

z/OS Performance Monitoring Tools Shoot-Out: MainView for z/OS from BMC Software, Inc.

Keith E. Moe
BMC Software, Inc.

March 1, 2011



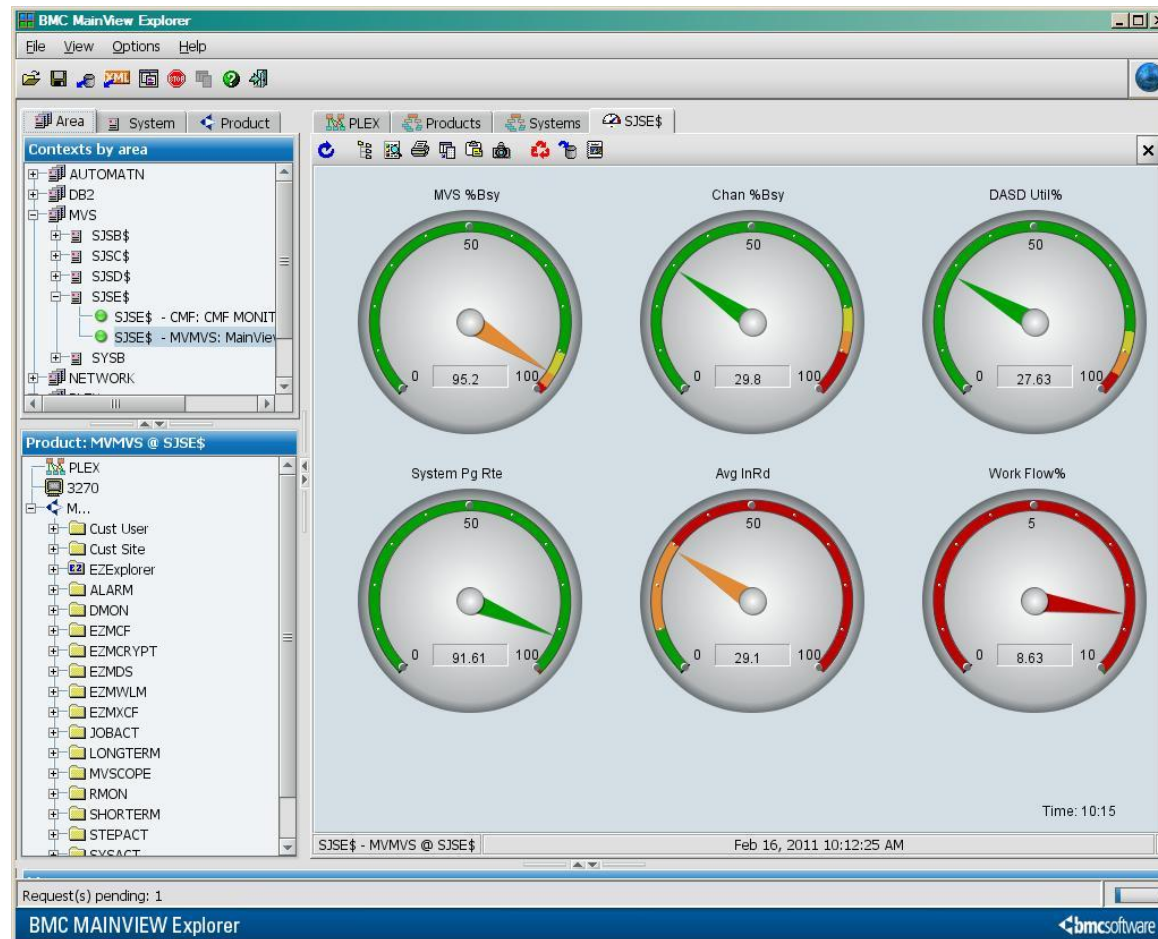
SHARE in Boston

MainView for z/OS



- MainView is a family of monitoring products
 - z/OS
 - Data Base (DB2, CICS, IMS)
 - Storage Management
 - UNIX System Services (OMVS)
 - MQ
 - z/Linux
- Accessible via:
 - TSO
 - VTAM connection
 - Web Browser

MainView for z/OS MainView Explorer Interface



MainView for z/OS

Conventional Performance Monitoring

- Performance Monitor of major z/OS functions/components
 - Jobs
 - CPU usage, I/O, Delays, zIIP/zAAP usage
 - Devices (Tape and DASD) and Processors
 - Activity, Response time, Delays, Utilization
 - Workloads
 - Service and Report Classes, Enclaves, etc.
 - LPAR Utilization
 - Storage
 - Enqueue Contention
 - Etc.
- Historical data recorded and viewed interactively

MainView for z/OS Historical Data Recording

- Three levels of historical data
- Standard interval data
 - 1 minute to 60 minute interval
 - Default 15 minutes
- Long Term interval data
 - Subset of Standard data
 - Multiple of Standard interval – default 4 times (60 minutes)
- Short Term Interval data
 - Subset of Standard data
 - 15, 30, or 60 seconds
 - Turned on and off on the fly

MainView for z/OS System Programmer Tools

- Security
- MVScope Tracing
- Address Space TCBs
- Job Actions
- SYSPROG Services
- Common Storage Monitor
- Self Monitoring

MainView for z/OS Security

- All functions have security definitions
- Default Rules (Profiles) assigned to every function
 - Installation can for each Rule:
 - Enable
 - Disable
 - Change
- Installation Security System must be updated
 - Limit scope of who can do what
 - Out of the box with no Profiles, most functions prohibited
 - Could end up with 100s of Profiles, so use generics

MainView for z/OS MVScope Tracing

- Traces
 - Address Spaces
 - I/O Activity
 - CCWs
 - Data read or written
- Designed for short term tracing (a few minutes)
 - Not a substitute for more comprehensive products
- Will identify Load Module, CSECT, and offset
 - STEPLIB, Link List, LPA, Nucleus

