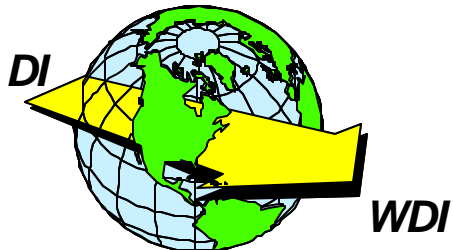


# *2002 Users Conference*

## *DI 4.1 Functional Overview*

Jon Kirkwood  
IBM Corp.

The Next Generation

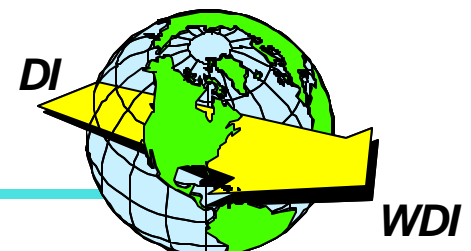


2002 User Conference

# Agenda

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- ★ Buildtime/Runtime Paradigm
- ★ Meta Data: EDI, XML, and ADF
- ★ Mapping Enhancements
- ★ Rules/Usages and Processes
- ★ Translation
- ★ Messaging System Support
- ★ Documentation, Help, Error Messages
- ★ Migration from 3.1

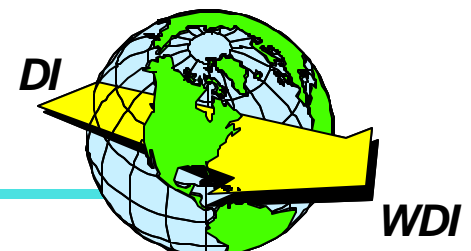


# Buildtime/Runtime Paradigm

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## ★ DI 4.1 Client is the buildtime platform

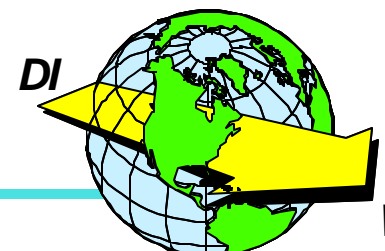
- Meta-data (EDI, DTD and ADF)
- Mapping between meta-data definitions
- Trading partners, network profiles, tables, etc.
- Use client server - best way to go
  - ✎ Use DB2 connect 7.1 or higher for DI Client
- Limited transaction store and event logging facility



# Buildtime - Runtime Paradigm (continued)

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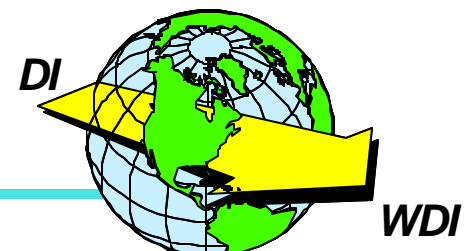
- ★ DI 4.1 host OS/390 or z/OS interface is the runtime environment
- ★ Still uses TSO clist or CICS transaction EDIA
  - Transaction store
  - Event logs
  - Profiles
  - Validation and Translation tables
  - Export/Import
  - Command Utility (TSO only)
- ★ Meta-data (EDI/XML standards and ADF's) no longer available
  - ✎ Mapping no longer available (must use Client buildtime)
  - ✎ Menu options still appear, but are grayed out



# Buildtime - Runtime Paradigm (continued)

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- ★ Common database -- Custtime/Runtime databases merged on host DB2 subsystem
- ★ No more "split" systems
- ★ Move artifacts from system to system using the Actions->Export to Other System menu command
- ★ Host standard, data format and mapping tables gone
- ★ Config database remains separate



# Meta Data - DTD (XML), EDI, and ADF

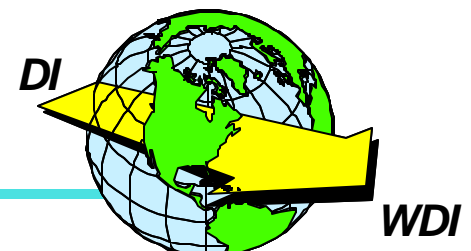
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## ★ Enhanced DTD (XML) Support

- New DTD importer - no need to do DTD conversion anymore
- DTD Dictionaries
- New navigator bar button
- Group related DTD's (for example all cXML DTD's)
- View imported DTD's
- Now allows name alias tables for sender and receiver tags

## ★ EDI enhancements

- Repeating data element

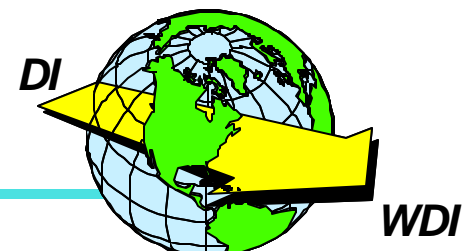


# Meta Data - DTD (XML), EDI, and ADF (continued)

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## ★ ADF Enhancements

- Application Data Format now just called Data Format (DF)
- Record delimiter options
  - ✍ Carriage Return/Line Feed (CRLF)
  - ✍ New Line
  - ✍ None
- Coded character set ID
  - ✍ IBM-1047 (EBCDIC)
  - ✍ IBM-850 (ASCII)
  - ✍ UTF-8 (variable length UNICODE)
  - ✍ LOCALCP (Local Code Page)

