z/TPFDF Status Update

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TPF Development Lab

Database / TPFDF Subcommittee
March 11, 2014

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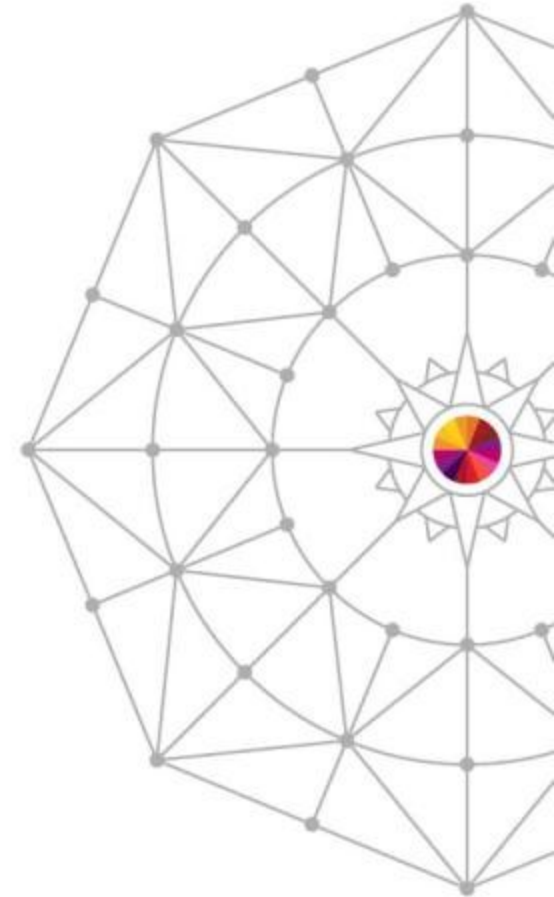
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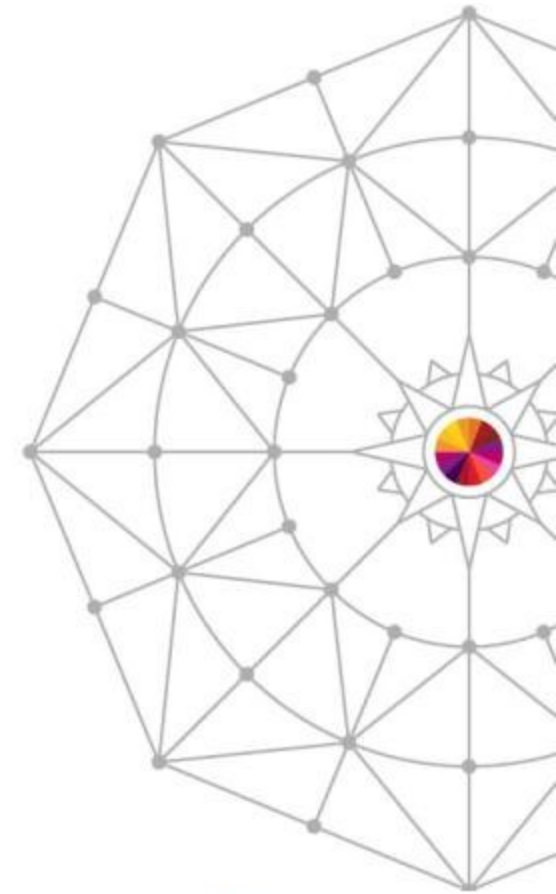
Agenda

- **z/TPFDF Enhancements**
  - Available Enhancements (PUTs 10 & 11)
  - Future z/TPFDF Enhancements
- **z/TPFDF TPFUG Requirements Update**
  - Requirements with Changed Status
  - Accepted Requirements
  - Top z/TPFDF TPFUG Requirements

