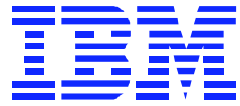




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DI 3.1 XML Enhancement

Fritz Fahrenback & Angela Winters
DataInterchange Development
IBM Global Services

<http://edi.services.ibm.com/datainterchange>





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DI XML Enhancement

Overview:

- Currently available on DI 3.1 MVS Batch ONLY.
- The PTF allows translation for XML data in both directions ADF->XML (send) and XML->ADF (receive) translation
- Implemented by converting XML data to a "standard" within DI. The "standard" is a representation of the XML data using an EDI-type syntax that is understood by DI.
- A DTD conversion utility (Windows application) is used to generate a Standard definition file from the user's DTD. The standard has a similar structure as the XML document.





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The following software are new prerequisites for the customer to install and use this PTF:

- OS/390 V2R6
- OS/390 XML toolkit (no-fee software)

<http://www.s390.ibm.com/xml/>





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To translate to or from XML:

- Convert the DTD using the conversion utility. This creates a standards import file for DI client, and another "XML element dictionary" file to be used by the pre/post processor.
- Import the EI file (generated by the utility) into DI client.
- Upload the XML element dictionary file and DTD file to MVS (PDS HSF, or flat file).
- Map ADF to the standard (send map), or the standard to ADF (receive map) using DI client
- Generate Control string for mapping and setup trading partner information





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- Invoke DI Utility to do the translation and specify some new keywords on the PERFORM command(s).
- When doing send (ADF->XML) processing, DI will map the data to the "standard" format using the send map, then invoke a post processor to convert from the standard format to XML.
- When doing receive (XML->ADF) processing, DI will invoke a preprocessor to convert the XML data to the "standard" format, then map the standard to the user's ADF format using the receive map.

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DI Utility JCL Changes:

➤ Must include the XML processor and XML4C libraries

➤ Example below:

```
➤ //STEPLIB      DD DSN=EDI.V3R1M0.SEDILMD1,DISP=SHR
//              DD DSN=EDI.V3R1M0.SEDIXML1,DISP=SHR
//              DD DSN=DB93.DSNEXIT,DISP=SHR
//              DD DSN=DB93.DSNLOAD,DISP=SHR
//              DD DSN=EDI.SNA131.LOADLIB,DISP=SHR
//              DD DSN=EDI.XML.SIXMMOD1,DISP=SHR
```

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DI Utility Additional File Allocations:

- XMLWORK - Required. Work file used for XML processing. Like FFSWORK
- XMLERR - Required. Contains errors and warning from the XML processing. Like PRTFILE
- XMLTRC - If allocated, contains XML processing trace messages. Like EDITRACE
- XMLEXCP - Required. Contains XML data in error. Like FFSEXCP





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Send Processing ADF to XML:

- Translation is same as ADF to EDI
- Must have the E envelope standard loaded into Host system
- PERFORM TRANSLATE AND ENVELOPE
WHERE RAWFMTID(XMLTEST2)
APPFILE(XMLAPPIN) FILEID(XMLOUT)
XMLDTDS(FRITZF.DTDDIC)
XMLDICT(FRITZF.STDDICT)
- Transaction Store will have the XML standard map representation





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Send Processing ADF to XML:

- New PERFORM keywords:
- XMLDTDS() - Required for XML DTD processing. The PDS or HFS path where the XML DTD members are located. Max length is 64.
- XMLDICT() - Required for XML processing. The PDS or HFS path where the standard dictionary files generated from DTD Import are located. Max length is 64.





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Send Processing ADF to XML:

- Notes:
- New mapping keyword DIPROLOG to override the XML prologue.
- To send XML data using IGN, this would be a 2 step process.
PERFORM TRANSLATE AND ENVELOPE and
PERFORM SENDFILE.
- XML Validation will use the TP usage validation level.
 - 0 - No validation
 - 1 - validate well form
 - 2 - validate level 1 + DTD





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Send Processing ADF to XML:

- Notes:
- TP Profile definition segmented output will cause XML data to be written out in a easy to read format with line breaks and indentation.





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Send Processing ADF to XML:

ADF Input File:



ADF Input

XML Output File:
Segmented Output



XML Output

XMLWORK File:



XMLWORK





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Receive Processing XML to ADF:

- Translation is same as EDI to ADF with new keywords
- Must have the E envelope standard loaded into Host system
- PERFORM DEENVELOPE AND TRANSLATE
WHERE FILEID(XMLOUT) RAWDATA(Y) XML(Y)
XMLVALIDATE(1) MULTIDOC(S) XMLLEBCDIC(Y)
XMLSTDID(CXMLT2)
XMLDTDS(FRITZF.XML.DTDDIC)
XMLDICT(FRITZF.XML.STDDICT)
APPPFILE(XMLAPPOT)
- Transaction Store will have the XML standard map representation





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Receive Processing XML to ADF:

- New PERFORM keywords:
- XML (Y/N) - Required for XML processing. Default is N
- XMLVALIDATE(0/1/2) - 0 - Indicates to ignore external DTD references. 1 - Indicates the DTD specified on the DOCTYPE tag will be processed (e.g.. default attributes, parameters entity references, etc.). 2 - Indicates full validation against DTD. Default is 1. All XML data is checked for well form.
- XMLSTDID() - Optional for XML processing. If used it is the (standard name) used during mapping which is the standard name or the first 8 characters of the root element name specified during the DTD import process. If not used it will be the first 8 characters of the root element in the data will be used. The max length is 8 characters.
- XMLEBCDIC(Y/N) - Y Indicates the XML data is to be treated as EBCDIC. Default is Y. N indicates encoding on XML prologue will be used





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Receive Processing XML to ADF:

- MULTIDOCS(Y/N) - Optional for XML processing. Y indicates the XML input file contains multiple documents. N indicates the XML input file contains one document. If Y is specified, the input message must be in EBCDIC and each document must begin with an XML declaration (<?XML...).
- XMLDTDS() - Required for XML DTD processing. The PDS or HFS path where the XML DTD members are located. Max length is 64.
- XMLDICT() - Required for XML processing. The PDS or HFS path where the standard dictionary files generated from DTD Import are located. Max length is 64.





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Receive Processing XML to ADF:

- Notes:
- To receive XML data using IGN, this would be a 2 step process.
PERFORM RECVFILE and
PERFORM DEENVELOPE AND TRANSLATE





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Receive Processing XML to ADF:

XML Input File:



XML Input

ADF Output File:



ADF Output

XMLWORK File:



XMLWORK



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Implementation Guide

- The XML PTF is documented in the:

DataInterchange v3.1 Technical XML
Implementation Guide

Available from:

<http://edi.services.ibm.com/datainterchange/di31xml.pdf>





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Demo DTD Import and DI Client Maps





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?? QUESTIONS ??

