



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 filel
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    LXCPULOG   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  LXCPULOG   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 Go

Linux CPU Load Summary Log (ZVM4_SBZ)

Command Refresh Systems Menu Return Help Auto-Refresh

IBM
Performance Toolkit for VM

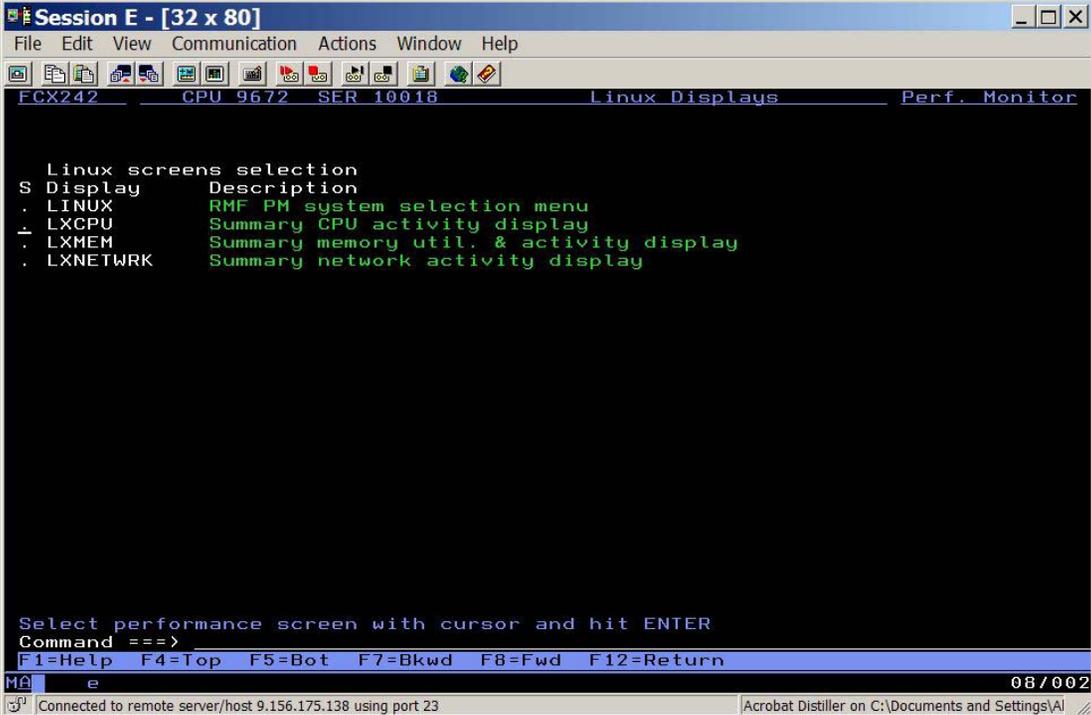
Interval 18:30:04-18:36:32, on 2005/10/23

Linux CPU Load Log for User SLES9_2

Interval	Virt CPUs	Total CPU Utilization (%)							Processes						
		TotCPU	User	Kernel	Nice	IRQ	SoftIRQ	IOWait	Idle	Current Runabl	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 entries:

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 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		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\

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

File Edit View Favorites Tools Help

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

IBM Performance Toolkit for VM

User-Defined Performance Report (ZVM4_SBZ)

Command Refresh Systems Menu Return Help Auto-Refresh

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	.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 0	0 0	.00 .00	.0 .0	100	
LINSL9	.58 .058 .032 1.8	.9 .9 .0 .0 .0 .0	ESA,CLO,DISP		0 0	0 0	.00 .00	.0 .0	100	
OPERATOR	.32 .032 .029 1.1	.0 .0 .0 .0 .0 .0	ESA,---,DORM		0 0	0 0	.00 .00	.0 .0	100	
ESA260	.29 .029 .025 1.2	.0 .0 .0 .0 .0 .0	ESA,CLO,DISP		0 0	0 0	.00 .00	.0 .0	1000	
SSLSERV	.22 .022 .008 2.8	.0 .0 .0 .0 .0 .0	ESA,CLO,DISP		0 0	0 0	.00 .00	.0 .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	Type	Label/ID	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) ----->					>----->		
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\...
```