z/TPF V1.1

TPF Users Group – Fall 2012

z/TPFDF Status Update

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

Agenda

- **z/TPFDF Enhancements**
  - z/TPFDF PUT 09 Enhancements
  - Future z/TPFDF Enhancements
- **z/TPFDF TPFUG Requirements Update**
  - Accepted Requirements
  - Requirements with Changed Status
  - Top z/TPFDF TPFUG Requirements

z/TPFDF PUT 09 Enhancements

- **PM48151: CRUISE enhancements**
- **PM48823: Allow named LOCTRs and z/TPFDF calls**
- **PM49973: Reduce size of z/TPFDF listings**
- **PM50234: Increase size of ZUDFM log**
- **PM55273: Multiple LREC Buffers**

PM48151: CRUISE enhancements

- **CRUISE should support I-stream affinity options**
  - CRUISE designed to load balance across all I-streams
  - Users might went to restrict processing to one I-stream
  - New ISTREAM parameter in CRUISE parameter tables
    - BALANCE: load is balanced on all available I-streams (default)
    - MAIN: load is restricted to main I-stream
    - MPIF: load is restricted to the MPIF I-stream
    - <isnum>: load is restricted to the specified I-stream
  - Use ZFCRU DISPLAY and ZFCRU SETUP to display and set I-stream parameter

PM48151: CRUISE enhancements

- **Reduce CRUISE CPU utilization**
  - When resources are low, CRUISE ECBs go into defer loop
    - This drives up CPU utilization
  - Users can choose event processing instead
  - Specify number of milliseconds to suspend ECB in i_cruusr.h
    - Before starting to chain chase the next ID (CRU_EVNTC_WAIT)
    - Before starting to chain chase the next ordinal for current ID (CRU_EVNTC_CHAIN)
    - Before creating another ECB to chain chase a data block (CRU_EVNTC_ECB)
    - Before writing a data block to tape (CRU_EVNTC_TAPE)

PM48151: CRUISE enhancements

- **CRUISE should not abort when certain errors occur**
  - When SSU-ALL is specified and a dormant or invalid SSU is encountered
    - Error message issued
    - Processing now continues with the next SSU
  - FACE error during chain chase due to undefined record type in DBDEF
    - Error message issued
    - Processing now continues with next DBDEF

PM48151: CRUISE enhancements

- **Users should be allowed to override standard pool type attributes during restore**
  - For example, alter the pool type or device type
- **New CRUISE user exit provided**
  - CRUUSER_SET_POOL_TYPE macro in i_cruusr.h
  - Shipped empty by IBM
  - Called after pool type evaluation routine

PM48151: CRUISE enhancements

Example:

```
#define CRUUSR_SET_POOL_TYPE(__size, __device, __type,                \
                             __pControlBlock,                         \
                             __pMDBF,                                 \
                             __pDecb)                                 \
{                                                                     \
  /* For all IDs, if size is L2, set device to A, else B     */       \
  if (__size == 1)                                                    \
  {                                                                   \
    __device = 0;                                                     \
  } else {                                                            \
    __device = 1;                                                     \
  }                                                                   \
                                                                      \
  /* If top ID is 'B211', set type to LD                     */       \
  if (!memcmp (__pControlBlock->IDCATFID8, "\xB2\x11", 2))            \
  {                                                                   \
    __type   = 2;                                                     \
  }                                                                   \
}
#endif
```

PM48823: Allow named LOCTRs and z/TPFDF calls

- **ASM z/TPFDF API calls could not be made from code within a location counter (LOCTR)**
  - z/TPFDF used location counters internally
- **Now, users can have named location counter with z/TPFDF API calls within it**

```
          MVI   EBW000,C'A'
          BRAS  R7,CALLDF
CALLDFLR  LOCTR
CALLDF    DS    0H
          MVC   EBX000,EBW000
          DBOPN REF=IRCADF,REG=R4
          DBRED REF=IRCADF,KEY1=(PKY=X'80')
          DBCLS REF=IRCADF
          BR    R7
&SYSECT   LOCTR
          MVI   EBW000,C'Z'              NSI after BRAS call
```

PM49973: Reduce size of z/TPFDF listings

- **z/TPFDF intentionally updated with PRINT GEN around API macro expansion to assist with debugging**
  - User-defined DSECTs with assembler-style comments (*) were expanded in listings as a result
  - This may not be desired behavior
- **Product updated so listings are shorter, more readable**
  - Preserves application PRINT settings
  - Adds strategic PRINT NOGENs so DSECTs aren't expanded
  - Uses NOPRINT to suppress additional ASM directives

PM50234: Increase size of ZUDFM log

- **ZUDFM log was limited to about 100 entries**
- **With PK59331, more entries were included in log**
  - As a result, log fills up faster!
- **ZUDFM log updated to use chained pool records**
  - Up to 9 chained pool records will be used (NOC=9)
  - Maximum size of log has increased tenfold
  - Informational message issued if a log update requires a new pool record but GFS is not active

PM55273: Multiple LREC Buffers

- **Allow multiple LRECs to be read into or added from a buffer with a single API call**
  - Reduces overhead of repeated linkage calls to central database routines
  - Purpose is to send or save buffer outside of z/TPFDF
  - APIs to operate on individual LRECs ***not*** provided
- **New parameters on ASM and C versions of read and add**
- **Search keys and add keys are supported**
- **New DBMBUF macro and dfmbuf functions to set up and get information about the multiple LREC buffer**
- **More information provided in separate presentation!**

Future z/TPFDF Enhancements*

- **PM67148: Additional SPM error checking**
- **PM72950: Support 9-digit ordinal displays**
- **C API Improvements (TPFUG req't DF00152)**
  - Support of T-types in C
  - Option to save key list search argument values
- **RELFC API for TPFDF (TPFUG req't DF08189S)**
  - Validate file IDs prior to release
- **DBDSP to file system (TPFUG req't DF08187S)**

* All plans subject to change

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Accepted Requirements

- **TPFDF C API improvements (DF00152)**
- **RELFC API for TPFDF (DF08189S)**
- **TPFDF Display Command Directed to the TPF File Systems (DF08187S)**

Requirements with Changed Status

- **#8: Modify ZUDFM OA* to optionally 16 or 32 bytes of data (DF11194)**
  - Was: New
  - Now: Likely

* All plans subject to change

Top z/TPFDF TPFUG Requirements

Rank	Req Num	Description	Was	Now
1	DF05182F	Export LRECs to XML	Likely	Likely
2	DF00153	C++ APIs	Likely	Likely
3	DF00079	In-core records	Not Likely	Not Likely
4	DF08188S	New CRUISE targets	Likely	Likely
5	DF08186S	Processor unique struct	Likely	Likely
6	DF08191F	Error checking	Likely	Likely
7	DF08190F	User defined record IDs	Likely	Likely
8	DF11194	ZUDFM OA* 16 or 32	**New**	**Likely**

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