



IBM Technical Sales zSeries

# Performance Toolkit News



**VM / VSE / Linux für zSeries**  
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## Agenda

### ➤ **Neue Funktionen im PTK 5.1**

- Auswerten von MONWRITE Daten im Batch-Mode
  - PERFKIT VMPRF Mode
  - PERFKIT BATCH Mode
- frei Wahl der Print, Trend und Interim Intervalle
- Neue Performance Anzeigen

### ➤ **Linux Performance Daten**

- VM CP Monitor APPLDATA
- RMFPMS Daten

### ➤ **Implementierung/Beispiele**

- PERFKIT Batch Mode
- Setup für APPLDATE Erfassung/Auswertung
- Definieren eigener PTK Menüs

### ➤ **Fragen und Antworten**

## Neue Funktionen im PTK 5.1

### ➤ **PERFKIT Auswertungen von MONWRITE Daten**

- **MONWRITE Basis Funktion von z/VM**
  - erstellt eine CMS Datei oder ein Tape mit Monitor Rekords direkt vom Monitor shared Segment
- **Auswertmöglichkeiten vor PTK 5.1**
  - VMPRF, ISV oder eigene Programme
  - VMPRF war und ist ein kostenpflichtiges Programm
- **erzeugte Berichte haben VMPRF Struktur**
- **Trend und Summary Dateien für weiter Analyse**
- **Grob oder Detailauswertungen nach wechselnden Kriterien**
  - Voraussetzung es wurden die richtigen oder alle MONITOR Domains aktiviert
  - das MONITOR Intervall ist möglichst kurz ( Problemanalyse )
- **leichte Migration von bestehenden VMPRF Kontroll Dateien**

## PTK 5.1 VMPRF Mode

- verwendet VMPRF Syntax für die Kontrolldateien
  - MASTER, REPORT, SETTINGS
- VMPRF FCXEQUIV File
  - enthält PTK 5.1 BATCH Mode Report Namen für Batch Mode Ausführung
- keine VMPRF SUMMARY\_\* TREND\_\* Reports
  - Alternative:
    - Angabe von TREND und SUMMARY in der MASTER File
    - danach Auswertung der TREND und SUMMAY Dateien
- keine Unterstützung für
  - MDISK\_SEEK\_BY\_CONFIG
  - MDISK\_SEEK\_BY\_ACTIVITY
  - DASD\_SEEK\_BY\_DISCTIME\_D6

## PTK 5.1 BATCH Mode

- PERFKIT Syntax in den Kontrolldateien SETTINGS und REPORT
- 'fn' MASTER wie VMPRF MASTER DATEI
  - Enthält die Namen der Ein/Ausgabe Dateien
    - SETTINGS           Eingabe *fn ft fm*
    - REPORTS           Eingabe *fn ft fm*
    - TREDREC           Eingabe *fn ft fm*
    - SUMREC            Eingabe *fn ft fm*
    - UCLASS            Eingabe *fn ft fm*   (nur VMPRF Mode)
    - LISTING           Ausgabe *fn ft fm*
    - TREND             Ausgabe *fn ft fm*
    - SUMMARY          Ausgabe *fn ft fm*
    - LOG                Ausgabe *fn ft fm*
    - RUNFILE           Ausgabe *fn ft fm*

# 'fn' MASTER

```

B - [24 x 80]
File Edit View Communication Actions Window Help
JH01 MASTER A1 F 80 Trunc=80 Size=13 Line=0 Col=1 Alt=0
====>
T...+...1...+...2...+...3...+...4...+...5...+...6...+...7...
00000 * * * Top of File * * *
00001 *-----*
00002 * Performance Toolkit for VM Master File *
00003 *-----*
00004 * TYPE FN FT FM
00005 *-----*
00006 SETTINGS JH01 SETTINGS *
00007 REPORTS JH01 REPORTS *
00008 *UCLASS JH UCLASE A
00009 TRENDREC JH01 TRENDREC A
00010 SUMREC JH01 SUMREC A
00011 LISTING JH01 LISTING A
00012 LOG JH01 LOG A
00013 RUNFILE JH01 RUNFILE A
00014 * * * End of File * * *

PF1=HELP 2=FILE 3=QUIT 4=JOIN 5=JUM 6=X-IM 7=BA 8=F0 9=B0T 10=LI 11=RE 12=SPLIT
MA b 02/007
128 Connected through SSLv3 to secure remote server/host 9.156.175.126 using port 22
    
```

## PTK 5.1 BATCH Mode

### ▪ *'fn'* SETTINGS

#### • FC MONCOLL RESET

- Festlegen Begin und Ende der Auswertung
- Setzen der Zeit für TREND und SUMMARY Intervalle

#### • FC SETTINGS

- BYTIME                      Zeit für BY TIME Reports
- INTERIM                     Zeit für INTERIMS Reports
- MAXDEVS                    maximale Anzahl der I/O Devices in I/O Reports
- MAXUSERS                  maximale Anzahl von Usern in User Reports
- PAGESIZE                    Anzahl der Zeile pro Seite
- SYSTEM                     Kommentar in der Kopfzeile jeder Seite eines Reports
- SYSTEMID                  Name des Systems Kommentar auf jeder Seite

#### • UCLASS

- Zuordnung einer UserID zu einer Gruppe
- Diese Gruppe wird am Anfang der User Reports aufgeführt

