----->
5 End Time T-Slice Shares Shares Consid 00 01 02 03
6 11:44:00 .085 0% 12498 1285k 19660 2177 1290 194k
7 11:49:00 .084 0% 10998 1289k 15524 1374 0 189k
8 11:54:00 .089 0% 12498 1291k 20797 0 1669 183k
9 11:59:00 .106 0% 12698 1292k 23633 482 232 186k
10 12:04:00 .112 0% 19298 1295k 18119 2717 2337 189k
11 12:09:00 .133 0% 5198 1297k 20356 0 0 188k
12 12:14:00 .131 0% 21498 1296k 20052 532k 4124 187k
13 12:19:00 .151 0% 22298 1295k 33312 532k 421 189k
14 12:24:00 .136 0% 11098 1296k 15249 532k 0 181k
15 12:29:00 .141 0% 10998 1296k 15530 271 0 181k
16 12:34:00 .132 0% 9898 1300k 14408 0 0 187k
17 12:39:00 .129 0% 13998 1311k 23477 0 0 167k
18 12:44:00 .123 0% 12698 1316k 19394 0 2269 162k
19 12:49:00 .120 0% 20393 1317k 13806 0 534k 160k
20 12:54:00 .106 0% 10998 1316k 15993 78 0 157k
====>
1=Hlp 2=Add 3=Quit 4=Tab 5=SCHg 6=? 7=Bkwd 8=Fud 9=Rpt 10=R/L 11=Sp/Jn 12=Cursr
ME C 23/007
[?] Connected to remote server /host gdlm7.pok.ibm.com using port 23 Usendisk P014/02/250 on usendisk

```



Graphics

Graphics

PERFKIT Graphics include:

- PLOTS – using 3270 and characters like *, o, =, /
- GDDM Graphics – using 3270 and GDDM
- Browser – using your web browser

Graphs can be created from:

- Storage – using data just collected
- History Files – using data saved from an earlier time

Enter **GRAPHICS** from monitor mode or select option **31**

Graphics

GDLFCFT Data Retrieval Session (Performance Toolkit for VM PL320 01Jun05) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media