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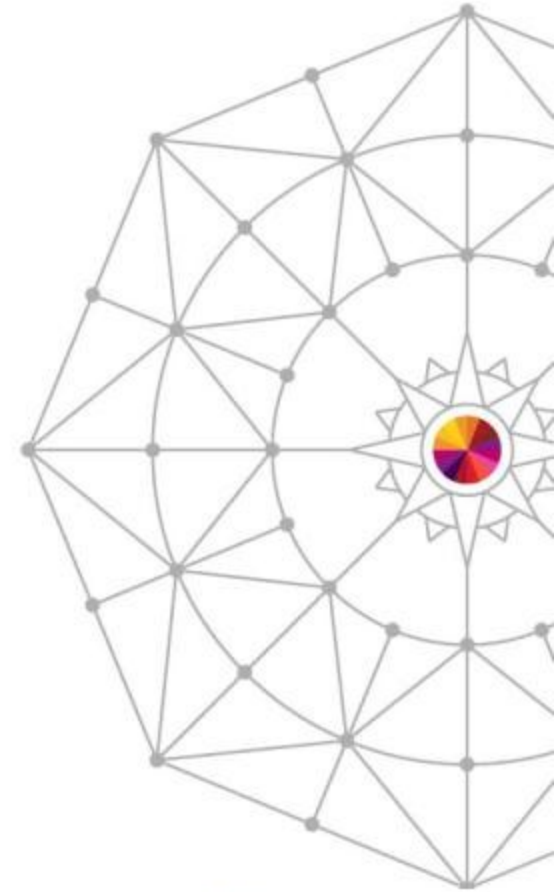
z/TPFDF PUT 10 Enhancements

- * PM67148: Additional SPM error checking
- * PM72950: Support 9-digit ordinal displays
- * PM77843: Improve data collection accuracy
- * PM81536: Validate ID upon Release
- * PM83026: C API Improvements
- PM88915: Write z/TPFDF data to z/TPF file system
- PM89556: SDO Metadata Enhancements
- PM97115: Improve error handling when device is not operational

  * See Spring 2013 TPFUG presentation for details

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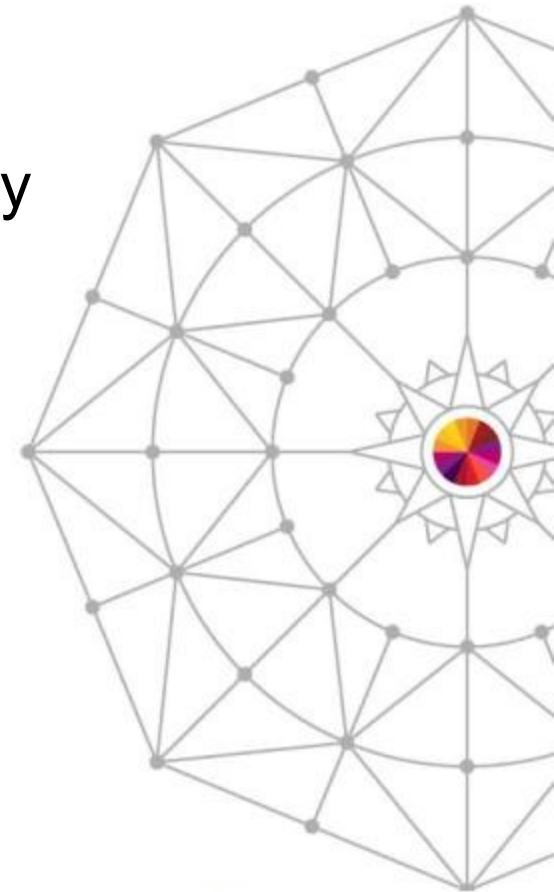
PM88915: Write z/TPFDF Data to z/TPF File System

- Mechanism to write z/TPFDF data to file system files
  - Write a single LREC to a file
    - PDFs, picture, etc.
  - Write multiple LRECs to a file
    - List contact info LRECs, full PNR, etc.
  - File accessed through standard file system APIs
    - ftp, attachment in email, etc.
- New APIs to read LRECs from z/TPFDF subfiles and write the data to the z/TPF file system
  - dffsys_write_fname() (C/C++)
  - dffsys_write_fstream() (C/C++)

