



z/TPF V1.1

TPF Users Group Spring 2008

z/TPF Operator Enhancements

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AIM Enterprise Platform Software
IBM z/Transaction Processing Facility Enterprise Edition 1.1.0

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Agenda

- **z/TPF Operations Enhancements**
- **Subsystem Design Considerations**

z/TPF Operations Enhancements

Display Core Resident Program Area Information

- **z/TPF APAR PJ32730**
- **New command ZDCRP**

```

CSMP0097I 09.35.59 CPU-B SS-BSS  SSU-HPN  IS-01
DCRP0001I 09.35.59 CORE RESIDENT PROGRAM AREA STATUS
                31BIT AREA          64BIT AREA
TOTAL ALLOCATION      104 857 600      314 572 800
CURRENTLY BACKED     42 991 616        60 817 408
PROGRAM USAGE        41 406 464        59 899 904
FREE CHAIN AREA              90 112              0
  NUMBER OF FRAGMENTS                3              0
  SMALLEST FRAGMENT                   28 672              0
  LARGEST FRAGMENT                      32 768              0
  AVERAGE FRAGMENT                      30 037              0
END OF DISPLAY

```

Support User CP Option Switches

- **z/TPF APAR PJ32730**
- **New keyword on CONFIG macro and ZCTKA command
USERSW=XXXX**
- **XXXX provides a raw 2-byte hexadecimal value**
- **User exit on ZCTKA ALTER**
 - Define your own keywords for bit-wise granularity
 - Alter CP switch in storage

Passing Information to created ECBs

- **z/TPF APAR PJ32376**
- **EBROUT and CE1CPD, from originating ECB, passed to CE1CLIT and CE1CCPD, in created ECB**
- **Passed on all create macros and functions**
 - CREMC, CREDC, CREEC, CREXC, CRESC, and CRETC
 - SWISC CREATE
 - pthread_create
- **Displayed on ZDCRT with creating program information**

CRET Table Display Updated

- **z/TPF APAR PJ31080**
- **Add high-water mark to CRET table display**

DCRT0004I 10.23.58 START OF ZDRCT DISPLAY

TOTAL ENTRIES ALLOCATED : 160

CURRENT ENTRIES IN USE : 8

MAXIMUM ENTRIES USED : 22

ACTIVATING PROGRAM	CREATING PROGRAM	TIME	1052	PBI	SSU	IS	PARM
CAPP	CAPP 000000 B	1	N	BSS	HPN	1	00000000
CSL4	CSL4 000000 B	1	N	BSS	HPN	1	D5D6D9D4
CAPB	CAPA 000000 B	2	N	BSS	HPN	1	00000001
CVMA	CVCQ 010000 B	10	N	BSS	HPN	1	00000000
CGT9	CTKT 010000 B	15	N	BSS	HPN	1	0000000F
CVDW	CTKT 010000 B	15	N	BSS	HPN	1	0DB0F9C0
CSRN	CSUB 000000 B	37	N	BSS	HPN	1	C3E2E4C2
COUH	COUF 010000 B	60	N	BSS	HPN	1	C3D6C4D9

END OF DISPLAY

WTOPC Resource Management

- **z/TPF APAR PJ32895**
- **Support added, to ECB Resource Management, to monitor WTOPCs issued by an ECB**
- **New values added to ZECBM**
 - WTOT=value – selects the time period to monitor
 - WTOR=value – selects the rate of WTOPC requests to monitor

ZDECB Display Updated

- **z/TPF APAR PJ32791**
- **Display count of ECBs that are executing in each program**
- **Display count of ECBs that are acting on each file address**
- **New ZDECB SURVEY option**

```
>>-ZDECB-----+-----+-----><
      |           ._THREShold-2_____.           |
      +-SURVEy-+                               +--+-----+--+
      '._THREShold-ECBs_'   '-FilterOptions-'
```