MainView for z/OS MVScope Screen – Storage Map/CPU use



```

20JUL2010 13:19:12 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =MSMVSTG=====SJSJ=====*=====20JUL2010==13:18:53====MVMVS====D====42
C Start      Length  Asid AreaName Used for CPU  CPU%  Disa- Used By
-----
00000000 FFFFFFFF 002A CNMNETD A/S CNMNETD
00000000 FFFFFFFF 0006 XCFAS Xmem A/S CNMNETD
00000000 1000 002A CNMNETD PSA CNMNETD
00001000 6FF000 002A CNMNETD PVT <16M CNMNETD
00001000 410000 002A CNMNETD RGN <16M CNMNETD
00700000 4F3000 002A CNMNETD CSA <16M CNMNETD
00BF3000 1000 002A CNMNETD MLPA CNMNETD
00BF4000 222000 002A CNMNETD PLPA CNMNETD
00E16000 1BC000 002A CNMNETD SQA <16M CNMNETD
00FD2000 12000 002A CNMNETD R/W NUC CNMNETD
00FE4000 1C000 002A CNMNETD R/O NUC CNMNETD
00FEAED8 1028 002A IEAVELK Program 2 18.2 18.2 CNMNETD
00FEAED8 1028 002A IEAVELK Csect 2 18.2 18.2 CNMNETD
00FEB366 1 002A IEAVELK +00048E 2 18.2 18.2 CNMNETD
01000000 989000 002A CNMNETD R/O ENUC CNMNETD
01425508 1968 002A IXLR1RRE Program 1 9.1 9.1 CNMNETD
01425508 1968 002A IXLR1RRE Csect 1 9.1 9.1 CNMNETD
01425548 1 002A IXLR1RRE +000040 1 9.1 9.1 CNMNETD
01426E70 1188 002A IXLR1RSU Program 1 9.1 9.1 CNMNETD
01426E70 1188 002A IXLR1RSU Csect 1 9.1 9.1 CNMNETD
01427364 1 002A IXLR1RSU +0004F4 1 9.1 9.1 CNMNETD
01561860 230 002A IGVADFE Program 2 18.2 18.2 CNMNETD
01561860 230 002A IGVADFE Csect 2 18.2 18.2 CNMNETD
01561A56 1 002A IGVADFE +0001F6 1 9.1 9.1 CNMNETD
01561A72 1 002A IGVADFE +000212 1 9.1 9.1 CNMNETD
01989000 7A000 002A CNMNETD R/W ENUC CNMNETD
01A03000 418B000 002A CNMNETD SQA >16M CNMNETD
05B8E000 465D000 002A CNMNETD EPLPA CNMNETD
0A1EB000 3000 002A CNMNETD EFLPA CNMNETD
0A1EE000 17000 002A CNMNETD EMLPA CNMNETD
0A205000 1F4FB000 002A CNMNETD CSA >16M CNMNETD
2719D694 1 002A Unknown Instrctn 1 9.1 9.1 CNMNETD
271AE93C 1 002A Unknown Instrctn 1 9.1 9.1 CNMNETD
29700000 56900000 002A CNMNETD PVT >16M CNMNETD
29700000 2000000 002A CNMNETD RGN >16M CNMNETD
298DB000 129318 002A ISTINCSH Program 1 9.1 9.1 CNMNETD

```

MA c 03 / 016

Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23

\\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS

Address Space TCB information

- Display of all TCBs in an address space
 - TCB hierarchy
 - Program name
 - Protect key
 - Dispatching priority
 - Non-dispatchability flags
 - CPU Time used and percentage

MainView for z/OS

Job TCB Information – TSO User

```

2010/07/20 13:27:07 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =JTCB=====EXKEM=====*=====2010/07/20=13:27:07=====MVMVS=====D=====32
C Jobname  Total TCB Program Name      TCB   TCB   TCB CPU %
  CPU Time CPU Time CPU%
-----
BMVKEM2   0.960 IEAVAR00      0.028  2.92
BMVKEM2   0.960 IEESB605     0.105 10.94
BMVKEM2   0.960 IKJEFT01     0.013  1.35
BMVKEM2   0.960 BBM9ZB01     0.007  0.73
BMVKEM2   0.960 BBM9ZA40
BMVKEM2   0.960 BBM9XCLM     0.010  1.04
BMVKEM2   0.960 BBM9MZ10
BMVKEM2   0.960 BBM9SZ85
BMVKEM2   0.960 BBM9SZ01
BMVKEM2   0.960 BBM9SZ30     0.058  6.04
BMVKEM2   0.960 BBM9SZ31
BMVKEM2   0.960 IKJEFT02     0.006  0.62
BMVKEM2   0.960 IKJEFT09     0.015  1.56
BMVKEM2   0.960 ISPF        0.080  8.33
BMVKEM2   0.960 SMLOAD      0.042  4.37
BMVKEM2   0.960 MGTASK
BMVKEM2   0.960 XSMAIN
BMVKEM2   0.960 LGTASK      0.001  0.10
BMVKEM2   0.960 ISPTASK     0.156 16.25
BMVKEM2   0.960 BBM3API     0.003  0.31
BMVKEM2   0.960 BBM9XDRZ
BMVKEM2   0.960 BBM9SZ20     0.375 39.06
BMVKEM2   0.960 BBM9TC24     0.007  0.73
BMVKEM2   0.960 TSLOAD      0.005  0.52
BMVKEM2   0.960 PSMAIN      0.010  1.04
BMVKEM2   0.960 PSSC
BMVKEM2   0.960 PSLWCL     0.002  0.21
BMVKEM2   0.960 PCONTROL    0.001  0.10
BMVKEM2   0.960 CALL        0.002  0.21
BMVKEM2   0.960 TSLOAD      0.006  0.62
BMVKEM2   0.960 ISPTASK     0.028  2.92
BMVKEM2   0.960 IEAVTSDT