# 'fn' SETTINGS

```

B - [24 x 80]
File Edit View Communication Actions Window Help
|...+...1...+...2...+...3...+...4...+...5...+...6...+...7...
00003 *****
00004
00005 FC SET          SYSTEM          "ANALYSE MONITOR DISK DATA GSE 25/10/2005"
00006 FC SET          BYTIME          1 MIN
00007 FC SET          INTERIM         1 MIN
00008 FC MONCOLL RESET 12:10R_P 12:30P
00009 FC MONCOLL RESET 12:10R_S 12:30S (MERGE
00010 FC MONCOLL RESET 12:10R_T 12:15T (MERGE
00011 FC MONCOLL RESET 12:15R_T 12:20T (MERGE
00012 FC MONCOLL RESET 12:20R_T 12:25T (MERGE
00013 FC MONCOLL RESET 12:25R_T 12:30T (MERGE
00014 FC SET          MAXDEVS         30
00015 FC SET          MAXUSER         30
00016 FC SET          PAGESIZE        53
00017 FC UCLASS LINSL9  LINUX
00018 FC UCLASS SLES9_2 LINUX
00019 FC UCLASS ESA260  VSE
00020 FC UCLASS ESA270  VSE
00021 * * * End of File * * *
PF1=HELP 2=FILE 3=QUIT 4=JOIN 5=JUM 6=X-IM 7=BA 8=F0 9=B0T 10=LI 11=RE 12=SPLIT
MA b 04/007
128 Connected through SSLv3 to secure remote server/host 9.156.175.126 using port 22

```



## PTK 5.1 BATCH Mode

- FCONX REPORTS enthält die komplette Liste möglicher Reports
  - diese Datei ist Bestandteil der Performance Tool Kit Installation
    - enthält die Namen aller möglichen Reports
    - Befindet sich auf PERFSVM 201 MDisk
    - unerwünschte Reports nur auf Kommentar setzen nicht löschen
    - eigene Dateinamen für die Verwendung im Batch Mode nutzen

### ➤ Aufruf für ein Batch Auswertung

- MONWRITE Daten befinden sich in einer CMS Datei

**PERFKIT BATCH '*master file name*' DISK '*fn ft fm Monwrite Datei*'**

- MONWRITE Daten befinden sich auf Band

**PERFKIT BATCH '*master file name*' TAPE '*devadd*'**

## System Monitor aktivieren

### ➤ Domänen aktivieren

- CP MON SAMP|EVENT ENA ALL | *domain* ‘

- *Domain*

- APPLD plus weitere Optionen
  - > wird für das erfassen von Linux System Rekords benötigt
- I/O plus weitere Optionen
- USER plus weitere Optionen
- PROC
- STOR

### ➤ Setzen des Intervall

- CP MON SAMP INT *nn* min|sec

### ➤ Starten Stoppen des Monitors

- CP MON START|STOP

### ➤ Erfolgt durch die PROFILE EXEC des PTK im Online Mode

➤ **q monitor**

MONITOR EVENT PENDING BLOCK 200 PARTITION 512

MONITOR DCSS NAME - NO DCSS NAME DEFINED

CONFIGURATION SIZE 68 LIMIT 1 MINUTES

CONFIGURATION AREA IS FREE

USERS CONNECTED TO \*MONITOR - NO USERS CONNECTED

MONITOR DOMAIN ENABLED

PROCESSOR DOMAIN ENABLED

STORAGE DOMAIN ENABLED

SCHEDULER DOMAIN DISABLED

SEEKS DOMAIN DISABLED

USER DOMAIN DISABLED

I/O DOMAIN ENABLED

ALL DEVICES ENABLED

APPLDATA DOMAIN ENABLED

ALL USERS ENABLED

MONITOR SAMPLE PENDING

INTERVAL 10 SECONDS

RATE 2.00 SECONDS

MONITOR DCSS NAME - NO DCSS NAME DEFINED

CONFIGURATION SIZE 241 LIMIT 1 MINUTES

CONFIGURATION AREA IS FREE

USERS CONNECTED TO \*MONITOR - NO USERS CONNECTED

MONITOR DOMAIN ENABLED

SYSTEM DOMAIN ENABLED

PROCESSOR DOMAIN ENABLED

STORAGE DOMAIN ENABLED

USER DOMAIN ENABLED

ALL USERS ENABLED

I/O DOMAIN ENABLED

ALL DEVICES ENABLED

APPLDATA DOMAIN ENABLED

ALL USERS ENABLED

➤ Ready; T=0.01/0.01 12:01:57

## MONWRITE

### ➤ **MONWRITE Maschine (User)**

- Standard Benutzer im z/VM
  - hat das Recht Daten vom Monitor shared Segment zu lesen
  - benötigt ausreichend Platten Platz zu Speichern in einer CMS-Datei
  - Platzbedarf ist abhängig von
    - der Größe des Systems
    - Anzahl der aktivierten Monitor Domänen primär SAMPLE
    - der Kürze des Monitor Intervalls
    - Anzahl der Benutzer
  - Schätzen den Platzbedarfs
    - Alle notwendigen Domains aktivieren
    - gewünschten Intervall setzen
    - Monitor starten
    - MONWRITE für 10 Minuten starten
    - Anzahl geschriebener Blöcke mit geplantem Messzeitraum multiplizieren
    - 180 Blöcke sind 1 Zylinder auf 3390 Volume

## MONWRITE

### ➤ Aufruf von MONWRITE

#### ▪ Daten in eine CMS Datei schreiben

**MONWRITE MONDCSS \*MONITOR DISK *fn ft fm***

- *fn* Standard D' Tagesdatum '
- *ft* Standard T' Tageszeit '
- *fm* Standard A

#### ▪ Daten auf Band schreiben

**MONWRITE MONDCSS \*MONITOR TAPE *devadd1 devadd2***

- *devadd1* Standard 181
- *devadd2* zweite Bandstation

#### ▪ MONWRITE

**#CP**

## Linux für zSeries Monitor ALLPLDATA

### ➤ Linux erstellt z/VM Monitor Rekords

- Records können durch PTK 5.1 Ausgewertet werden
- Rekord enthält Informationen über (x'FCA9')
  - CPU Verbrauch
  - Memory Belegung
  - Network Aktivität
- z/VM Directory
  - Linux User muss OPTION APPLDATA bekommen
- MONITOR SAMP ENA ALLP ALL|USERID *userid*
- FCONX \$PROFILE
  - FC BENCH USER *userid*
  - FC BENCH USER *userid* FILE *Startzeit Endzeit*
    - *Startzeit* hh:mm
    - *Endzeit* hh:mm

