IBM Software Group

TPF Users Group Spring 2006

TPFDF Status Update

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Venue: Database Subcommittee

AIM Enterprise Platform Software

IBM z/Transaction Processing Facility Enterprise Edition 1.1.0

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Agenda

- TPFDF 1.1.3 PUT 21

  – User Group Requirements

  – Other Enhancements

- z/TPFDF 1.1 PUT 2

  – System Error Enhancements

TPFDF 1.1.3 PUT 21

- Scheduled to be available in June 2006

- 59 APARs including:

  - 3 User Group requirements

    - Better storage management when using keylists

    - DBDEF option bit displays

    - Data Collection status

  - 2 other enhancements

    - New parameters to check for empty subfiles

    - Prevent ambiguous database updates

User Group Requirements

- DF00159 - use a "key block" only if using more than 6 keys
  - APAR PK06268 on PUT 21 (included in z/TPFDF base)
  - Object code representing the keys will be placed as follows:
    - KEYn parameters: SW00SR work area SW00KL1
    - Keylists:
      - 5 or less keys: SW00SR work area SW00KL1
      - 6 keys: "key block" attached to SW00SR
        - » Differs from the stated requirement because exactly 6 keys may not fit into the SW00SR
      - 7 or more keys: "key block" attached to SW00SR

User Group Requirements

- DF00172 - ZUDFM should provide a summary of DBDEF option bits

  – APAR PK10080 on PUT 21 (included in z/TPFDF base)

  – new ZUDFM parameters will implement this support

    - for example, *ZUDFM DEF OPT/OP4* will display OP4 settings for all files

    - optional mask can be used to display only files meeting specified attributes

      – for example, *ZUDFM DEF OPT/OP3/*****Y*** will display all files that use B+TREE indexing (#BIT5 of OP3)

User Group Requirements

- DF00175 - status display for TPFDF Data Collection
  - APAR PK10079 on PUT 21 (included in z/TPFDF base)
  - new command is ZUDFC STATUS

TPFDF PUT 21 Enhancements

- PK03317 (forward-fit to z/TPFDF as PK06827 on PUT 2)

  – New parameters enable checking for empty subfiles when LRECs are deleted. Settings are available at the:

    - File level using DBDEF EMPTYCHECK, or

    - API level using DBDEL EMPTYCHECK in assembler, or the DFDEL_EMTPYCHECK option in C/C++

TPFDF PUT 21 Enhancements

– An empty subfile is indicated by field SW00RT2 (#BIT5)

  • Not a new bit setting, but was previously not reliable

  • EMTPYCHECK ensures SW00RT2 #BIT5 is reliable

  • Existing applications testing this bit should be examined and EMPTYCHECK added as appropriate

    – Also check for DBEMPTY (SPMs) and DF_EMPTY (C/C++) which result in the checking of SW00RT2 #BIT5

TPFDF PUT 21 Enhancements

- PQ59198 (forward-fit to z/TPFDF as PK15646 on PUT 2)
  - If subfiles are opened using duplicate reference names, it is possible for TPFDF to modify a subfile unintentionally
  - TPFDF has been updated to issue a DB0170 system error when duplicate reference names are used in such a way that the subfile to be accessed is ambiguous
    - Only one DB0170 system error will be issued per ECB
    - Duplicate reference names are valid (thus avoiding the DB0170) if the open-close sequence of the second reference is not interrupted by other TPFDF macro calls

z/TPFDF PUT 2 Enhancement

- PK20132 – improved system error handling
  - Satisfies User Group Requirement DF00020
  - z/TPF APAR PJ30993 on z/TPF PUT 2 is a co-requisite
  - Dozens of z/TPFDF system errors which previously exited can now optionally return to the application
    - "Return-optional" system errors
  - Allows applications to react and close other open subfiles
    - The subfile in error can only be closed – any other attempt to use the subfile will result in a DB0143 system error that exits the ECB

z/TPFDF PUT 2 Enhancement

– Applications using the new support should include error checking on all API calls

- including APIs which did not previously return errors (DBCLS, DBIDX, DBKEY, DBMOD, DBOPN, DBSPA and DBUKY)

– New support is enabled by coding:

- DFERRTN parameter on the BEGIN macro in assembler
- *"#define __DFERRTN"* in C/C++ applications

– Default behavior is unchanged ("return-optional" system errors will continue to exit the ECB)

z/TPFDF PUT 2 Enhancement

– SW00SR field SW00RT2 #BIT7 is set when a "return-optional" system error occurs

  • SPM changes and a C/C++ function have been provided to check for this condition

– SW00DRC provides a numeric return code indicating the system error which occurred

  • Applies to all errors, not just "return-optional"

Question and Answer

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