```

MA b 03/016
Connected to remote server/host bbsysb using lu/pool TCPBL192 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS Job Actions

- From views that list address spaces
 - CANCEL
 - FORCE
 - STOP
 - SVC Dump
 - Reset Service Class
 - Initiate MVScope tracing
- Confirmation pop-up
- Can be done against jobs on other systems

MainView for z/OS

Job Action – SVC Dump request

```

20JUL2010 13:29:04 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
                               Dump Address Space
COMMAND ==>                                SCROLL ==> HALF

Dump Title: Dump of XIYK3PAS dumped by MV for z/OS by BMVKEM3
The title is optional, do not enclose it in quotes

Jobname:      XIYK3PAS
Job ID:       STC09958
Step Name:    XIYK3PAS   or STC Identifier
ASID (Dec):   477
ASID (Hex):   01DD
MVS System:   SJSD

END to dump the address space
CANCEL to abort dumping the address space
HELP to view related help

MV50PDB2 STC09303 S STCNRM   STC          NO          1.24          0.13
MVQAZPAS STC09247 S STCNRM   STC          NO          1.24          0.13
RDAAQS2  TSU00075 T TSONRM   TSO          NO          1.17          0.12
MTADMRPD STC09224 S SYSSTC   STC          NO          1.16          0.12
MAMAXCAS STC00076 S STCNRM   STC          NO          1.15          0.15
XTST7PAS STC09329 S STCNRM   STC          NO          0.95          0.10
SVOSP    STC09137 S STCPROD  STC          NO          0.64          0.07
MTAPASD  STC09220 S SYSSTC   STC          NO          0.59          0.06
GRS      MSTR    S SYSTEM   STC          NO          0.58          0.06
DC$BBID  STC09019 S STCNRM   STC          NO          0.54          0.06
CONSOLE  S SYSTEM   STC          NO          0.51          0.05
AAODL71  STC09498 S STCNRM   STC          NO          0.51          0.05
MVSMXH2  TSU09910 T TSONRM   TSO          NO          0.48          0.05
MAMFBTTM STC09783 S STCNRM   STC          NO          0.46          0.05
SMSPDSE  S SYSTEM   STC          NO          0.43          0.05
MQMGT44  STC00030 S STCNRM   STC          NO          0.42          0.04
AA07PAS4 STC09398 S STCNRM   STC          NO          0.42          0.04

```

MA c 04 / 017

Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS SYSPROG Services

- Set of services to “poke” around the system
- Runs in multiple environments
 - MainView for z/OS Address Space
 - MainView AutoOPERATOR Address Space
 - Started Task
 - Batch Job
 - TSO
- “Line” Mode oriented
 - Output in scrollable pop-up in MainView for z/OS

MainView for z/OS SYSPROG Services Popup

```

20JUL2010 13:34:59 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZMZOS=====SJSD=====*=====20JUL2010==13:34:59====MVMVS====D====1
                                MAINVIEW for z/OS      > View RealTime Menu
                                Time frame - Interval    > View LongTerm Menu
-----
----- SYSPROG SERVICES MENU ----- Row 1 to 23 of 95
COMMAND ==>
Valid line commands are:
S - Select service panel
E - Execute service
Valid COMMANDs are: TARGET - SJSD
L - Locate a service in the list
service - Execute a service
MENU == RXMAIN
-----
Service Parameters Description
-----
ALLOCATE           Marks device as allocated and online
APF                List current APF datasets and volumes
ASM               Display auxiliary storage manager data
ASVT              Display address space vector table information
AUTHTSO           Display/Build TSO lists from IKJTSOxx
BBXS              Display information for BBX
CDE               List information about loaded modules
CLEAR             Clear system dump datasets
COMMAND           Issue an MVS command from the System Console
CONSOLES          Display MCS console buffer usage
CPU               Display CPU usage by job
CSA               Display system usage of csa
CSMON             Display Common Storage usage by address space
CTCB              Abnormally terminates the task you select
DEALLOC           Marks device as deallocated
DEVIATN           Display configuration deviation
DONTSWAP          Make an address space non-swappable
DSNAME            Display dataset attributes and volumes
DUMP              Display the contents of main storage
DVIEW             View DASD cchhr/dsn/dscb/extents/files/label
EDTINFO           Display EDT information
ENQUEUES          Displays enqueue information
EQUATE            Define symbols for use with the dump service
-----
MA c
-----
Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23
\\SVL-Print-01\SJC-Xerox-51 on Ne02: 10/017

```

MainView for z/OS SYSPROG Services

- Performance data
 - System
 - Job
- Display and alter storage
 - Private and Common
 - Memory Objects
 - Even page protected storage (R/O Nucleus and PLPA)
- Issue Commands and receive responses
- Address Space information
 - TCBs, CDEs
 - Private storage usage

MainView for z/OS Common Storage Monitor


- Built on VSM Common Storage Tracking
- See all Common Storage allocated
 - Total
 - By Job
 - Size
 - When allocated
 - Subpool, Key
- Look at the actual data
- Alter the data
- Free an area of CSA (orphan or not)
 - Danger, Will Robinson!