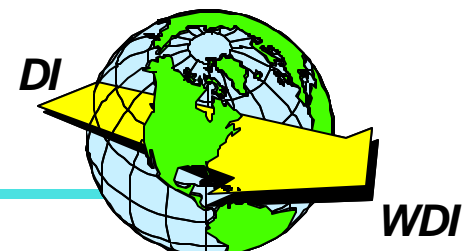


# Meta Data - DTD (XML), EDI, and ADF (continued)

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## ★ ADF Enhancements (continued)

- "Occurs depending" capability added to
  - ✎ Records
  - ✎ Structures
- Added support for Comma Separated values (CSV)
  - ✎ Common PC format
  - ✎ Values separated by commas
  - ✎ Strings in double quotes, numbers unquoted
  - ✎ Must select a record delimiter





# Mapping

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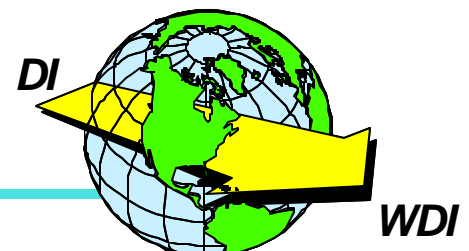
## ★ Three types of maps

- Send maps (old send maps)
- Receive maps (old receive maps)
- Data transformation maps (new any-to-any maps)

## ★ Send and receive mapping editors are still there to allow maintenance of 3.1 maps

- Recommend that all new maps be any-to-any maps
- No conversion tool at this time

## ★ New wizard to assist in creating the desired type of map

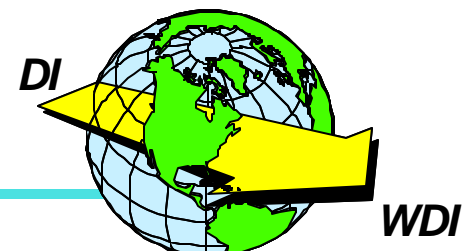


# Mapping (continued)

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## ★ Any-to-any mapper

- Access from same map browser (just a different map type)
- Four pane window
  - ✦ Source, Target, Commands, Variables
- Variables - local, global, special
- Many special variables replaced by `getProperty` and `setProperty`
  - ✦ Gives much more control over `trx` and enveloping
- New command language - more powerful
- Source document always on left, target on right
- No special HL support at this time



# Mapping... old receive EDI map

DataInterchange Client 4.1 - [Development - Map - UC\_RECEIVE\_MAP]

File Actions Edit Navigate View Window Help

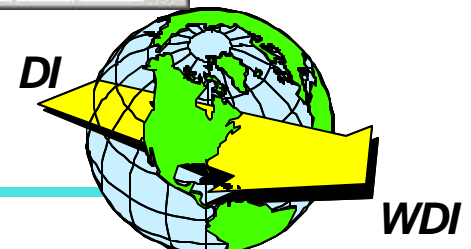
System Development ?

General Details Comments

BILLTOADDRESS  
BILLTOCITY  
BILLTOSTATE  
BILLTOZIP  
LINEITEMS  
RECORDID2  
**QTYORDERED**  
UNITOFMEAS  
UNITPRICE  
ITEMDESC  
ITEMNUMBER-B1  
ITEMNUMBER-BN  
ITEMNUMBER-BP  
ITEMNUMBER-BC  
TRAILER  
RECORDID3  
ITEMCOUNT  
TOTALBUCKS

285 O TXI [Tax Information]  
287 O AMT Loop  
295 O N9 Loop  
310 O N1 Loop: Qualified by Element in Position 1, with a Value of ST  
430 O LM Loop  
450 O SPI Loop  
610 O ADV Loop  
10 M PO1 Loop: Qualified by Path of LINEITEMS  
10 M PO1 [Baseline Item Data]  
1 O 350 [Assigned Identification]  
**2 C 330 [Quantity Ordered]**  
QTYORDERED in LINEITEMS  
3 O 355 [Unit or Basis for Measurement Code]  
UNITOFMEAS in LINEITEMS  
4 C 212 [Unit Price]  
UNITPRICE in LINEITEMS  
5 O 639 [Basis of Unit Price Code]

Ready



# Mapping... new transform map

DataInterchange Client 4.1 - [Development - Map - UC\_EDI\_TO\_DF\_MAP]

File Actions Edit Navigate View Window Help

System Development ?