## FC Bench in FCONX \$PROFILE

```

Session E - [32 x 80]
File Edit View Communication Actions Window Help
FCONX $PROFILE A1 F 100 Trunc=100 Size=329 Line=0 Col=1 Alt=0
====>
T...+...1...+...2...+...3...+...4...+...5...+...6...+...7...
00000 * * * Top of File * * *
00001 *-----*
00002 *   Define number of CP action messages to be left pending   *
00003 *   at top of screen (default is 10 messages)                 *
00004 *-----*
00005 *
00006 FC ACTMSG  10
00007 *
00008 *-----*
00009 *   Define I/O devices and/or users for which detailed by-time logs *
00010 *   are to be built                                           *
00011 *-----*
00012 *
00013 *C BENCHMRK DEVICE 5900      FILE 00:00 TO 23:59
00014 *C BENCHMRK USER  TCPIP      FILE 00:00 TO 23:59
00015 FC BENCHMRK USER  LINSL9    FILE 00:00 TO 23:59
00016 FC BENCHMRK USER  SLES9_1   FILE 00:00 TO 23:59
00017 FC BENCHMRK USER  SLES9_2   FILE 00:00 TO 23:59
00018 FC BENCHMRK USER  SLES9_3   FILE 00:00 TO 23:59
00019 *
00020 *-----*
00021 *   Define extended highlighting and colors to be used       *
00022 *-----*
00023 *
00024 FC COLOR      TOPDAT      BLUE      UNDER
00025 FC COLOR      TOPSCRL    BLUE      UNDER
00026 FC COLOR      TOPSECU     BLUE      UNDER
PF1=HELP 2=FILE 3=QUIT 4=JOIN 5=JUM 6=X-IM 7=BA 8=FO 9=BOT 10=LI 11=RE 12=SPLIT
MA e 02/007
Connected to remote server/host 9.156.175.138 using port 23 Acrobat Distiller on C:\Documents and Settings\A\

```



# FC BENCH QUERY

```

Session E - [32 x 80]
File Edit View Communication Actions Window Help
FCX001 PERFORMANCE TOOLKIT MONWRITE Autoscroll 12
mylinux
cms file1
R;

Benchmarked:

  Userid: SLES9_2      File: 00:00 - 23:59
  Userid: SLES9_3      File: 00:00 - 23:59
  Userid: SLES9_1      File: 00:00 - 23:59
  Userid: LINSL9      File: 00:00 - 23:59
  No devices

Command ==>
F1=Help F2=Redisplay F3=Quit F12=Return
MA e 31/015
Connected to remote server/host 9.156.175.138 using port 23
Acrobat Distiller on C:\Documents and Settings\A
    
```

## Aktivierung Linux APPLDATA

➤ **Rootrechte erforderlich**

➤ **Steuerdatei appldata**

- Verzeichnis /etc/sysconfig -> ist vorgegeben
- Aktiviert die Kernel Funktion

➤ **SLES9:~ # cat /etc/sysconfig/appldata**

```
# /etc/sysconfig/appldata
# interval in seconds, must be >= [nr. cpus], due to virtual CPU timer
APPLDATA_INTERVAL=30
# say no to the modules you don't want to load
APPLDATA_MEM="yes"
APPLDATA_OS="yes"
APPLDATA_NET_SUM="yes"
```

## APPLDATA Module

### ➤ **Laden der Module manuell**

```
SLES9:~ # modprobe appldata_os  
SLES9:~ # modprobe appldata_mem  
SLES9:~ # modprobe appldata_net_sum
```

### ➤ **Setzen des Timers manuell**

```
SLES9:β # echo 1 > /proc/sys/appldata/timer  
echo 1 > /proc/sys/appldata/timer  
appldata info: Monitoring timer started.  
Oct 20 14:15:00 SLES9 kernel: appldata info: Monitoring timer starten
```

### ➤ **Setzen des IntervalTimers manuell**

```
SLES9:β # echo 100 > /proc/sys/appldata/interval  
echo 100 > /proc/sys/appldata/interval  
appldata info: Monitoring CPU interval set to 100 milliseconds.  
Oct 20 14:15:24 SLES9 kernel: appldata info: Monitoring CPU interval set to 100 milliseconds.
```

## Aktivierung APPLDATA Rekords

### ➤ CPU Rekords manuell

- SLES9:β # echo 1 > /proc/sys/appldata/os

echo 1 > /proc/sys/appldata/os

appldata info: Monitoring os data enabled, DIAG 0xDC started.

Oct 20 14:15:08 SLES9 kernel: appldata info: Monitoring os data enabled, DIAG 0xDC started.