MainView for z/OS CSMON Summary Screen

```

----- Common Storage Summary ----- Row 1 to 29 of 571
COMMAND ==>
SCROLL ==> HALF
TARGET - SJSD

--- Commands ---
S - Select (line command)          0 - Order list by any field name
D - Display allocation detail      G - Graph allocated storage
F - Find a name in the list
V - Overview
B - Bar graph detail
    
```



Name	X ASID	CSA	ECSA	SQA	ESQA	Total*	%
SYSTEM	0	204648	36214720	1079512	30504424	68003304	19.15
MASTER	1	99832	7607640	34848	2969496	10711816	3.02
RMFHTR	472	0	1920	0	8456672	8458592	2.38
AA011IMS	434	160848	6543568	768	36344	6741528	1.90
I11XIMS	78	151528	6263656	2064	35608	6452856	1.82
XKEM0PAS	429	16552	6284344	0	6896	6307792	1.78
MTA8BIMS	197	218792	6074400	3600	1304	6298096	1.77
PTR5PPAS	491	728	5600672	0	2032	5603432	1.58
MV50PMVS	233	17120	5553808	0	2128	5573056	1.57
DC\$PAS	45	24808	5223504	0	12968	5261280	1.48
CNMNETD	42	22640	4629184	0	5584	4657408	1.31
MV60PMVS	232	17120	4551016	0	2248	4570384	1.29
MVQAZPAS	211	27576	4528888	0	7168	4563632	1.29
XTST4PAS	220	21216	4366408	0	6504	4394128	1.24
DC\$RTCS	47	0	4355336	0	15720	4371056	1.23
USS58SGP	454	17648	4257872	0	8368	4283888	1.21
DIB1MSTR	154	13848	4025584	64	8136	4047632	1.14
MV61PMVS	240	17120	3947992	0	2128	3967240	1.12
MTASPASD	183	25920	3723424	0	6384	3755728	1.06
XTST7PAS	274	21216	3707552	0	6384	3735152	1.05
XTST3HRP	470	17280	3707904	0	8144	3733328	1.05
XIYK3PAS	477	17280	3690712	0	2032	3710024	1.05
DID2MSTR	483	13848	3677424	64	8136	3699472	1.04
MVQAXPAS	450	16552	3613152	0	8240	3637944	1.02
MVQAXPAS *	217	5872	3245072	0	6824	3257768	0.92
DHH1MSTR	123	32888	3042504	64	7944	3083400	0.87
CSQ8MSTR	488	72	2836008	64	11248	2847392	0.80
DID2DIST	487	136	2840192	64	1552	2841944	0.80
DIB1DIST	164	136	2795136	64	1552	2796888	0.79

MA c 03/015
 Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS Self Monitoring

- Views available to display CPU usage of MainView
 - Major Components in the Address Space
 - Data Collectors
 - zIIP usage
- Helps us identify performance problems
 - Allows the customer to know how we're doing
 - Gives us information when there is a problem with our product
- Diagnostic views
 - Internal data
 - Raw historical data records (coming over time)

MainView for z/OS Product Address Space Monitoring



```

2010/07/20 13:38:12 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PASSTAT=====EXKEM=====*=====2010/07/20=13:38:12=====MVMVS=====D=====1
PAS TCB CPU Time..... 277.304443
PAS SRB CPU Time..... 11.559332
PAS ASST CPU Time..... 0.000000 PAS Start Date..... 2010/07/19
PAS PHTM CPU Time..... 497.519775 PAS Start Time..... 09:10:48
Total PAS CPU Time..... 786.383301 PAS Elapsed Time..... 28:27:24.51
PAS CPU %Util..... 0.77

PAS zIIP CPU Time..... 497.235596 zIIP % of PAS..... 63.23
Unnormalized zIIP Time.. 497.235596 Normalization Factor.... 1.00
PAS zIIP on CP Time..... 0.284118 zIIP on CP % of PAS..... 0.04

DC Start Date..... 2010/07/19 DC Start Time..... 09:13:21
DC Task TCB CPU Time... 117.909744 DC Task % of PAS TCB... 42.52
Data Coll TCB CPU Time. 110.512970 TCB % of Coll..... 28.00
Data Coll Enc CPU Time. 284.154297 Enc % of Coll..... 72.00
DC Task EOI CPU Time... 0.015041 EOI % of DC Task..... 0.01
DC Task UnCap Time.... 7.381733 UnCap % of DC Task..... 6.26
Total Coll CPU Time.... 394.667236 Coll % of PAS..... 51.13

CMF Main TCB CPU Time... 25.566635 CMF Main TCB % of PAS... 3.25
CMF CF TCB CPU Time.... 9.435553 CMF CF TCB % of PAS.... 1.20
CMF HOST TCB CPU Time... 48.752533 CMF HOST TCB % of PAS... 6.20
CMF Cache TCB CPU Time.. 9.042103 CMF Cache TCB % of PAS.. 1.15
CMF XDS TCB CPU Time.... 7.384479 CMF XDS TCB % of PAS.... 0.94
CMF Output TCB CPU Time. 2.033470 CMF Output TCB % of PAS. 0.26
CMF SRB CPU Time..... 213.139984 CMF SRB % of PAS..... 27.10

SYSPROG AEW TCB CPU Time 17.311493 SYSPROG AEW TCB % of PAS 2.20
I/O Meas TCB CPU Time... 0.441152 I/O Meas TCB % of PAS... 0.06
Ended TCB CPU Time..... 7.496763 Ended TCB % of PAS..... 0.95

MVScope TCB CPU Time... 0.081844 MVScope TCB % of PAS... 0.01
Int Rec TCB CPU Time... 12.179354 Int Rec TCB % of PAS... 1.55
Selector TCB CPU Time... 0.771741 Selector TCB % of PAS... 0.10
MVI TCB CPU Time..... 16.169205 MVI TCB % of PAS..... 2.06
MVUSS TCB CPU Time..... 0.853669 MVUSS TCB % of PAS..... 0.11

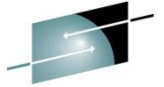
MA b 03/016
Connected to remote server/host bbsysb using lu/pool TCPBL192 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