Address http://5-50-20-9-808.LO0505PES.BC0503

Links Search the Web with Lycos IBM Business Transformation Homepage IBM Internal Help Homepage IBM Standard Software Installer

IBM Performance Toolkit for VM

Graphics Selection Menu (GDLFCFT)

Command Refresh Systems Menu Return Help Auto-Refresh

General Specifications

Output format Line graphics

Data origin Storage

Graphics type Detailed graphics (detailed time scale)

Selected period Last measurements

Selected days All days

Selected hours All hours

Validate Submit

Variable Selection

X-Variable

Truncate at

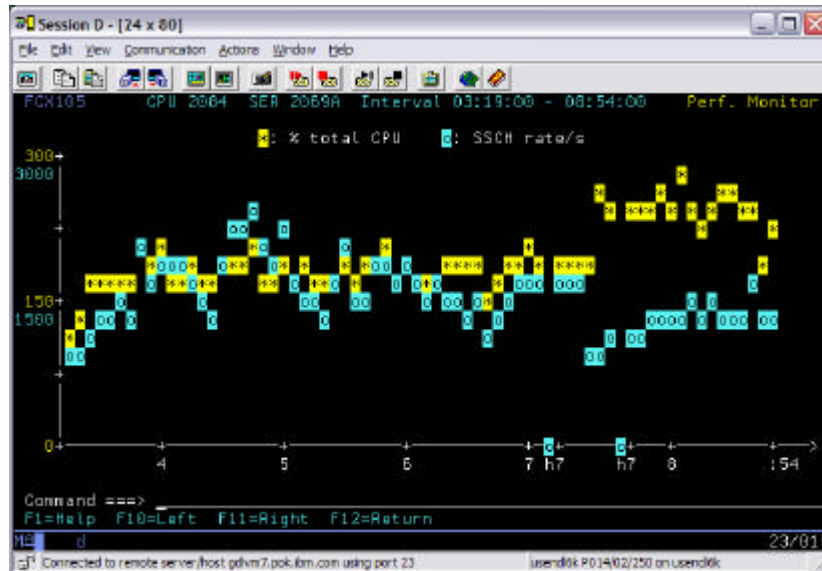
Y-Variables

1	CPU	CPU total CPU
2	I/O/S	SGLL ratio/s
3		
4		

Cumulative

Done Internet

Graphics - PLOT

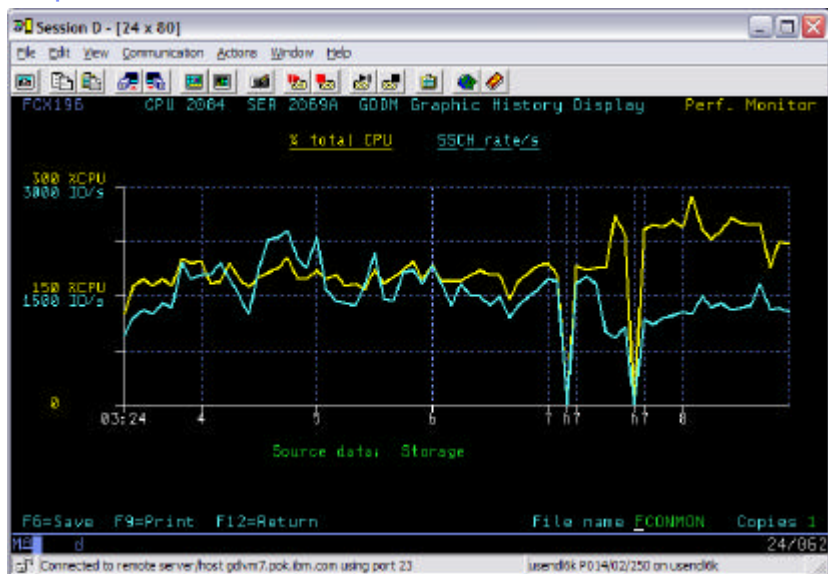


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Graphics - GDDM

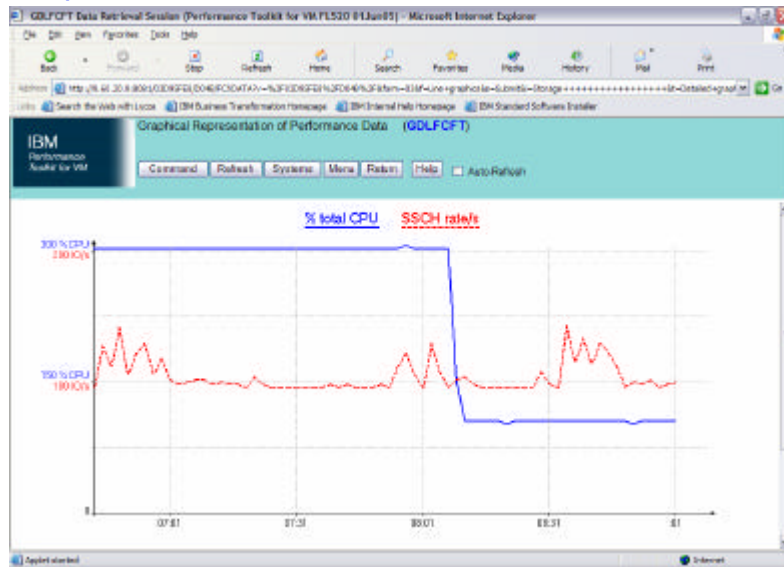


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Graphics - WEB



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Graphics – Output Format

The screenshot shows the IBM Performance Toolkit for VM (GOLFCFT) web interface, specifically the "Graphics Selection Menu (GOLFCFT)". The interface includes a navigation bar with buttons for Command, Refresh, Systems, Menu, Roles, Help, and Auto Refresh. The main display is a form titled "Graphics Selection Menu (GOLFCFT)". The form has two sections: "General Specifications" and "Variable Selection".