### ➤ MEM Rekords manuell

- SLES9:β # echo 1 > /proc/sys/appldata/mem

### ➤ MEM Rekords manuell

- SLES9:β # echo 1 > /proc/sys/appldata/net\_sum

### ➤ Automatisch

- /etc/init.d/appldata start
  - mit und nach den Definitionen in /etc/sysconfig/appldata

## Linux APPLDATA /proc Struktur

```
➤ SLES9:~ # ls -ls /proc/sys/appldata/  
total 0  
0 dr-xr-xr-x  2 root root 0 Oct 20 09:31 .  
0 dr-xr-xr-x 12 root root 0 Oct 20 09:31 ..  
0 -rw-r--r--  1 root root 0 Oct 20 09:31 interval  
0 -rw-r--r--  1 root root 0 Oct 20 09:31 mem  
0 -rw-r--r--  1 root root 0 Oct 20 09:31 net_sum  
0 -rw-r--r--  1 root root 0 Oct 20 09:31 os  
0 -rw-r--r--  1 root root 0 Oct 20 09:31 timer
```

## Unterschiede RMF / APPLDATA

### ➤ **RMF**

- erfordert RMF Server im Linux
- TCP/IP basierende Datenausgabe
- direkte Darstellung der Daten im Windows Web Browser
- keine HISTLOG Daten
- Anzeige von Augenblickswerten

### ➤ **APPLDATA**

- Perfkit 5.1 erforderlich
- erfordert Linux APPLDATA Support ab SLES8 Fix Pack3
- eigene Monitor Rekords
- HISTLOG Daten
- ein Benchmark Log-Rekord pro Intervall

## 33 Benchmark Display

```

B - [24 x 80]
File Edit View Communication Actions Window Help
FCX173 CPU 9672 SER 10018 BENCHMRK Log Data Perf. Monitor

Userid      Log File
S Devnum    Name        Description
. LINSL9    LXPULOG     Linux CPU load log
. LINSL9    UCOMMLLOG   User IUCV and VMCF communications log
. LINSL9    UPAGELOG    User paging load log
. LINSL9    USERLOG    User resource consumption log
. LINSL9    USTATLOG    User wait state log
. SLES9_2  LXPULOG     Linux CPU load log
. SLES9_2  LXMEMLOG    Linux memory util./activity log
. SLES9_2  LXNETLOG    Linux network activity log
. SLES9_2  UCOMMLLOG   User IUCV and VMCF communications log
. SLES9_2  UPAGELOG    User paging load log
. SLES9_2  USERLOG    User resource consumption log
. SLES9_2  USTATLOG    User wait state log

Select a user or device log with cursor and hit ENTER
Command ==>
F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F12=Return
MA b 10/002
128 Connected through SSLv3 to secure remote server/host 9.156.175.126 using port 22
  
```

# 33 Benchmark Display SLES9\_2 CPU LOG

```

B - [24 x 80]
File Edit View Communication Actions Window Help
FCX246 CPU 9672 SER 10018 Interval 18:30:04 - 18:42:42 Perf. Monitor
Linux CPU Load Log for User SLES9_2
<----- Total CPU -----> <----->
Interval Virt <----- Utilization (%) -----> <----- Curren
End Time CPUs TotCPU User Kernel Nice IRQ SoftIRQ IOWait Idle Runabl Waiti
>>Mean>> 1 .2 .1 .1 .0 .0 .0 .0 .1 99.7 1.3
18:31:00 1 .1 .0 .0 .0 .0 .0 .0 99.9 2
18:31:33 1 .2 .0 .1 .0 .0 .0 .1 99.8 1
18:32:00 1 .2 .1 .1 .0 .0 .0 .0 99.8 3
18:33:09 1 .1 .0 .1 .0 .0 .0 .1 99.8 0
18:33:59 1 .7 .3 .5 .0 .0 .0 .0 99.3 1
18:34:06 1 4.1 1.1 2.2 .0 .0 .8 2.2 93.7 1
18:34:19 1 16.9 11.1 5.3 .0 .0 .5 3.4 79.7 1
18:34:29 1 9.6 3.9 4.6 .0 .0 1.1 7.8 82.6 1
18:34:39 1 4.2 1.8 2.1 .0 .0 .4 1.9 93.9 0
18:34:53 1 .4 .2 .1 .0 .0 .0 .0 99.6 1
18:35:05 1 1.0 .2 .7 .0 .0 .0 .2 98.8 2
18:35:19 1 .5 .2 .1 .0 .0 .2 .1 99.4 0
18:35:34 1 .3 .3 .0 .0 .0 .0 .0 99.7 1
Command ==>
F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F10=Left F11=Right F12=Return
MA b 23/015
128 Connected through SSLv3 to secure remote server/host 9.156.175.126 using port 22
    
```



# 33 Benchmark Display SLES9\_2 CPU LOG

**ZVM4\_SBZ Data Retrieval Session (Performance Toolkit for VM FL510 VM63609) - Microsoft I...**

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address [http://9.156.175.126:82/0FC9E750/ECC4/LXCPULOG.SLES9\\_2](http://9.156.175.126:82/0FC9E750/ECC4/LXCPULOG.SLES9_2) Go