```

MainView for z/OS Questions



- Ask me after the session
- Email: keith_moe@bmc.com



SHARE
Technology • Connections • Results

APPENDIX

MainView for z/OS MVScope Program Information

```

20JUL2010 13:24:27 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>          SCROLL ==> HALF
H1 =MSPROG=====SJS=====20JUL2010==13:20:03==MVMVS==D==9
C Name      Type of  Address      Length  CPU   CPU   Disa-
- - - - -   Area      - - - - -    - - - -  ct   shr%  0...50...100  bled%
IEAVELK     Program  FEAE08       1028    2     18.2  18.2
IGVADFE     Program  1561860      230     2     18.2
ISTDRCRT   Program  29D44000     797A0   1     9.1
ISTINCSH   Program  298DB000    129318  1     9.1
IXLR1RRE   Program  1425508      1968    1     9.1
IXLR1RSU   Program  1426E70      1188    1     9.1
Unknown    Instrctn  2719D694     1       1     9.1
Unknown    Instrctn  271AE93C     1       1     9.1
XCFAS      InstrXm   7F64674A     1       1     9.1
    
```

MA 03 / 016

Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS

MVScope I/O Trace Information

```
20JUL2010 14:05:23 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1           ALT WIN ==>
>H1 =MSICCW=====SJSD=====*=====20JUL2010==13:45:34====MVMVS====D====3
C Channel Command      Data  Data (EBCDIC)  Data (Hex)
-----
->Prefix              Bytes 68 ..... 01C000000000000000000000000000000000000000008C06000
  Transfer in Channel  0 ..... 0000000000000000000000000000000000000000000000000000000
<-Read Data          24576 ..... 00010002073D4996D4C9D404002006CC
```

MA c 03 / 016
Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS

Job Action for Reset Service Class

```

20JUL2010 19:30:26 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
Change Address Space Service Class
COMMAND ==> SCROLL ==> HALF

New Service Class: STCNRM Service Class, QUIESCE or RESUME

Jobname: RMFGAT
Job ID: STC09954
Step Name: RMFGAT or STC Identifier
ASID (Dec): 473
ASID (Hex): 01D9
MVS System: SJSJ

END to exit saving changes
CANCEL to exit without saving changes
HELP to view related help
RESET to reset to initial data

MVQAZPAS STC09247 S STCNRM STC NO 1.54 0.13
MAMAXPAS STC00078 S STCNRM STC NO 1.53 0.17
MV50PDB2 STC09303 S STCNRM STC NO 1.52 0.13
MTADMRPD STC09224 S SYSSTC STC NO 1.42 0.12
XTST7PAS STC09329 S STCNRM STC NO 1.20 0.10
MAMAXCAS STC00076 S STCNRM STC NO 1.18 0.11
RDAAQS2 TSU00075 T TSONRM TSO NO 1.17 0.10
SVOSP STC09137 S STCPROD STC NO 0.79 0.07
MTAPASD STC09220 S SYSSTC STC NO 0.78 0.07
HSM STC09161 S STCNRM STC NO 0.78 0.07
GRS MSTR S SYSTEM STC NO 0.72 0.06
AA07PAS4 STC09398 S STCNRM STC NO 0.61 0.05
MAMFBTMM STC09783 S STCNRM STC NO 0.59 0.05
CONSOLE S SYSTEM STC NO 0.59 0.05
DC$BBID STC09019 S STCNRM STC NO 0.58 0.05
AAODL71 STC09498 S STCNRM STC NO 0.55 0.05
MVSXMH2 TSU09910 T TSONRM TSO NO 0.48 0.04
    
```