General Details Comments

Source: EDI Standard Transaction\X12V4R1\850

- Table 1
- Table 2
  - 10 M PO1 Loop [Baseline Item Data]
    - 10 M PO1 [Baseline Item Data]
      - 1 O 350 [Assigned Identification]
      - 2 C 330 [Quantity Ordered]
      - 3 O 355 [Unit or Basis for Measurement]
      - 4 C 212 [Unit Price]
      - 5 O 639 [Basis of Unit Price Code]
      - 6 C 235 [Product/Service ID Qualifier]

Target: Data Format\T&M\_DATA\_FORMAT\_DICTIONARY\U

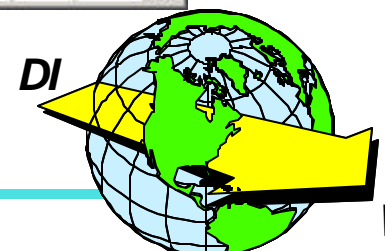
- HEADER [DI User Conf - PO - Complete ADF]
- LINEITEMS [DI User Conf - PO - Complete ADF]
  - RECORDID2 [DI User Conf - PO - Complete ADF]
  - QTYORDERED [DI User Conf - PO - Complete ADF]
  - UNITOFMEAS [DI User Conf - PO - Complete ADF]
  - UNITPRICE [DI User Conf - PO - Complete ADF]
  - ITEMDESC [DI User Conf - PO - Complete ADF]
  - ITEMNUMBER-B1 [DI User Conf - PO - Complete ADF]
  - ITEMNUMBER-BN [DI User Conf - PO - Complete ADF]
  - ITEMNUMBER-BP [DI User Conf - PO - Complete ADF]

10 M PO1 Loop [Baseline Item Data]
 

- MapTo (\LINEITEMS\)
- 10 M PO1 [Baseline Item Data]
  - 1 O 350 [Assigned Identification]
  - 2 C 330 [Quantity Ordered]
    - MapTo (\LINEITEMS\QTYORDERED\)

Global Variable	Special V...	Scope	Data T
	DIOutType	Document	Charac
	DIOutFile	Document	Charac
	DIOutType	Document	Charac
	DIOutFile	Document	Charac

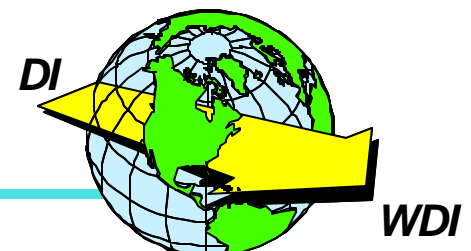
Ready



# Rules (Usages) and Processes

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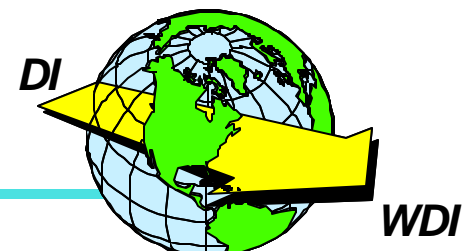
- ★ "Rules" is the industry standard term for routing and transformation instructions
- ★ Usages for the new any-to-any maps are called rules
- ★ No "send" or "receive" rules, because any-to-any maps can go in either direction
  - Rules look like a combined send and receive usage
- ★ Rules frequently use terms like "Inbound" and "Outbound", e.g.
  - Inbound Validation Level
  - Outbound Validation Level



# Rules and Processes (continued)

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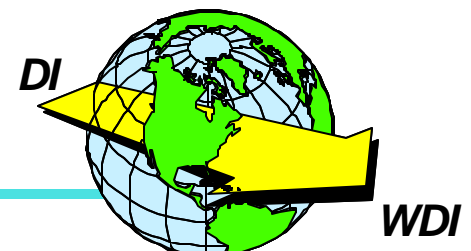
- ★ Rules can use the generic keywords
  - ANY
  - KNOWN
- ★ Rules cannot use the & style generic usages
- ★ Rules can be based upon
  - Trading Partners (sending and receiving)
  - A "process"



# Rules and Processes (continued)

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- ★ Processes are identified with actual business processes
- ★ Within DI, the collection of rules that specify a particular process ID is considered to be the definition of the process
- ★ Conceptually, they can also be considered a "category" of trading partner
- ★ Processes link Trading Partners to rules
- ★ They dramatically reduce the number of rules required when many trading partners are involved
- ★ Processes will be tied to solutions in the future



# Translation

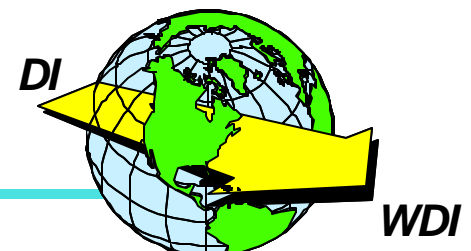
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## ★ Old translator still there, works just fine with old control strings