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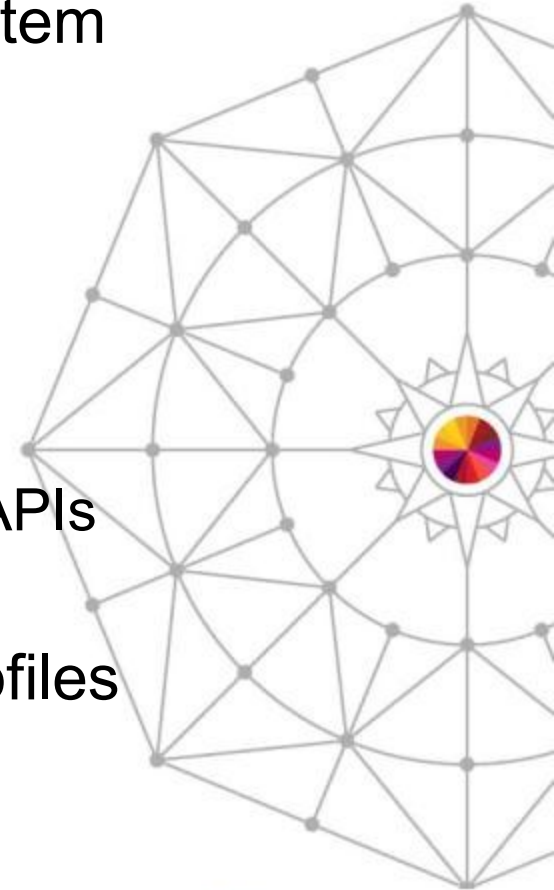
PM88915: Write z/TPFDF Data to z/TPF File System

- APIs provide controls for both z/TPFDF and file system
- z/TPFDF controls
  - Current subfile or fullfile processing
  - Select LRECs with or without keys
  - Select how to write each LREC to file
    - Offset and length
    - LREC separator character
- File system controls
  - z/TPFDF or the application can manage opening and closing of file system file
  - Open file system files in different modes: Append, Overwrite , or New
  - File system file may be in any file system on z/TPF

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PM89556: SDO Metadata Enhancements

- Enhances service data object (SDO) metadata processing
    - Improve efficiency in preparing metadata
    - Provide consistency in XML handling
- ZUDFM METADATA VALIDATE produces multiple errors at a time
    - Reduces number of times user has to repeatedly make corrections and reload

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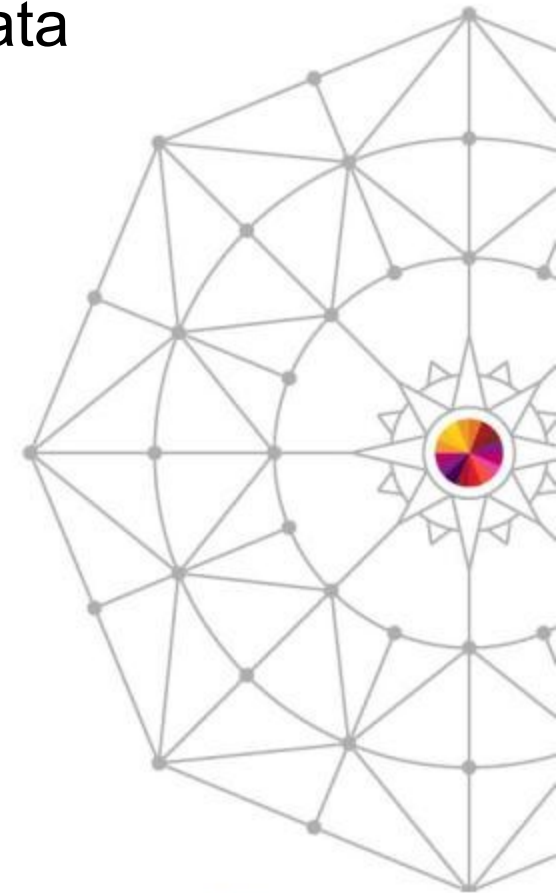
PM89556: SDO Metadata Enhancements

- ZUDFM MLS allows labels > 20 characters
  - Eliminates duplicate default metadata field names
  - Storage areas without labels considered spare
  - Reduces need to customize metadata
- All XML built with z/TPFDF commands:
  - Is converted to UTF-8 format
  - Specifies it is in UTF-8 format
  - Is written to the z/TPF file system in binary mode

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PM89556: Migration Considerations