MA c 04 / 017

Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS

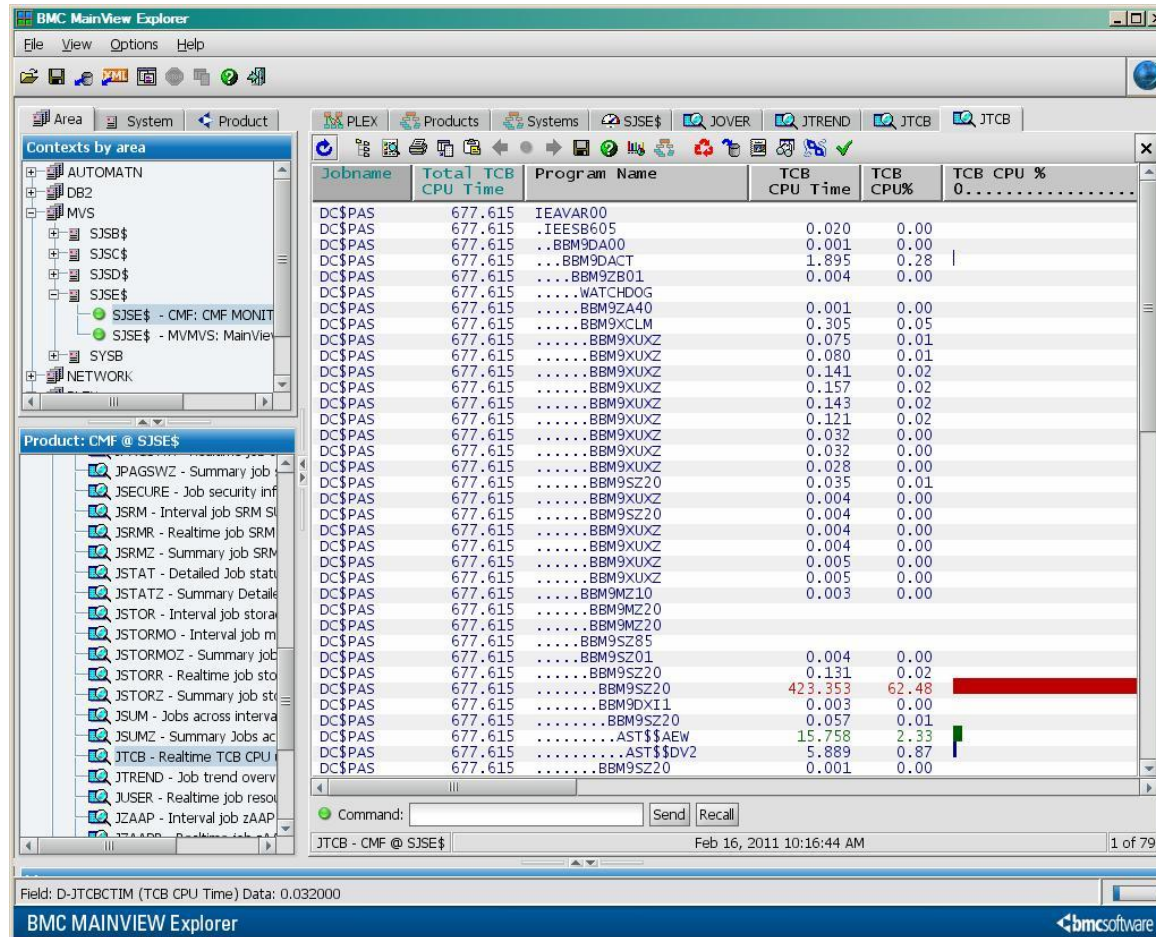
TCB information for ourselves (partial)

```

2010/07/20 13:28:05 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =JTCB=====EXKEM=====*=====2010/07/20=13:27:45=====MVMVS=====D=====72
C Jobname  Total TCB Program Name      TCB      TCB      TCB CPU %
  CPU Time CPU Time CPU Time CPU%
-----
XKEM9PAS  267.804 IEAVAR00
XKEM9PAS  267.804 .IEESB605          0.162    0.06
XKEM9PAS  267.804 ..BBM9DA00         0.011    0.00
XKEM9PAS  267.804 ...BBM9DACT        0.061    0.02
XKEM9PAS  267.804 ....BBM9ZB01       0.009    0.00
XKEM9PAS  267.804 .....WATCHDOG
XKEM9PAS  267.804 .....BBM9ZA40       0.001    0.00
XKEM9PAS  267.804 .....BBM9XCLM       0.300    0.11
XKEM9PAS  267.804 .....BBM9XUXZ       0.631    0.24
XKEM9PAS  267.804 .....BBM9XUXZ       0.020    0.01
XKEM9PAS  267.804 .....BBM9XUXZ       0.044    0.02
XKEM9PAS  267.804 .....BBM9XUXZ       0.002    0.00
XKEM9PAS  267.804 .....BBM9XUXZ       0.002    0.00
XKEM9PAS  267.804 .....BBM9XUXZ       0.002    0.00
XKEM9PAS  267.804 .....BBM9XUXZ       0.002    0.00
XKEM9PAS  267.804 .....BBM9XUXZ       0.002    0.00
XKEM9PAS  267.804 .....BBM9XUXZ       0.003    0.00
XKEM9PAS  267.804 .....BBM9MZ10      0.011    0.00
XKEM9PAS  267.804 .....BBM9MZ20      0.042    0.02
XKEM9PAS  267.804 .....BBM9MZ20      1.510    0.56
XKEM9PAS  267.804 .....BBM9SZ85
XKEM9PAS  267.804 .....BBM9SZ01       0.003    0.00
XKEM9PAS  267.804 .....BBM9DZ00      0.195    0.07
XKEM9PAS  267.804 .....BBM9DZ10     117.055   43.71
XKEM9PAS  267.804 .....BBM9DXI1       0.001    0.00
XKEM9PAS  267.804 .....ASTN1CT0       0.072    0.03
XKEM9PAS  267.804 .....AST$$RUN
XKEM9PAS  267.804 .....ASTN1PW0      17.191    6.42
XKEM9PAS  267.804 .....PWX0SDV2       1.030    0.38
XKEM9PAS  267.804 .....BBD9MA00       0.001    0.00
XKEM9PAS  267.804 .....BBD9MA40       0.071    0.03
XKEM9PAS  267.804 .....BBD9MA20       0.001    0.00
XKEM9PAS  267.804 .....BBD9MA10       0.006    0.00
XKEM9PAS  267.804 .....BBU9GC00       0.009    0.00
XKEM9PAS  267.804 .....BBU9GD00       0.373    0.14
XKEM9PAS  267.804 .....BBU9GD00       0.060    0.02
MA  b
03/016
Connected to remote server/host bbsysb using lu/pool TCPBL192 and port 23
\\SVL-Print-01\SJC-Xerox-51 on Ne02:

```

MainView for z/OS MainView Explorer View



The screenshot displays the BMC MainView Explorer interface. The left pane shows a tree view of contexts and products. The main pane shows a table of jobs with the following columns: Jobname, Total TCB CPU Time, Program Name, TCB CPU Time, TCB CPU%, and TCB CPU %. The table lists various jobs, including DC\$PAS and JTCB, with their respective CPU times and percentages. A red bar highlights the JTCB job, which has a TCB CPU% of 62.48.