**Linux CPU Load Summary Log (ZVM4\_SBZ)**

Command Refresh Systems Menu Return Help  Auto-Refresh

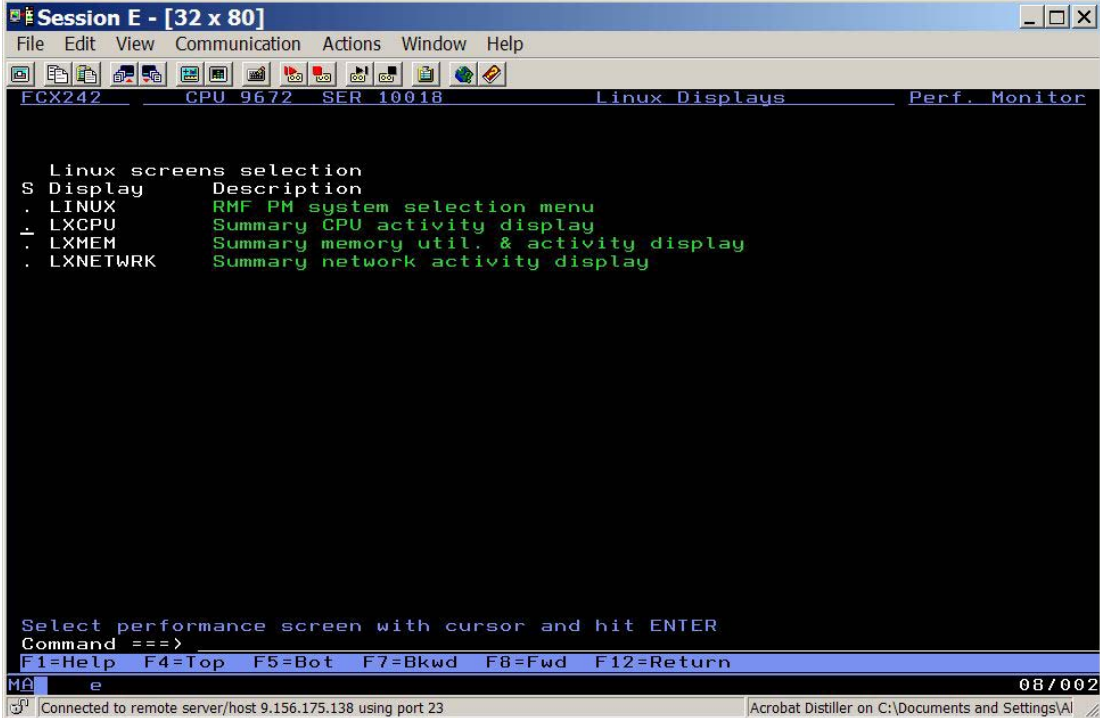
**Interval 18:30:04-18:36:32, on 2005/10/23**

Linux CPU Load Log for User SLES9\_2

Interval	Virt CPUs	Total CPU Utilization (%)							Processes						
		TotCPU	User	Kernel	Nice	IRQ	SoftIRQ	IOWait	Idle	Current	Waiting	Total	1 Min	5 Min	15 Min
>>Mean>>	1	.2	.1	.1	.0	.0	.0	.1	99.7	1.3	.0	53.0	.01	.03	.00
18:31:00	1	.1	.0	.0	.0	.0	.0	.0	99.9	2	0	53	.03	.06	.01
18:31:33	1	.2	.0	.1	.0	.0	.0	.1	99.8	1	0	51	.02	.05	.01
18:32:00	1	.2	.1	.1	.0	.0	.0	.0	99.8	3	0	51	.01	.04	.01
18:33:09	1	.1	.0	.1	.0	.0	.0	.1	99.8	0	0	51	.00	.03	.00
18:33:59	1	.7	.3	.5	.0	.0	.0	.0	99.3	1	0	52	.00	.03	.00
18:34:06	1	4.1	1.1	2.2	.0	.0	.8	2.2	93.7	1	0	52	.00	.03	.00
18:34:19	1	16.9	11.1	5.3	.0	.0	.5	3.4	79.7	1	0	54	.08	.04	.01
18:34:29	1	9.6	3.9	4.6	.0	.0	1.1	7.8	82.6	1	0	54	.07	.04	.01
18:34:39	1	4.2	1.8	2.1	.0	.0	.4	1.9	93.9	0	0	54	.06	.04	.01
18:34:53	1	.4	.2	.1	.0	.0	.0	.0	99.6	1	0	54	.05	.04	.01
18:35:05	1	1.0	.2	.7	.0	.0	.0	.2	98.8	2	0	54	.04	.03	.01
18:35:19	1	.5	.2	.1	.0	.0	.2	.1	99.4	0	0	54	.03	.03	.00
18:35:34	1	.3	.3	.0	.0	.0	.0	.0	99.7	1	0	54	.03	.03	.00
18:35:47	1	.4	.2	.1	.0	.0	.1	1.1	98.6	2	0	54	.02	.03	.00
18:36:02	1	.9	.4	.5	.0	.0	.0	.2	98.9	2	0	54	.02	.03	.00
18:36:17	1	.3	.1	.2	.0	.0	.0	.0	99.7	2	0	54	.01	.03	.00
18:36:32	1	.3	.2	.1	.0	.0	.0	.0	99.7	2	0	54	.01	.03	.00

Internet

## 29 Linux systems\* RMF Interface



The screenshot shows a terminal window titled "Session E - [32 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The terminal content displays system information: "FCX242 CPU 9672 SER 10018 Linux Displays Perf. Monitor". A "Linux screens selection" menu is shown with the following options:

S	Display	Description
.	LINUX	RMF PM system selection menu
.	LXCPU	Summary CPU activity display
.	LXMEM	Summary memory util. & activity display
.	LXNETWRK	Summary network activity display

Below the menu, it says "Select performance screen with cursor and hit ENTER" and "Command ==>". A status bar at the bottom of the terminal shows "MA e" on the left, "08/002" on the right, and "Connected to remote server/host 9.156.175.138 using port 23" and "Acrobat Distiller on C:\Documents and Settings\A\..." at the very bottom.

# 29 Linux systems\* LXCPU

Session E - [32 x 80]

File Edit View Communication Actions Window Help

FCX243 CPU 9672 SER 10018 Interval 16:18:01 - 16:19:00 Perf. Monitor

Linux Userid	Virt CPUs	TotCPU	User	Kernel	Nice	IRQ	SoftIRQ	IOWait	Idle	Runabl	Waiti
>System<	1.5	.1	.0	.0	.0	.0	.0	.1	150.0	1.0	
LINSL9	2	.0	.0	.0	.0	.0	.0	.0	200.0	0	
SLES9_2	1	.1	.0	.0	.0	.0	.0	.1	99.9	2	

Select a highlighted guest for RMF PM Linux details  
Command ==>

F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F10=Left F11=Right F12=Return

MA e 31/015

Connected to remote server/host 9.156.175.138 using port 23 Acrobat Distiller on C:\Documents and Settings\A\