- z/TPF APAR PJ41246 is a co-requisite APAR
- Migration considerations:
  - All users should run ZUDFM MLS to update the MLS database
  - SDO Users:
    - Run ZUDFM MLS before ZUDFM METADATA CREATE
    - FTP data on/off z/TPF without performing translation (binary mode)
    - Existing metadata must be re-loaded in new format
    - Existing metadata not stored on z/TPF can still be used
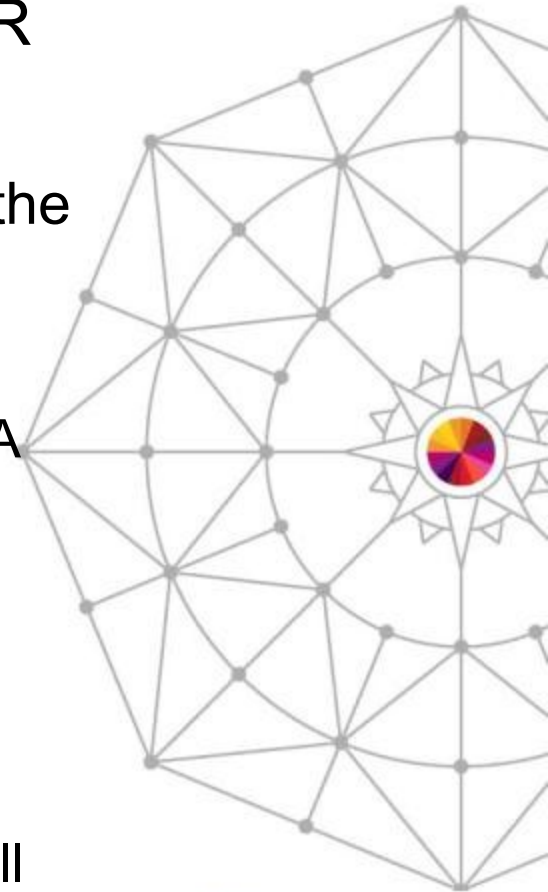
# PM97115: Improve error handling when device not operational

- DB0100 system errors are suppressed when a device is not operational (IDECSUD = x'88')

  - The system errors were not helpful

  - Benefits system resource availability

- SUD is shown in appended message for DB0100

  - Included with PM81536 on PUT 10

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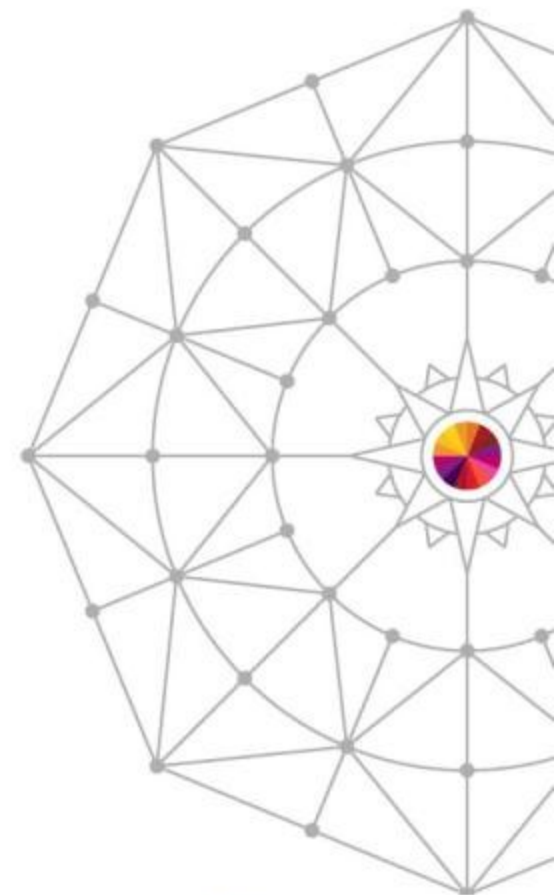
z/TPFDF PUT 11 Enhancements

- PM98351: Timeout for ZUDFM
- PM93257: Release records on ZUDFM INIT
- PI05927: Data events for z/TPFDF