ZDECBC SURVEY Example

CSMP0097I 22.49.11 CPU-B SS-BSS SSU-HPN IS-01

DECB0014I 22.49.11 DISPLAY ECB SURVEY

PROGRAM SURVEY				FILE ADDRESS SURVEY					
PGM	TRC	LOADSET	ECBS	FILE ADDR	ECBS	PGM	TRC	LOADSET	ECBS
COMX	COMX	BASE	5	00000000CC022803	3	QZZ3YZ*	QZZ3	TEST0D1	2
CSL2	CSL2	BASE	4			QZZ2YZ*	QZZ2	TEST0D1	1
QZZ2YZ*	QZZ2	TEST0D1	3	00000000CC022802	2	QZZ2YZ*	QZZ2	TEST0D1	2
QZZ3YZ*	QZZ3	TEST0D1	3						

END OF DISPLAY

Display VFA Usage Information

- **Summary – displays usage statistics for all records in VFA**

ZVFAC USAGE SUMMARY

```

VFAC0030I 11.27.06 VFA USAGE SUMMARY BY RECORD ID
SHOWING 12 OF 12 ATTRIBUTE-* RECID
  RECID %TOTAL BUFFERS* HITS      RATIO  FILING NOW
-----
C3C2/CB   15.0      15K   50K     3.40      3
E2D7/SP   13.0      13K  120K     9.48      0
E6C4/WD    5.0       5K    5K     1.00      0
E6E5/WV    1.0       1K    1K     1.00      1
  NOVFA    1.0       1K    1K     1.00     1K
E6D8/WQ    0.5      512   512     1.00      0
E6F6/W6    0.5      512   512     1.00      0
D6D4/OM    0.3      301   602     2.00
END OF DISPLAY

```

Display VFA Usage Information

- **FA** – displays a summation of total access hits by file address

ZVFAC USAGE FA

VFAC0031I 11.27.06 VFA ACCESS HITS BY FILE ADDRESS FOR ALL RECORD IDS
SHOWING 4 OF 4 ATTRIBUTE-* FILE ADDRESSES

FILE ADDRESS	RECID	ATTR	HITS*
00000000FEDCBA98	FC20/..	DELAY	100K
0000000012345678	C1C1/AA	DELAY	100
0000000023456789	C1C1/AA	IMMED	99
000000003456789A	C1C1/AA	SIMMED	83

END OF DISPLAY

Display VFA Usage Information

- **Hits – displays a summation of total usage counts for the given record ID**

ZVFAC USAGE HITS RECID-AA

VFAC0032I 11.27.06 VFA ACCESS HITS FOR RECID-C1C1/AA

RIAT ATTRIBUTES: VFAP-DELAY, VFAP-DELAY

TYPE	IMMED	DELAY	SIMMED	SDELAY
TOTAL BUFFERS	0	500	0	0
TOTAL HITS	0	2K	0	0
FIXED	0	1K	0	0
TOTAL POOL	0	1K	0	0
SST	0	30	0	0
LST	0	970	0	0
END OF DISPLAY				

Display VFA Usage Information

- Buffers** – displays the number of VFA (BCA) buffers being used for the given record ID

ZVFAC USAGE BUFFERS RECID-AA

VFAC0033I 11.27.06 VFA BUFFERS IN USE FOR RECID-8181/aa

RIAT attributes: VFAF-DELAY, VFAP-DELAY

TYPE	IMMED	DELAY	SIMMED	SDELAY
-----	-----	-----	-----	-----
TOTAL BUFFERS	0	2K	0	0
TOTAL HITS	0	20K	0	0
-----	-----	-----	-----	-----
FIXED	0	1K	0	0
TOTAL POOL	0	1K	0	0
SST	0	30	0	0
LST	0	970	0	0
END OF DISPLAY				

64K Cylinder Support

- **z/TPF APAR PJ32336**
- **Cylinder limit changed to 65520**
- **Cylinder numbers and module sizes treated as unsigned 2-byte numbers**

Subsystem Design Considerations

Adding a new Subsystem

- **What problem is being addressed?**

Add a new Subsystem to a z/TPF loosely-coupled complex without requiring a complex-wide outage.

Adding a new Subsystem

- **Processing flow:**
 - **Set up the Subsystems's online modules, as is done today, TLDR load, pool generation, etc.**
 - **Add the Subsystem information to CTKM**
ZPSMS SS ADD *ss_parameters*
 - **Re-IPL each processor in the complex (one at a time)**
 - Reads new CTKM and picks up added Subsystem
 - Marks Subsystem as inactive
 - **Activate the new Subsystem on all processors**
ZPSMS SS ACTIVATE ALL

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