## 29 Linux systems\* LXCPU SLES9\_2

```

B - [24 x 80]
File Edit View Communication Actions Window Help
FCX230 CPU 9672 SER 10018 Interval 18:52:00 - 18:53:00 Perf. Monitor
Linux CPU Utilization for System SLES9_2
<--- Percent CPU Utilization ---> <-Accumulated (s)->
Processor Total User Kernel Nice Idle TotTm UserTm KernTm
>>Mean>> 8.67 6.93 1.74 0 91.32 --- --- ---
cpu0 8.68 6.93 1.75 0 91.31 --- --- ---

Process Name
top.21898 0.31 0.16 0.15 0 --- 15.69 8.13 7.56
nscd.1146 0.01 ... 0.01 0 --- 5.48 0.81 4.67
procgat.1353 0.01 0 0.01 0 --- 66.71 6.66 60.05
aio/0.14 0 0 0 -10 --- 0 0 0
events/0.4 0 0 0 -10 --- 0 0 0
init.1 0 0 0 0 --- 1.67 0 1.67
kblockd/0.5 0 0 0 -10 --- 0 0 0
kcopyd.314 0 0 0 -10 --- ... ... 0
khelper.10 0 0 0 ... --- 0 0 0
kjournald.207 0 0 0 0 --- 3.83 0 3.83
kjournald.344 0 0 0 0 --- ... ... ...

Command ==>
F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F12=Return
MA b 23/015
128 Connected through SSLV3 to secure remote server/host 9.156.175.126 using port 22
    
```

## Benutzer definierte Anzeigen

### ➤ **FC DEFSCREEN**

- Definition eines eigen Anzeigen Namens
- Anzeigename hat Sub Kommando Funktion
  - kann von jeder anderen Anzeige aufgerufen werden
- Kombiniert frei definiert Zeilen aus unterschiedlichen PTK Anzeigen
- Anzeigename darf nicht identisch mit PTK Anzeigen sein
  - PKT Anzeigennamen haben Vorrang
- Benutzer Anzeige werden im Menü 'K' zusammengefasst
- können über Web Browser dargestellt werden
  - Vorteil mehr Informationen durch größere Zeilenlänge



# MYLINUX Web Anzeige

**ZVM4\_SBZ Data Retrieval Session (Performance Toolkit for VM FL510 VM63609) - Microsoft Internet Explorer**

Address: <http://9.156.175.126:82/0FC9E750/30DB/MYLINUX>

**User-Defined Performance Report (ZVM4\_SBZ)**

Command Refresh Systems Menu Return Help  Auto-Refresh

**IBM Performance Toolkit for VM**

Interval 19:00:49-19:01:00, on 2005/10/23 (CURRENT interval, select average for mean data)

CPU Load		Virtual IO/s		User Time		Spool		MDC		Nr of
Seconds	T/V	IO/s	IO/s	Minutes	Total	Rate	Insert			
>System<	.10 .010 .008 1.3	.1	.1	.0	.0	.0	.0	.0	.0	28
SLES9_2	.83 .083 .068 1.2	2.7	2.7	.0	.0	.0	.0	ESA,CLO,DISP	.0	100
LINSL9	.58 .058 .032 1.8	.9	.9	.0	.0	.0	.0	ESA,CLO,DISP	.0	100
OPERATOR	.32 .032 .029 1.1	.0	.0	.0	.0	.0	.0	ESA,---,DORM	.0	100
ESA260	.29 .029 .025 1.2	.0	.0	.0	.0	.0	.0	ESA,CLO,DISP	.0	1000
SSLSERV	.22 .022 .008 2.8	.0	.0	.0	.0	.0	.0	ESA,CLO,DISP	.0	100

Total CPU Utilization (%)										Processes					Nr of		
Linux	Virt	CPUs	TotCPU	User	Kernel	Nice	IRQ	SoftIRQ	IOWait	Idle	Runabl	Waiting	Total	1_Min		5_Min	15_Min
>System<	1.5	.3	.1	.1	.0	.0	.0	.0	.1	149.8	1.0	.0	48.5	.00	.00	.00	2
LINSL9	2	.2	.1	.0	.0	.0	.0	.0	.1	199.8	0	0	43	.00	.00	.00	
SLES9_2	1	.3	.1	.2	.0	.0	.0	.0	.0	99.7	2	0	54	.00	.00	.00	

Addr	Device	Descr.	Mdisk	Pa-	Links	ths	I/O	Aviod	Pend	Disc	Conn	Serv	Resp	CUWt	Req.	Percent	SEEK	Recov	Throttle
OE25	3390-3	LIN003	5	4	2.9	.0	.3	3.0	2.1	5.4	5.4	.0	.00	2	0	108	0	...	...
OE80	3390-3	LIN008	5	4	1.1	.0	.2	.0	2.2	2.4	2.4	.0	.00	0	0	263	0	...	...
OE00	3390-3	LIN005	2	4	.2	.0	.2	.1	.4	.7	.7	.0	.00	0	0	...	0	...	...
OE01	3390-3	VM4014	0	4	.2	.0	.2	.0	.4	.6	.6	.0	.00	0	0	...	0	...	...
OE02	3390-3	LIN007	0	4	.2	.0	.2	.0	.4	.6	.6	.0	.00	0	0	...	0	...	...
OE03	3390-3	VM4005	7	4	.2	.0	.1	.0	.5	.6	.6	.0	.00	0	0	...	0	...	...
OE04	3390-3	VM4006	5	4	.2	.0	.3	.1	.4	.8	.8	.0	.00	0	0	...	0	...	...
OE05	3390-3	VM4007	1	4	.2	.0	.2	.1	.4	.7	.7	.0	.00	0	0	...	0	...	...
OE06	3390-3	VM4008	0	4	.2	.0	.3	.0	.4	.7	.7	.0	.00	0	0	...	0	...	...