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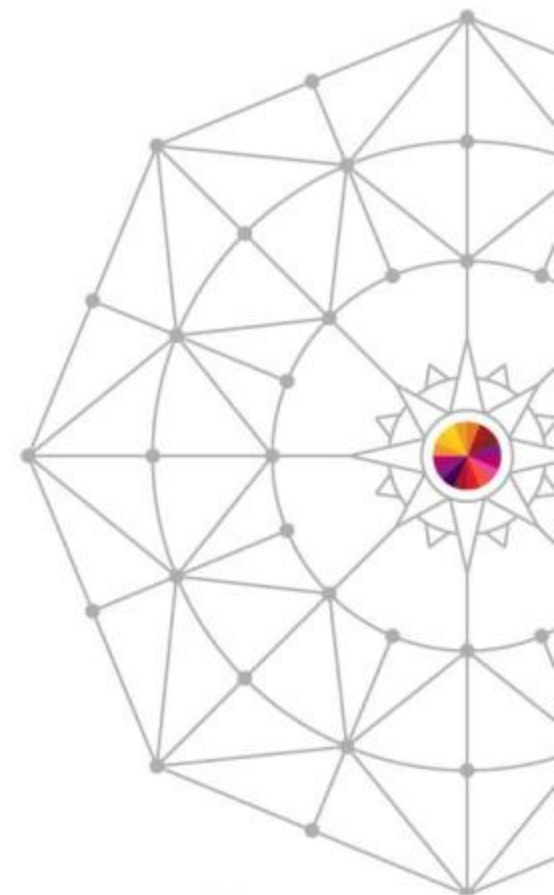
PM98351: Timeout for ZUDFM

- ZUDFM access to a subfile times out
  - Helps ensure you are accessing the correct target subfile and information
  - Timeout is from last display or modification
  - ZUDFM link to subfiles used to be maintained indefinitely
- When timeout is exceeded, you must renew access information:
  - ZUDFM ACCESS
  - ZUDFM FAD
- Timeout value specified in ACPDBE
  - Default timeout value is 90 minutes

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PM93257: Release records on ZUDFM INIT

- New option to release pool records on file initialization
  - ZUDFM INIT RELEASE
  - Returns pools instead of pools reported as lost
- Options include:
  - Release only forward chains (overflows)
  - Release specific IDs referenced by the file being initialized
  - Release all subfiles referenced by the file being initialized
  - Do not release any referenced subfiles (default)

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PI05927: Data Events for z/TPFDF

- Collects changed z/TPFDF subfiles and LRECs in a data event record
  - Data event record created when a subfile is created, updated, or deleted
  - Contains created, updated, and deleted LRECs
    - Changed LRECs for a single subfile
    - Changes from DBOPN to DBCLS
- Data event dispatched to event consumers for analytics, warehousing, data caching, etc.
- No application changes are required
  - New API available if applications want to control data event collection on a per-ECB basis
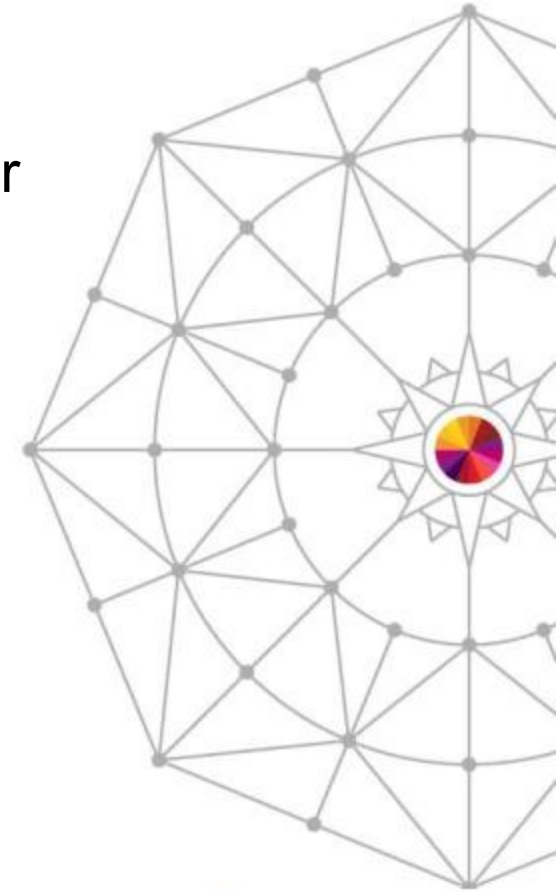
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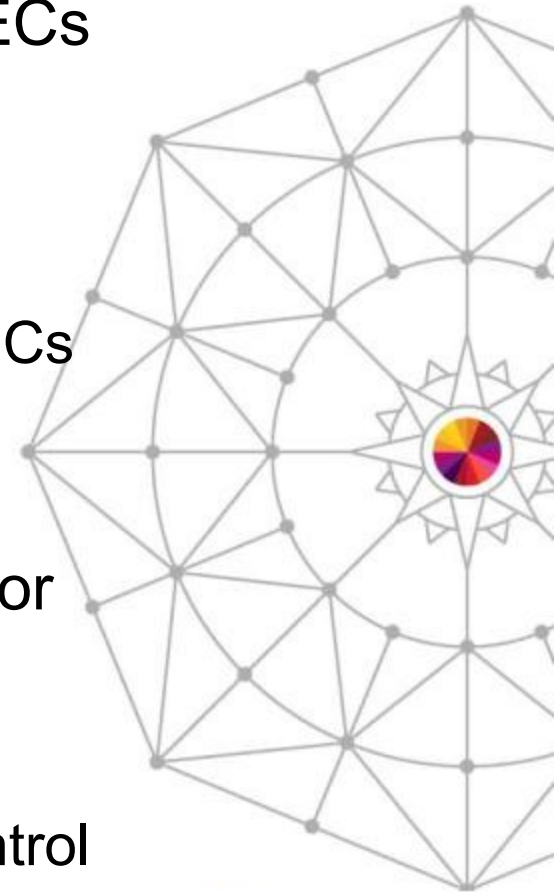
PI05927: Enabling Data Events for z/TPFDF

