IBM WebSphere® Data Interchange V3.3

The New Document Store

Goals

- Compare the new document store to the old transaction store

- Provide users with a working knowledge of how customers can apply document store features

- Pre-reqs: familiarity with WDI 3.2

- Associated presentations: new remote submission area in WDI 3.3 client

Agenda

- Overview

- Limitations of existing transaction store in WDI 3.2

- Goals set for document store function in WDI 3.3

- Examples of new document store capabilities

- Problem determination

- Internals

- Summary and references

Overview

This presentation describes the new document store capabilities in for WDI 3.3, including:

- Limitations of transaction store in WDI 3.2

- Goals for transaction store in WDI 3.3

- Examples of new capabilities in WDI 3.3

This presentation focuses on the server-side changes. The new remote submission area in the WDI 3.3 client is also part of document store function.

Limitations of transaction store in WDI 3.2

- Stores EDI transactions only – no XML or ADF

- Even for EDI, did not fully capture "key" info – problems with generic "any" trading partner

- For DT maps, limitations on duplicate interchange checking

- Inflexible database architecture – limited ability to add new properties

- Properties include control elements from EDI headers and trailers, and other "metadata" related to a transformation

WDI 3.2 transaction store limitations -- 1

Transaction store modeled on EDI, does not capture information for XML or ADF.

- TS tables specific to EDI, mirror structure of an EDI Interchange – envelope, group, and transaction tables

WDI 3.2 transaction store limitations – 2

For EDI, the transaction store did not capture "key" information, leading to problems with generic "ANY" trading partner.

- Key structure of TS tables based on trading partner ID

- Original assumption was that a given EDI interchange would resolve to a specific TP

- Introduction of generic trading partner and related concepts meant that multiple distinct EDI identifiers could map to a single TP ("ANY")

- Items such as sending TP id + qualifier, receiving id + qualifier are missing from keys

- Impact on various areas – reporting, selecting, duplicate checking.

WDI 3.2 transaction store limitations -- 3

For DT, duplicate interchange checking was limited.

- DT updates to transaction store are done as mass update at the end of PERFORM TRANSFORM.

- Duplicate interchanges within a single PERFORM TRANSFORM are not detected.

- Key limitations may also confound duplicate checking.

WDI 3.2 transaction store limitations -- 4

Inflexible database architecture limited changes.

- TS database included fix-sized columns for specific EDI elements

- Database change required for new or expanded elements, for example EDIFACT/ISO 9735 V4.

- Some columns reused/redefined

Goals for WDI 3.3 Document Store

- Fix known limitations!!!

- Add new features!!!

- Create flexible structure for future enhancements.

- Specifically:

  1. Capture info & images for XML and ADF

  2. Distinguish different "ANY" trading partners.

  3. Correctly detect duplicate interchanges.

  4. Capture additional info, including EDI control elements and message properties, even when not used directly by WDI.

  5. Support I18N / G11N (images).

WDI 3.3 Document Store Goals - 1

Capture XML and ADF info and images

- New "DS" tables

- Flexible structure – "attribute" tables store arbitrary keyword/value pairs – "document extension" table stores specific values in generic columns

- For EDI, old TS tables continue to be used – with some changes

- XML and ADF info not captured for SR maps

WDI 3.3 Document Store Goals - 2

Distinguish "ANY" trading partners.

- Add ids and qualifiers as needed to existing TS tables.

- Populate these new columns for both SR and DT maps.

- Add new keywords to commands as needed, other related changes.

WDI 3.3 Document Store Goals - 3

Correctly detect duplicate interchanges.

- For DT, add new table – synchronously updated during PERFORM TRANSFORM processing.

- For SR, expansion of existing TS tables keys resolves the issue.

WDI 3.3 Document Store Goals – 4

"Plan for the future" (and get caught up with recent past…)

- New "DS" tables better model the common features of XML/ADF/EDI.