- Really two direct translators (ADF-to-EDI and EDI-to-ADF)
  - ex. PERFORM DEENVELOPE AND TRANSLATE WHERE  
RAWDATA(Y) FILEID(RECVDATA) APPFILE(APPL)

## ★ New Any-to-Any translator

- Written from scratch based upon new technologies
- Uses a different PERFORM command
  - ex. PERFORM TRANSFORM WHERE SYNTAX(E)  
INFILE(RECVDATA) OUTFILE(APPL)
- 3 Step process: Parse, Transform, Serialize
- UNICODE based (wire format->UNICODE->wire format)



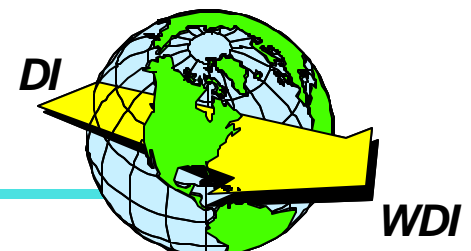


# Translation (continued)

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## ★ New PERFORM TRANSFORM command

- Currently file-in, file-out only
  - ✎ Uses INFILE and OUTFILE keywords
  - ✎ Use PERFORM SEND/RECEIVE in conjunction with the TRANSFORM command to initiate transport
- Instead of RAWFMTID, it uses
  - ✎ SYNTAX - XML, EDI, or DF
  - ✎ DICTIONARY - dictionary name of input meta-data
  - ✎ DOCUMENT - name of message definition
- MAPID can be used to hard code the map to be used
- Some minor JCL changes (doesn't use temp work file, etc.)



# Translation (continued)

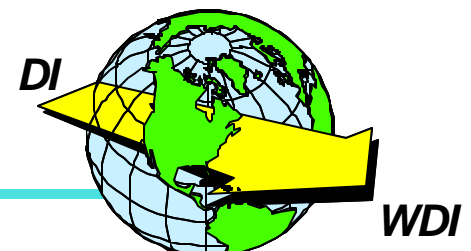
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## ★ New XML processing - Java XML parser, JVM

- In CICS, the Java version of the IBM XML parser is used so TS 1.3 with JVM support is required
- New long running transaction EDIM

## ★ Limitations of the new Any-to-Any translator

- The EDI Parser does not support the BIN and Security segments yet
- HIPAA maps not available in any-to-any form at this time
- 3 step trx process will not be as fast as old translator
- No transaction store support at this time



# Messaging System Support

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## ★ MQSeries Enhancements

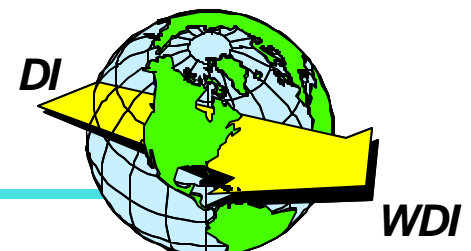
- MQMD propagation feature
- New ONEMSG(Y) keyword for fine grain control
- No longer allocate a buffer the size of the maximum message allowed on the queue

## ★ New PERFORM RECEIVE AND SEND

- Use when source is EDI or XML and MQ Queues are on both sides

## ★ New PERFORM RECVFILE AND SEND

- Use when source is DF and MQ Queues are on both sides



# Documentation, Help, Error Messages

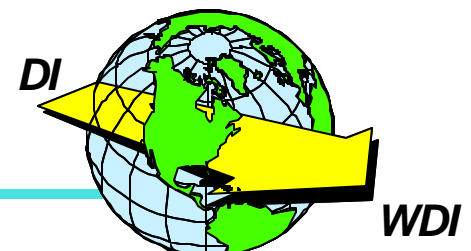
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## ★ Pubs changes

- Expanded client admin guide (stds, adf, xml, and mapping have been added)
- Truncated host admin guide (stds, adf, xml, and mapping have been removed)
- Reorganized Programming Guide
- Commands have been alphabetized
- Much better use of Adobe features for online browsing

## ★ Error msg updates

- PERFORM command now sent to the PRTFILE
- Map ID of the map being used now sent to the PRTFILE



# Migration from 3.1

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- ★ Migration from DI 3.1 only
  - DI 3.1 still available to order
  - No path from DI 2.1 and below
- ★ Requires XML Toolkit for z/OS and OS/390
- ★ Java XML parser in CICS, TS 1.3 requirement
- ★ LE390 used and is a prerequisite
- ★ DI 3.1 users must convert all maps during migration
  - Happens automatically on the host
  - Substitutes available client standards for host ones
  - Use DI Client Release Migration to migrate client objects
  - Does not recompile maps
- ★ DB2 Only (VSAM not supported on DI 4.1)