- Data events defined in DBDEF
  - Enabled by z/TPFDF File ID
  - Specify which LRECs to collect by LREC ID
    - Also indicate if LRECs are unique
  - Optional enrichment program before dispatch
    - Add user context to data event record
  - Specify dispatch user exits
    - z/TPFDF subfile close user exit
    - ECB exit user exit
- Data events enabled at system level
  - ZBEVF ENABLE DATA

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Future z/TPFDF Enhancements*

- Enhanced Multiple LREC Buffer support
  - Read / traverse individual LRECs in a buffer
  - Add / delete individual LRECs to / from buffer
  - Support for keys
- C++ APIs (ADBI)
- Using SPMs in 64-bit and Baseless environments

* All plans subject to change

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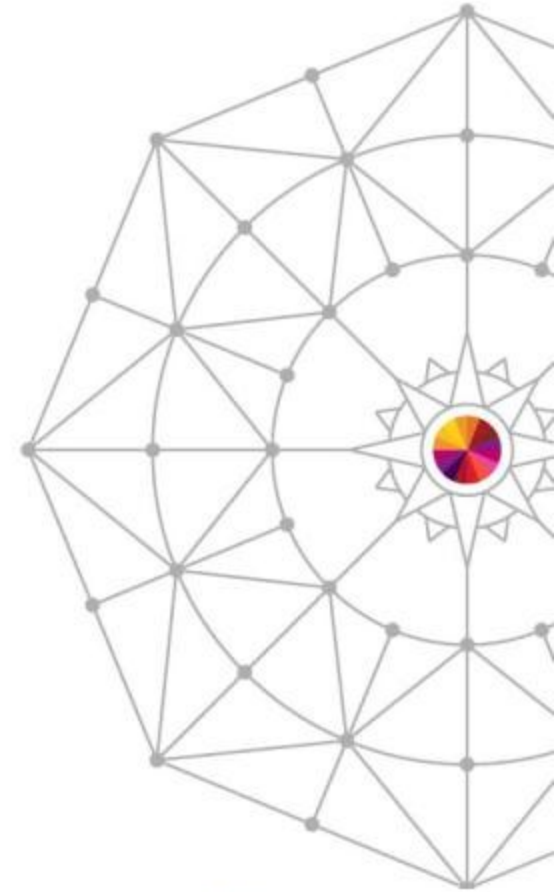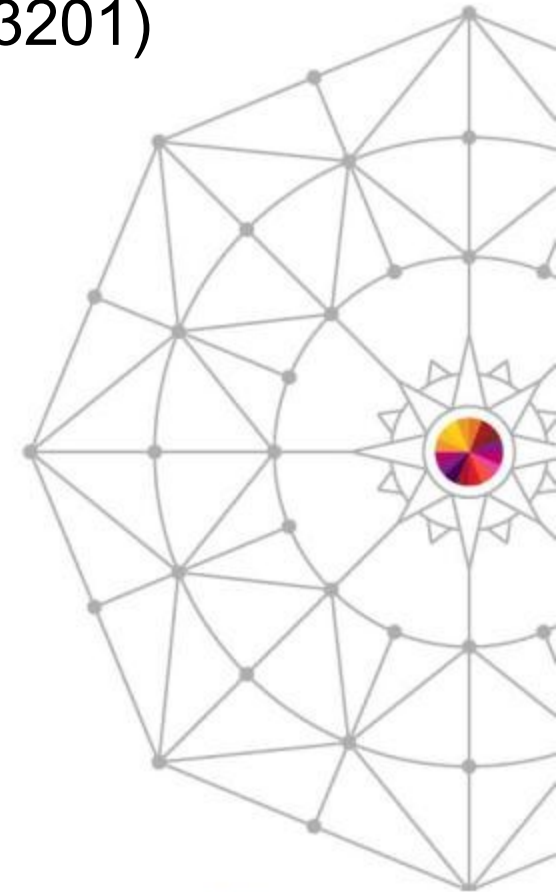
Requirements with Changed Status