General Specifications:

- Output format: Line graphics (selected)
- Date origin: Line graphics (selected)
- Graph type: Line graphics (selected)
- Selected period: FROM 07:30
- Selected days: All days
- Selected hours: All hours

Variable Selection:

- X-Variable: ACT (selected)
- Y-Variables:
 - 1: CPU (selected)
 - 2: IO/s (selected)
 - 3: LOGN (selected)
 - 4: QX (selected)

The form also includes a "Cumulative" checkbox and a "Date" field at the bottom.

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Graphics – Data Origin

IBM Performance Toolkit for VM

Graphics Selection Menu (GOLVMK4)

Command Refresh Systems Menu Return Help Auto-Refresh

General Specifications

Output format: Line graphics

Data origin: Invalid: Select from pull-down menu

Graphics type:

Selected period: File:ACUM HISTSLM.A

Selected date: File:20050602-HSTLOG.A

Selected time: File:20050728-HSTLOG.A

Variable Selection

E-Variable: File:ACUM HISTSLM.A

Truncate at: File:20050602-HSTLOG1.A

Y-Variables: 1 CPU, 2 CIES, 3, 4

Cumulative ☐

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Graphics – Graphics type

IBM Performance Toolkit for VM

Graphics Selection Menu (GOLVMK4)

Command Refresh Systems Menu Return Help Auto-Refresh

General Specifications

Output format: Line graphics

Data origin: File:20050602-HSTLOG1.A

Graphics type: Detailed graphics (dedicated time scale)

Selected period: Detailed graphics (shared time scale)

Selected date: Summary graphics (coarse time scale)

Selected time: Variable correlation

Variable Selection

E-Variable: File:ACUM HISTSLM.A

Truncate at: File:20050602-HSTLOG1.A

Y-Variables: 1 CPU, 2 CIES, 3, 4

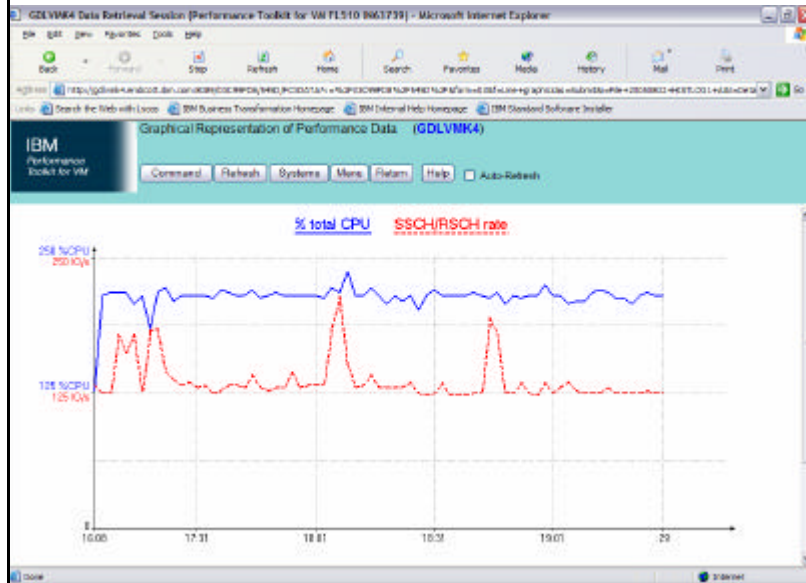
Cumulative ☐

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Graphics – Detailed

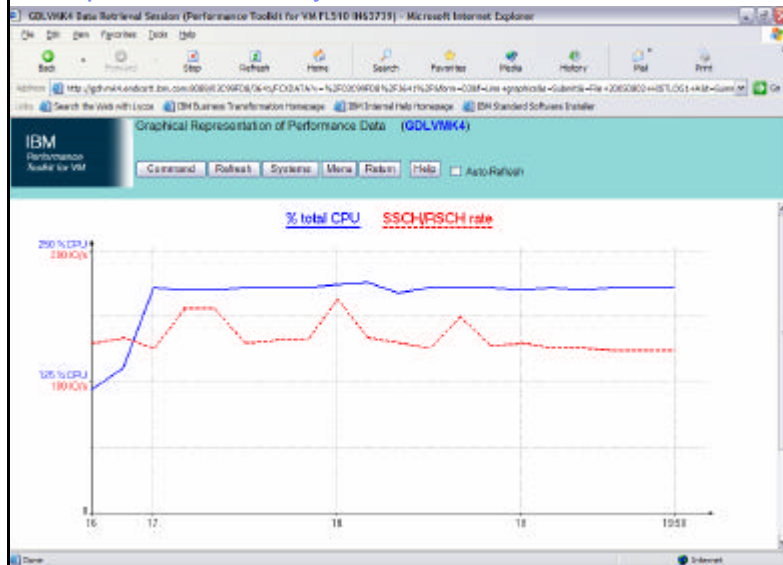


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Graphics - Summary

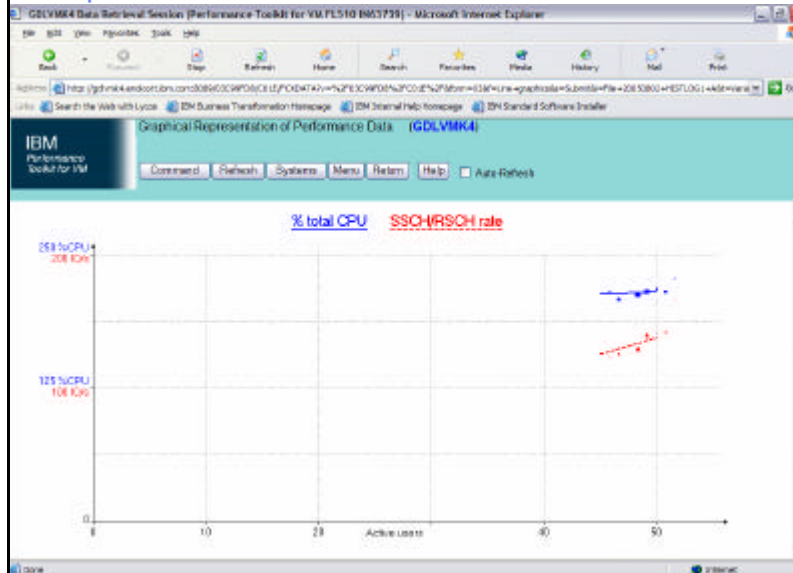