- Miscellaneous existing columns expanded to handle expanded EDI elements

- Some "mapped" columns have been unmapped, similar small tweaks

WDI 3.3 Document Store Goals – 5

Support G11N / I18N (Globalization / Internationalization)

- Common changes: Unicode DB, GRAPHIC/VARGRAPHIC columns.

- All document and header/trailer images are now qualified by a character set encoding.

- Images should now be considered binary data.

- "FOR BIT DATA" used in column definitions

- TSTI/TSTH, DSIMG/DSDOC for trx/doc images

- TSEV/TSGP/TSTU for EDI headers/trailers

Impact of new document store capabilities -- 1

- In general, treatment of XML and ADF is similar to EDI transactions.

- New tabs in transaction area client for Data Format and XML Documents.

- New context-menu options for EDI transactions, XML and data format documents displayed in the client, making the display "live".

- The user can select various actions from the right-click context menu. These actions correspond to commands such as PERFORM TRANSLATE, PERFORM PURGE, and so on.

- The actions are then submitted to the defined "host" system, with the PRTFILE and other outputs available on the client.

Impact of new document store capabilities -- 2

- New PERFORM DOCUMENT DATA EXTRACT command parallels PERFORM TRANSACTION DATA EXTRACT, but new selection criteria and new output format.

- Many existing commands such as HOLD, RELEASE, PURGE, UNPURGE, and REMOVE, extended to work with ADF and XML.

- On PERFORM TRANSFORM, INTYPE(ST) now works with XML and ADF.

Impact of new document store capabilities -- 3

- The concept of a "THANDLE" has been extended to XML and data format documents.

- Originally, "THANDLE" was a transaction handle, used as a unique identifier for an EDI transaction.

- THANDLE is a TIMESTAMP value (date/time).

- THANDLE now used to identify XML and data format documents, link related document store tables.

- With remote submission, list of THANDLEs submitted with THANDF keyword/logical file governs processing.

- In general, THANDF list overrides normal selection processing.

Problem determination - I

- For EDI, any existing PD procedures should still apply.

- For non-EDI, one key point is that documents are identified by their own THANDLEs.

- Transaction and document images must be interpreted according to the corresponding CHARENCODING column…images are now considered "binary" even though most will probably still be plain old ASCII or EBCDIC.

- New client function should aid PD.

Problem determination - II

- As with WDI 3.2 and previous versions, transaction store and document store are controlled via options on the application defaults profile.

- Application Defaults tab is found in the Environments functional area of the client.

- In the Application Defaults Profile, the General tab has a Document Store section. This controls both the old transaction store and the new document store.

- Make sure that the profile being used has the expected settings! (Have they changed?)

Problem determination – III

- Remote submission performance may suffer for large lists.

- Remote submission issues – first verify that remote submission is working, no security or path issues are blocking execution of commands in general.

- Anything that can be submitted remotely can also be run from batch.

- A remote submission which abends will never appear to terminate. You'll need to check the host to tell this from a long-running submission.

Internals – I

- The DOCUMENT DATA EXTRACT command follows the same super query logic as the TRANSACTION DATA EXTRACT command.

- DOCREC(Y) was added to the SELECTING statement to retrieve the document record.

- EXTEND(Y) on the SELECTING statement will retrieve the extended version of the document record.

- This command is run against the new EDIVDSEXTN view.

Internals - II

- HOLD, RELEASE, PURGE, UNPURGE, and REMOVE commands have been extended to also handle the documents in the new tables (non-EDI).

- First, the command is run against the EDI tables, then it is run against the new tables.

- The current state of a document determines which actions can be performed on that document, for instance, you can only REMOVE a document that is in the purged state.

Summary

- WDI 3.2 transaction store only handled EDI

- WDI 3.2 transaction store had several specific problems which limited usefulness

- WDI 3.3 addresses specific issues

- WDI 3.3 includes new tables to facilitate future changes

- WDI 3.3 implements commands similar to the existing transaction store commands for the new documents.

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