- TPFDF Display Command Directed to the TPF File Systems (DF08187S)
  - Was: Accepted
  - Now: Available
- #1: Process Files from Heap Storage (DF13200)
  - Was: New
  - Now: Accepted
- #4: Multi-LREC Buffer Allow Record Access (DF12198)
  - Was: Likely
  - Now: Accepted

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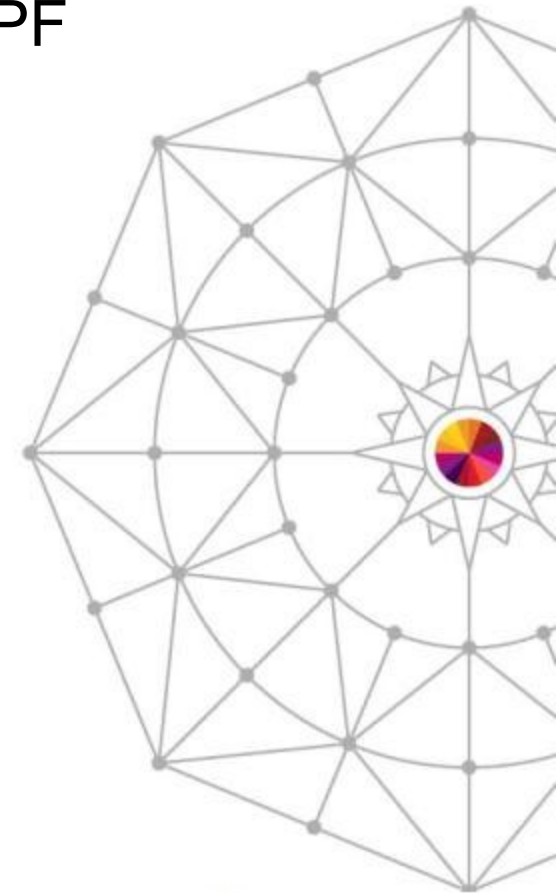
Requirements with Changed Status

- #8: B+Tree Multiple LREC Type Index (DF13201)
  - Was: New
  - Now: Not Likely
- #9 (1): Pushdown Chaining enhancement (DF13199)
  - Was: New
  - Now: Likely
- #9 (2): TPFDF C++ API (DF00153)
  - Was: Likely
  - Now: Accepted

Requirements with Changed Status

- #18: Transmit metadata from DBDEF tables to other hosts (DF00176)
  - Was: Not Likely
  - Now: Likely
- #23 (1): Integrate TPFDF Data Collection and reporting (DF00165)
  - Was: Not Likely
  - Now: Likely
- #23: Modify ZUDFM OA* to optionally 16 or 32 bytes of data (DF11194)
  - Was: Likely
  - Now: Not Likely