## FC Definitionen für MYLINUX Anzeige

```

Session E - [32 x 80]
File Edit View Communication Actions Window Help
=====
FCONX $PROFILE A1 F 100 Trunc=100 Size=325 Line=52 Col=1 Alt=0
=====
T...+...1...+...2...+...3...+...4...+...5...+...6...+...7...
00052 FC DEFLOG MYLOG COL 67 LEN 13 COPY SYSTEM LINE 18 COL 26 NAME <AV_List_Re
00053 *
00054 FC DEFSCRN SYSSUMX LINE 2 TO 9 COPY CPU FROM 1
00055 FC DEFSCRN SYSSUMX LINE 11 TO 12 COPY DEVICE FROM 2
00056 FC DEFSCRN SYSSUMX LINE 13 TO 16 COPY DEVICE FROM 5
00057 FC DEFSCRN SYSSUMX LINE 18 TO 21 COPY CHANNEL FROM 1
00058 FC DEFSCRN SYSSUMX LINE 23 TO 23 COPY USER FROM 4
00059 FC DEFSCRN SYSSUMX LINE 24 TO 27 COPY USER FROM 6
00060 *
00061 FC DEFSCRN MYLINUX LINE 1 TO 2 COPY USER FROM 2
00062 FC DEFSCRN MYLINUX LINE 3 TO 8 COPY USER FROM 5
00063 FC DEFSCRN MYLINUX LINE 10 TO 12 COPY LXCPU FROM 2
00064 FC DEFSCRN MYLINUX LINE 13 TO 17 COPY LXCPU FROM 5
00065 FC DEFSCRN MYLINUX LINE 18 TO 19 COPY DEVICE FROM 2
00066 FC DEFSCRN MYLINUX LINE 20 TO 28 COPY DEVICE FROM 5
00067 *
00068 *-----*
00069 * Define colors and shading patterns for GDDM graphics *
00070 *-----*
00071 *
00072 FC GDDMSPEC VAR1 COL YELLOW PAT 5
00073 FC GDDMSPEC VAR2 COL TURQUOIS PAT 14
00074 FC GDDMSPEC VAR3 COL ORANGE PAT 12
00075 FC GDDMSPEC VAR4 COL GREEN PAT 9
00076 *
00077 *-----*
00078 * Indicate whether perf. data are to be collected continuously, *
PF1=HELP 2=FILE 3=QUIT 4=JOIN 5=JUM 6=X-IM 7=BA 8=FO 9=BOT 10=LI 11=RE 12=SPLIT
MA e 02/007
Connected to remote server/host 9.156.175.138 using port 23 Acrobat Distiller on C:\Documents and Settings\A

```





# LXCPU Anzeige

Session E - [32 x 80]

File Edit View Communication Actions Window Help

FCX243 CPU 9672 SER 10018 Interval 16:18:01 - 16:19:00 Perf. Monitor

Linux		Total CPU Utilization (%)									Current	
Userid	Virt CPUs	TotCPU	User	Kernel	Nice	IRQ	SoftIRQ	IOWait	Idle	Runabl	Waiti	
>System<	1.5	.1	.0	.0	.0	.0	.0	.1	150.0	1.0		
LINSL9	2	.0	.0	.0	.0	.0	.0	.0	200.0	0		
SLES9_2	1	.1	.0	.0	.0	.0	.0	.1	99.9	2		

Select a highlighted guest for RMF PM Linux details  
Command ==>

F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F10=Left F11=Right F12=Return

MA e 31/015

Connected to remote server/host 9.156.175.138 using port 23 Acrobat Distiller on C:\Documents and Settings\A\

# DEVICE Anzeige

Session E - [32 x 80]

File Edit View Communication Actions Window Help

FCX108 CPU 9672 SER 10018 Interval 16:25:30 - 16:25:40 Perf. Monitor

<-- Device Descr. -->		Mdisk	Pa-	<-Rate/s->		<---Time (msec)---					>---Req.---		
Addr	Type	Label/ID	Links	ths	I/O	Avoid	Pend	Disc	Conn	Serv	Resp	CUWt	Qued
>>	All	DASD	<<		.2	.0	.2	.2	.9	1.3	1.3	.0	.00
0E2D	3390-3	VM4003	CP	144	4	.7	.3	.2	3.1	2.1	5.4	5.4	.00
0E2B	3390-3	VM4001	CP	39	4	.5	.3	.2	1.5	3.3	5.0	5.0	.00
0E2E	3390-3	VM4004	CP	27	4	.2	.0	.2	.1	.4	.7	.7	.00
0E07	3390-3	VM4009		24	4	.5	.3	.2	1.3	3.4	4.9	4.9	.00
0E03	3390-3	VM4005		9	4	.7	.4	.3	.6	4.4	5.3	5.3	.00
0E04	3390-3	VM4006		5	4	.2	.0	.2	.1	.4	.7	.7	.00
0E25	3390-3	LIN003		5	4	.8	.0	.2	.0	2.2	2.4	2.4	.00
0E80	3390-3	LIN008		5	4	.2	.0	.2	.1	.4	.7	.7	.00
0E00	3390-3	LIN005		2	4	.2	.0	.2	.1	.4	.7	.7	.00
0E0A	3390-3	VM4012		2	4	.2	.0	.3	.0	.4	.7	.7	.00
0E0C	3390-3	VM4013		2	4	.2	.0	.3	.0	.4	.7	.7	.00
0E05	3390-3	VM4007		1	4	.2	.0	.1	.1	.4	.6	.6	.00
0E11	3390-3	VM4030		1	4	.2	.0	.2	.1	.4	.7	.7	.00
0E12	3390-3	VM4031		1	4	.2	.0	.3	.1	.4	.8	.8	.00
0E18	3390-3	VM4036		1	4	.2	.0	.2	.1	.4	.7	.7	.00
0E19	3390-3	VM4037		1	4	.2	.0	.3	.0	.4	.7	.7	.00
0E1B	3390-3	VM4020		1	4	.2	.0	.3	.1	.4	.8	.8	.00
0E1C	3390-3	VM4021		1	4	.2	.0	.3	.0	.4	.7	.7	.00
0E1D	3390-3	VM4022		1	4	.2	.0	.1	.0	.5	.6	.6	.00
0E1E	3390-3	VM4023		1	4	.2	.0	.1	.1	.4	.6	.6	.00
0E1F	3390-3	VM4024		1	4	.2	.0	.2	.1	.4	.7	.7	.00
0E20	3390-3	VM4025		1	4	.2	.0	.3	.0	.4	.7	.7	.00
0E21	3390-3	VM4026		1	4	.2	.0	.2	.1	.4	.7	.7	.00
0E22	3390-3	VM4027		1	4	.2	.0	.1	.0	.5	.6	.6	.00