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Graphics – Variable Correlation



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Graphics – Variables – use REDISP command

The screenshot displays the 'Graphics Selection Menu' window in the IBM Performance Toolkit for VM. It features a 'Command' field with the text 'redisp' and a 'Submit' button. Below this is the 'General Specifications' section, which includes fields for 'Output format' (Line graphics), 'Data origin' (File 2005022 HISTLOG1A), 'Graphics type' (Variable correlation), 'Selected period' (FROM 15:30), 'Selected days' (All days), and 'Selected hours' (All hours). There are 'Validate' and 'Submit' buttons next to the 'Output format' field. The 'Variable Selection' section includes fields for 'X-Variable' (ACT), 'Y-Variables' (1: CPU, 2: % total CPU, 3: SSCH-RSCH rate, 4:), and a 'Correlation' checkbox. The window includes a toolbar with buttons for Back, Forward, Stop, Refresh, Home, Search, Favorites, Media, History, Mail, and Print.

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[illegible]

The screenshot shows the IBM Performance Toolkit (PTK) interface. On the left, the 'General Specification' section is expanded, showing various system metrics. The main area displays a list of variables for selection, including 'El_Time (Elapsed time)' which is highlighted. A red error message at the bottom states 'Invalid: Select from pull-down menu'.

Performance Toolkit for VM

Graphics - review

Option **31** or **GRAPHICS**

Select Format

- LINE for PLOT for WEB
- GDDM or PLOT for 3270

Select Data Origin

- Storage or history files

Select Type – Detailed, Summary or Correlation

Select Period, Days (ALL, M-F, MON ...), Hours

Select Variables – from pulldown or REDISP headings



Summary

- **What are all of these files created by PERFKIT?**
- **Central Data Collection**
- **Web setup**
- **PIPES and DEFLOG**
- **Graphics**

Questions?

Any other topics you would like to see in the future?