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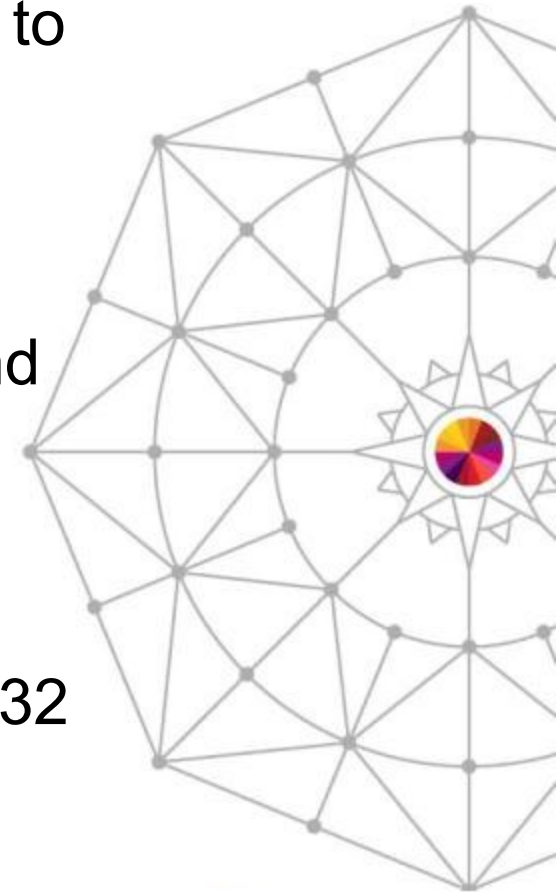
Accepted Requirements

- Process Files from Heap (DF13200)
- Multi-LREC Buffer Allow Record Access (DF12198)
- C++ APIs (DF00153)
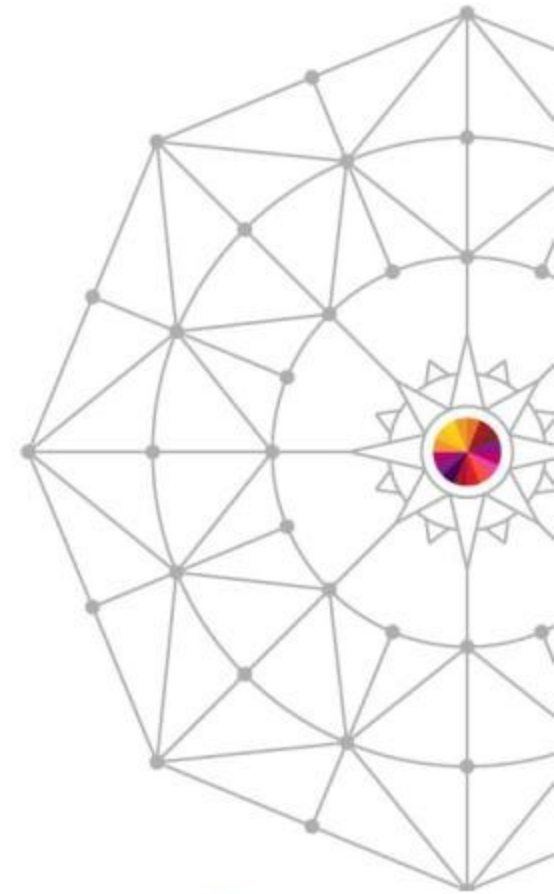
Top z/TPFDF TPFUG Requirements

Rank	Req Num	Description	Was	Now
1	**DF13200**	**Process Files from Heap**	**New**	**Accepted**
2	**DF08191F**	**Error checking**	**Likely**	**Likely**
3	**DF05182F**	**Export LRECs to XML**	**Likely**	**Likely**
4	**DF12198**	**Multi-buffer rec. access**	**Likely**	**Accepted**
5	**DF12195**	**Optimistic read ahead**	**Likely**	**Likely**
6	**DF08188S**	**New CRUISE targets**	**Likely**	**Likely**
7	**DF08190F**	**User defined record IDs**	**Likely**	**Likely**
8	**DF13201**	**B+Tree Multiple LREC ID**	**New**	**Not Likely**
9	**DF08186S**	**Pushdown Chaining**	**New**	**Likely**
9	**DF00153**	**C++ APIs**	**Likely**	**Accepted**

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