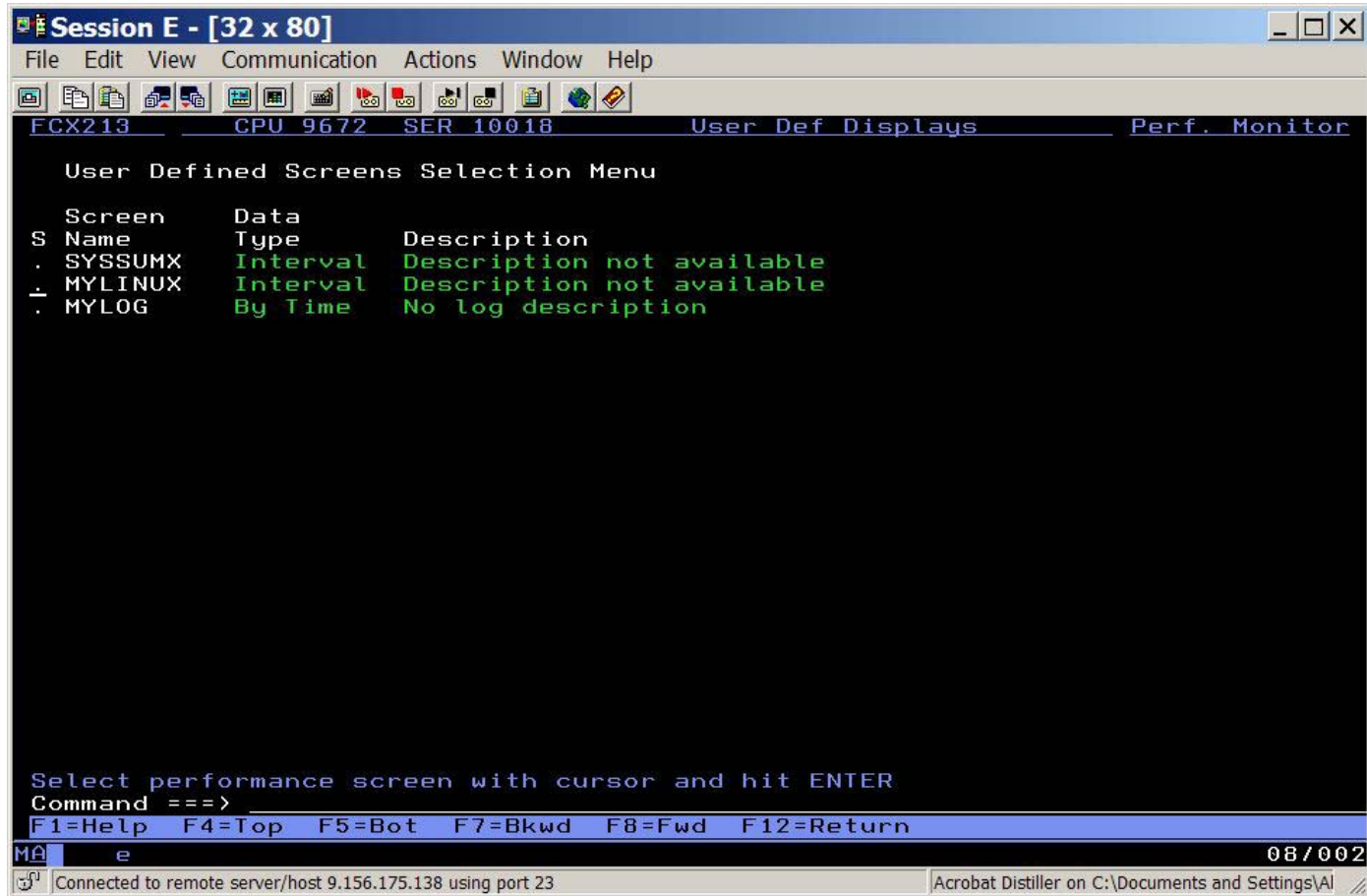
Select a device for I/O device details or SCSI for related data  
Command ==>

F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F10=Left F11=Right F12=Return

MA e 32/002

Connected to remote server/host 9.156.175.138 using port 23 Acrobat Distiller on C:\Documents and Settings\AI

## Menü K



```

Session E - [32 x 80]
File Edit View Communication Actions Window Help
FCX213 CPU 9672 SER 10018 User Def Displays Perf. Monitor

User Defined Screens Selection Menu

Screen      Data
S Name      Type      Description
. SYSSUMX   Interval  Description not available
. MYLINUX   Interval  Description not available
. MYLOG     By Time   No log description

Select performance screen with cursor and hit ENTER
Command ===>
F1=Help F4=Top F5=Bot F7=Bkwd F8=Fwd F12=Return
MA e 08/002
Connected to remote server/host 9.156.175.138 using port 23
Acrobat Distiller on C:\Documents and Settings\A\

```