Jobname	Total TCB CPU Time	Program Name	TCB CPU Time	TCB CPU%	TCB CPU %
DC\$PAS	677.615	IEAVAR00			
DC\$PAS	677.615	..IEESB605	0.020	0.00	
DC\$PAS	677.615	..BBM9DA00	0.001	0.00	
DC\$PAS	677.615	...BBM9DACT	1.895	0.28	
DC\$PAS	677.615	...BBM9ZB01	0.004	0.00	
DC\$PAS	677.615	...WATCHDOG			
DC\$PAS	677.615	...BBM9ZA40	0.001	0.00	
DC\$PAS	677.615	...BBM9XCML	0.305	0.05	
DC\$PAS	677.615	...BBM9XUXZ	0.075	0.01	
DC\$PAS	677.615	...BBM9XUXZ	0.080	0.01	
DC\$PAS	677.615	...BBM9XUXZ	0.141	0.02	
DC\$PAS	677.615	...BBM9XUXZ	0.157	0.02	
DC\$PAS	677.615	...BBM9XUXZ	0.143	0.02	
DC\$PAS	677.615	...BBM9XUXZ	0.121	0.02	
DC\$PAS	677.615	...BBM9XUXZ	0.032	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.032	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.028	0.00	
DC\$PAS	677.615	...BBM9SZ20	0.035	0.01	
DC\$PAS	677.615	...BBM9XUXZ	0.004	0.00	
DC\$PAS	677.615	...BBM9SZ20	0.004	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.004	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.004	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.005	0.00	
DC\$PAS	677.615	...BBM9XUXZ	0.005	0.00	
DC\$PAS	677.615	...BBM9MZ10	0.003	0.00	
DC\$PAS	677.615	...BBM9MZ20			
DC\$PAS	677.615	...BBM9MZ20			
DC\$PAS	677.615	...BBM9SZ85	0.004	0.00	
DC\$PAS	677.615	...BBM9SZ01	0.131	0.02	
DC\$PAS	677.615	...BBM9SZ20	423.353	62.48	
DC\$PAS	677.615	...BBM9DX11	0.003	0.00	
DC\$PAS	677.615	...BBM9SZ20	0.057	0.01	
DC\$PAS	677.615	...AST\$\$AEW	15.758	2.33	
DC\$PAS	677.615	...AST\$\$DV2	5.889	0.87	
DC\$PAS	677.615	...BBM9SZ20	0.001	0.00	

MainView for z/OS SYSPROG Services ZAP Popup

```
20JUL2010 13:34:59 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZMZOS=====SJS=====*=====20JUL2010==13:34:59====MVMVS====D====1
                                MAINVIEW for z/OS      > View RealTime Menu
                                Time frame - Interval    > View LongTerm Menu

----- SYSPROG - ZAP Service -----
COMMAND ==>
                                More:      +
                                ngs

The ZAP service may be used to alter the contents of storage and
memory objects in any address space.
You may use any expression in the "Exprs." field that resolves to the
desired target location.  An asterisk may be used in the "Exprs."
field to refer to the location last displayed by the DUMP service.

Exprs.  ==>                    (location to alter)
Verify  ==>                    (Data to be verified)
Replace ==>                    (Data to be stored)
Jobname ==>                    (Address space/ID)

Press ENTER to execute service
END to cancel request

-----
```

MA c 20/017
Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

MainView for z/OS CSMON Job Level Information

```

----- Allocated Common Storage Areas -----
COMMAND ==>
Valid line commands are:
B - Browse common storage
A - Alter common storage
F - Free common storage
Valid COMMANDs are:
F - Find a text string in header
L - Locate a value in the ordered field
O - Order data by specified field
Row 1 of 18527
SCROLL ==> HALF

Name      X ASID      Start      Length      SP Key      Date      Time      Storage Header
-----
XKEMOPAS  429 179AF000   511072     228 4 7/20/2010 12:27:17 *ASXT.....- *
XKEMOPAS  429 19B19000   409600     228 4 7/20/2010 12:26:13 *CMFCSABH..... *
XKEMOPAS  429 19D5B700   317696     228 4 7/20/2010 12:28:01 *SYSEVENT INTERCE*
XKEMOPAS  429 17478230   282064     228 0 7/20/2010 13:14:51 *BBM6CSMA...U... *
XKEMOPAS  429 1A03A000   131072     228 4 7/20/2010 12:26:16 *CMFCSABH..... *
XKEMOPAS  429 19E0B390   89200      241 4 7/20/2010 12:26:22 *CX10IOQZBASE1.*.*
XKEMOPAS  429 19D0F200   81408      228 4 7/20/2010 12:28:37 *SYSEVENT INTERCE*
XKEMOPAS  429 17A377E0   71712      241 4 7/20/2010 12:26:59 *BBM6ZZWS...1... *
XKEMOPAS  429 17997000   65536     228 4 7/20/2010 12:28:37 *SYSEVENT INTERCE*
XKEMOPAS  429 19C764E0   52000      228 4 7/20/2010 12:26:13 *..... *
XKEMOPAS  429 19DE4F00   37120      228 4 7/20/2010 12:26:37 *SYSEVENT INTERCE*
XKEMOPAS  429 19CFD200   32256     228 4 7/20/2010 12:26:37 *SYSEVENT INTERCE*
XKEMOPAS  429 19CD8CE0   17184      241 4 7/20/2010 12:26:59 *BBM6ZZWS...1... *
XKEMOPAS  429 0082C370   11408     227 4 7/20/2010 12:26:20 *..... *
XKEMOPAS  429 17A2E5E0   10784      241 4 7/20/2010 12:27:16 *BBM6ZZWS...1... *
XKEMOPAS  429 179A7680   10624     228 4 7/20/2010 12:27:21 *x4...PWX0GDI2 BQ*
XKEMOPAS  429 19E00C70   9104      241 4 7/20/2010 12:26:34 *BBM6ZZWS...1... *
XKEMOPAS  429 19E08CF0   8976      241 4 7/20/2010 12:26:27 *BBM6PGHD...1... *
XKEMOPAS  429 179AB000   8960      228 4 7/20/2010 12:27:18 *FNQE.....GBLS*
XKEMOPAS  429 17ACD0A0   8800      241 0 7/20/2010 12:26:13 *XDPC...&".Y...y*
XKEMOPAS  429 19E21EA0   8544      241 4 7/20/2010 12:26:20 *BBM6ZZWS...1... *
XKEMOPAS  429 19E40000   8192      241 4 7/20/2010 12:26:18 *..... *
XKEMOPAS  429 1A093000   8192      241 4 7/20/2010 12:26:15 *..... *
XKEMOPAS  429 17917100   7936      228 4 7/20/2010 13:02:44 *SYSEVENT INTERCE*
XKEMOPAS  429 19CD6288   7544      241 4 7/20/2010 12:26:59 *BBM6ZZWS...1... *
XKEMOPAS  429 19E033C8   7224      241 0 7/20/2010 12:26:45 *BBM6PGHD...1... *
XKEMOPAS  429 19DEE5E0   6688      228 4 7/20/2010 12:26:37 *BBM6PGHD...U... *
XKEMOPAS  429 1BC078B8   5960      241 0 7/20/2010 12:26:13 *..00!.CX10BUCB 04*
XKEMOPAS  429 1A1E28F0   5904      241 0 7/20/2010 12:26:13 *..00!.CX10CCX2 04*
XKEMOPAS  429 17A31B48   5304      241 4 7/20/2010 12:27:16 *BBM6ZZWS...1... *
XKEMOPAS  429 008CD000   5144      228 4 7/20/2010 12:26:13 *MVT .9...e.Q...Y*
XKEMOPAS  429 19E05E18   4584      241 4 7/20/2010 12:26:34 *BBM6ZZWS...1... *
MA  c 03 / 015
Connected to remote server/host bbsysb using lu/pool TCPBL191 and port 23 \\SVL-Print-01\SJC-Xerox-51 on Ne02:

```

MainView for z/OS Individual Data Collector CPU Usage

```

2010/07/20 13:40:11 ----- MAINVIEW WINDOW INTERFACE (V6.0.00) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =DCPERF=====EXKEM=====*=====2010/07/20=13:40:11=====MVMVS=====D=====43
Name Id   DC      DC      DC      DC TCB  DC Enc  DC All  DC TCB  DC Enc  DC TCB  DC Enc  DC TCB  DC
---- --   TCB      Enclave  ALL      % PAS  % PAS  % PAS  % DC   % DC   % Coll %
DEVX 05   1.035   97.791   98.826   0.13   12.42  12.55   1.05   98.95   0.26   2
WUSM 30   0.227   53.465   53.692   0.03   6.79   6.82   0.42   99.58   0.06   1
IOO  06   0.231   42.968   43.199   0.03   5.46   5.49   0.54   99.46   0.06   1
ASTM 02   0.076   35.227   35.303   0.01   4.47   4.48   0.22   99.78   0.02
CFAC 1F  26.023   26.023   26.023   3.30   3.30  100.00   6.59
ASEV 01   2.128   16.066   18.195   0.27   2.04   2.31   11.70   88.30   0.54
PRCS 50  16.761   16.761   16.761   2.13   2.13  100.00   4.24
XCF  29   0.051   14.976   15.027   0.01   1.90   1.91   0.34   99.66   0.01
JSTM 04   0.729   12.504   13.233   0.09   1.59   1.68   5.51   94.49   0.18
WKLD 12  12.774   12.774   12.774   1.62   1.62  100.00   3.23
WADR 22  10.304   10.304   10.304   1.31   1.31  100.00   2.61
UPRO 2A   7.267   7.267   7.267   0.92   0.92  100.00   1.84
JESD 25   0.179   6.328   6.507   0.02   0.80   0.83   2.74   97.26   0.05
SMS  17   6.127   6.127   6.127   0.78   0.78  100.00   1.55
LCU  0C   3.964   3.964   3.964   0.50   0.50  100.00   1.00
SRMD 11   3.948   3.948   3.948   0.50   0.50  100.00   1.00
HFSG 56   3.277   3.277   3.277   0.42   0.42  100.00   0.83
BPXP 52   3.134   3.134   3.134   0.40   0.40  100.00   0.79
CSRE 27   2.415   2.415   2.415   0.31   0.31  100.00   0.61
FMNT 51   2.213   2.213   2.213   0.28   0.28  100.00   0.56
XCFD 24   0.226   1.956   2.182   0.03   0.25   0.28   10.34   89.66   0.06
LPAR 03   0.164   2.009   2.174   0.02   0.26   0.28   7.56   92.44   0.04
WPRX 28   1.535   1.535   1.535   0.19   0.19  100.00   0.39
CACH 1D   0.003   1.222   1.225   0.00   0.16   0.16   0.27   99.73   0.00
SYST 08   1.149   1.149   1.149   0.15   0.15  100.00   0.29
ENQ  0F   1.138   1.138   1.138   0.14   0.14  100.00   0.29
SPAG 1A   1.081   1.081   1.081   0.14   0.14  100.00   0.27
SSUM 31   0.591   0.591   0.591   0.08   0.08  100.00   0.15
PIOD 0B   0.337   0.337   0.337   0.04   0.04  100.00   0.09
CPTH 0D   0.278   0.278   0.278   0.04   0.04  100.00   0.07
CPUD 10   0.210   0.210   0.210   0.03   0.03  100.00   0.05
HSMD 14   0.199   0.199   0.199   0.03   0.03  100.00   0.05
CRY  2B   0.188   0.188   0.188   0.02   0.02  100.00   0.05
WSSM 21   0.180   0.180   0.180   0.02   0.02  100.00   0.05
SCPU 19   0.122   0.122   0.122   0.02   0.02  100.00   0.03
MSGD 23   0.118   0.118   0.118   0.01   0.01  100.00   0.03

```

MA b 03/016

Connected to remote server/host bbsysb using lu/pool TCPBL192 and port 23

\\SVL-Print-01\SJC-Xerox-51 on Ne02: