



IBM Software Group

# ***IBM WebSphere® Data Interchange V3.3***

## ***Introduction to Mapping***



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This presentation will present an introduction to mapping.

## Introduction to Mapping

- Mapping steps
  - ▶ Load Standard – Electronic Data Interchange (EDI) standards
  - ▶ Create Data Format (DF) – Application data definition or metadata
  - ▶ Load XML – DTDs and Schemas
  - ▶ Select Map type
    - Data Transformation
      - For Translation
      - Functional Acknowledgement
      - Validation
    - Send or Receive
  - ▶ Create Map – Relationship of source and target document
  - ▶ Setup Trading Partner Rules and Usages – Map execution



Before you can use WebSphere Data Interchange (WDI) to translate data, or to send or receive transactions, messages, or files, you must define certain information. This information describes how your system sends and receives data, how data is formatted in your application files and to a standard, to whom you send data and from whom you receive data, and other pertinent information. A WebSphere Data Interchange map relates a source document to a target document. In WebSphere Data Interchange you can create or import document definitions for the source and target documents, and then create a map which relates the elements in the source document to elements in the target document.

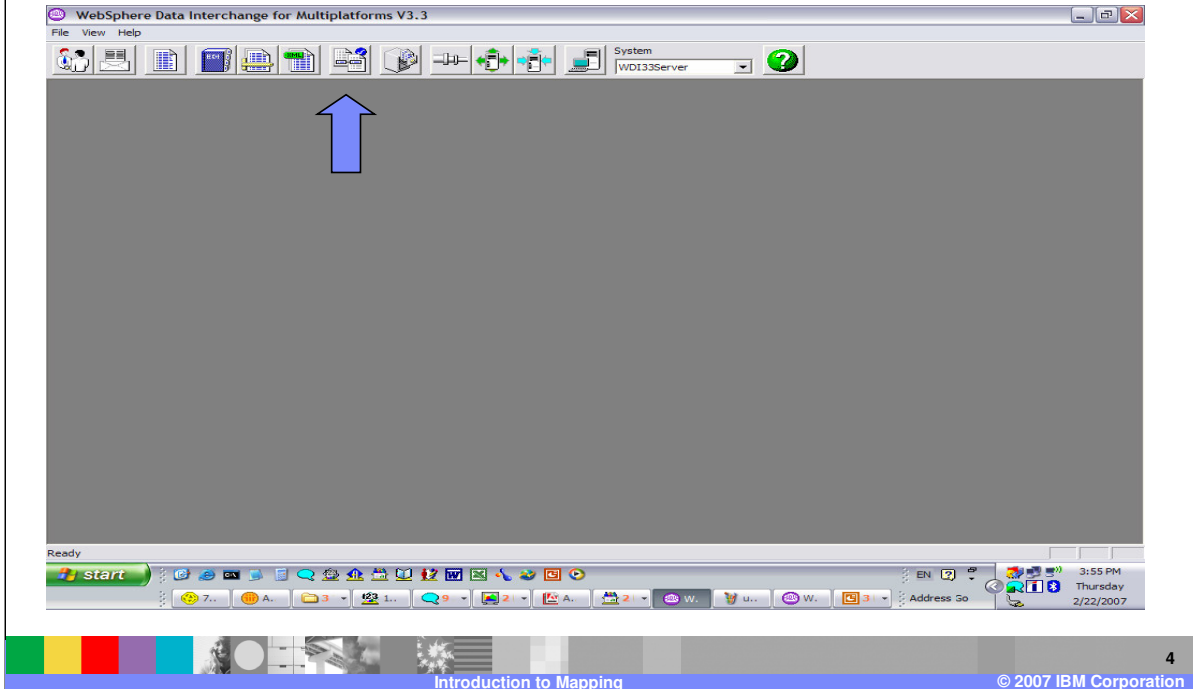
## Introduction to Mapping

- Send Maps – Used for transformation from application data to EDI standard format.
- Receive Maps – Used for transformation from EDI standard format to application data.
- Data Transformation Maps – Used for transformation from source formats EDI, XML, or application data to target formats EDI, XML, or application data.
- Functional Acknowledgment Maps – Used with Data Transformation maps to create an EDI functional acknowledgment message.
- Validation Maps – Used with Data Transformation maps to extend EDI standard syntax validation to industry specific validation procedures.



Send Maps are used for translation or transformation from application data to EDI standard format. Receive Maps are used for transformation from EDI standard format to application data. Data Transformation Maps are used for transformation from source formats EDI, XML, or application data to target formats EDI, XML, or application data. Functional Acknowledgment Maps are used with Data Transformation maps to create an EDI functional acknowledgment message. Validation Maps are used with Data Transformation maps to extend EDI standard syntax validation to industry specific validation procedures.

# Introduction to Mapping



This is the location of the WebSphere Data Interchange (WDI) Client Mapping Functional Area.

# Introduction to Mapping

WebSphere Data Interchange for Multiplatforms V3.3 - WDI33Server (Mapping) - Query: All

WDI33Server (Mapping) - Query: All

Map Name	Complete Required	Description	Lock	Updated Date and Time	Updated User ID	Map Base	Code Lists
DTDATATYPE-TESTO	No	Test BN,...	No	1/17/2007 9:05:57 AM	awinters	Target	
DTDATATYPE-TESTI	No	Test BN,...	No	1/17/2007 9:05:59 AM	awinters	Source	
INVOIC93_TRADE	Yes	INVOIC...	No	1/25/2007 9:04:38 AM	awinters	Target	
MRTST_DFCV_DFCV	Yes	Multi Re...	No	2/20/2007 9:44:02 AM	awinters	Source	
MRTST_DFCV_DFCVU	Yes	Multi Re...	No	2/20/2007 9:44:04 AM	awinters	Source	
MRTST_DFRW_DFRW	Yes	Multi Re...	No	2/20/2007 9:44:06 AM	awinters	Source	
MRTST_DFRW_DFRWU	Yes	Multi Re...	No	2/20/2007 9:44:07 AM	awinters	Source	
POXMLSSR-EDI	No	POXMLS...	No	2/20/2007 11:11:18...	awinters	Source	
S-DT-ADF-TO-EDI	Yes	Source ...	No	1/26/2007 11:23:03...	awinters	Source	
S-DT-ADF-TO-XML	No	Source ...	No	2/7/2007 12:51:27 PM	awinters	Source	
SPLIT_EXAMPLE	Yes	Dutch T...	No	2/22/2007 3:55:53 PM	awinters	Source	
T-DT-EDI-TO-ADF	No	Target ...	No	2/1/2007 4:54:24 PM	awinters	Target	

12 rows

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The WDI Client Mapping functional area contains table to locate data transformation maps, validation maps, functional acknowledgement maps, send maps, and receive maps.

## Introduction to Mapping

- Mapper Features
- Sizing the panes – Left click drag the pane separator bar
- Expand all/collapse all – Right click in the pane and select “Expand All” or “Collapse All” from the menu
- Copy and Move – Left click drag mappings to where you want them to go
- Find – Right click in the pane and select “Find”
- Comments and comment groups – Right click->Insert-> Comment or Comment Group
- Command groups – Right click->Insert-> Command Group
- Compile – Click the toolbar compile button
- Print and print preview – Click the toolbar print or print preview button



This is a list of some of the WDI mapper features. Some features are only available with data transformation mapping. For example, comment groups and command groups. You can size all the window panes, expand and collapse windows and mapping elements, search the map, add comments, and print.

## Introduction to Mapping

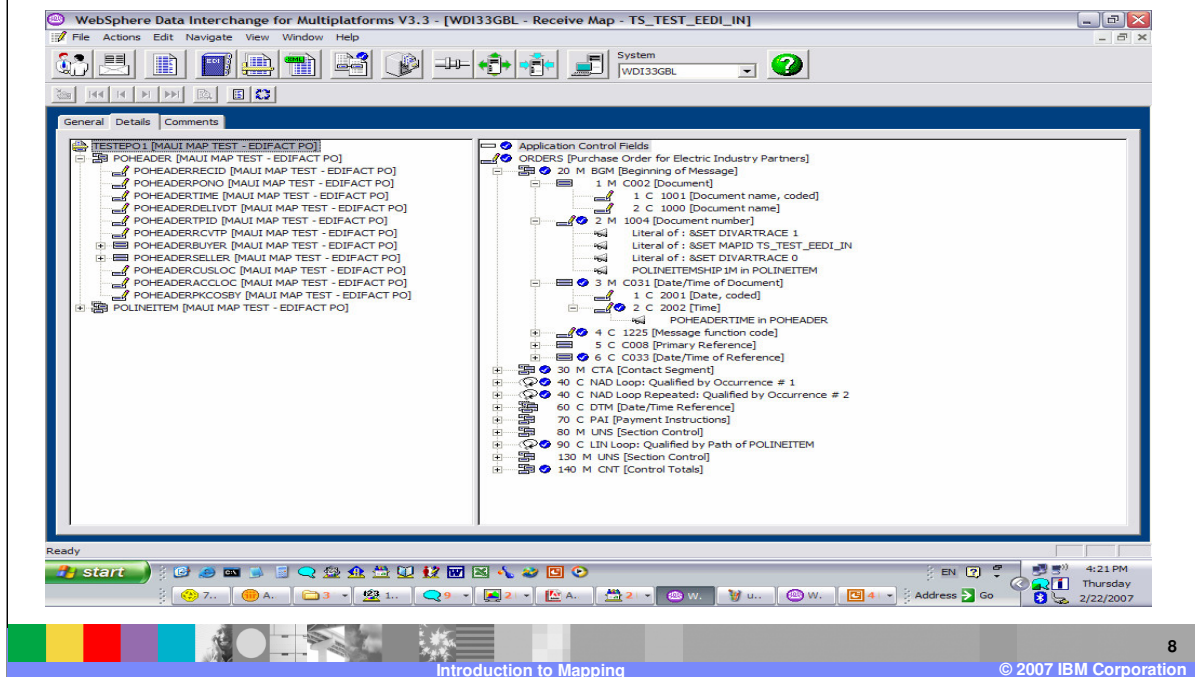
- Send and Receive mapping process.
  - ▶ Load or Define the EDI Standard and message you are going to use.
    - EDI compound and simple elements, Segments, and messages.
  - ▶ Load or Define the application data layout (Data Format definition).
    - Define fields, structures, records, loops, and construct the message layout.
  - ▶ Identify the direction for the map.
    - Send Map is for EDI outbound data.
    - Receive Map is for EDI inbound data.



A Send map is an outbound map. The source document type is always based on the data format metadata definition and the target document type is always based on the EDI Standard metadata definition. A Receive map is an inbound map. The source document type is always based on the EDI Standard metadata definition and the target document type is always based on the data format metadata definition.

With WDI Client mapping the data format definition is always on the left and the EDI Standard is always on the right. Mapping commands are located on the right with the EDI Standard.

# Introduction to Mapping



This is the WDI Client Send Receive Mapping Dialogue. This example is a Receive Map which is inbound. The data format metadata definition is on the left and the EDI Standard metadata definition is on the right. All mapping commands are located on the right with the EDI Standard definition.



## Introduction to Mapping

- Common Send/Receive mapping functions.
  - ▶ drag / drop – Map the association from the source compound or simple element to the target compound or simple element. Always from left mapping window pane to right mapping window pane.
  - ▶ literals – provide values, default values, and apply logic for the target simple element
  - ▶ date edits, code lists, and translate tables – apply date conversions, validation, and value conversions.
  - ▶ qualification – Multiple Occurrence, Occurrence, Value for target compound elements and element qualified pairs for target simple elements.



Some common Send Receive mapping functions include: drag/drop, supplying literal values not found in the data, conditional mapping, formatting and validating values, and loop qualification.

## Introduction to Mapping

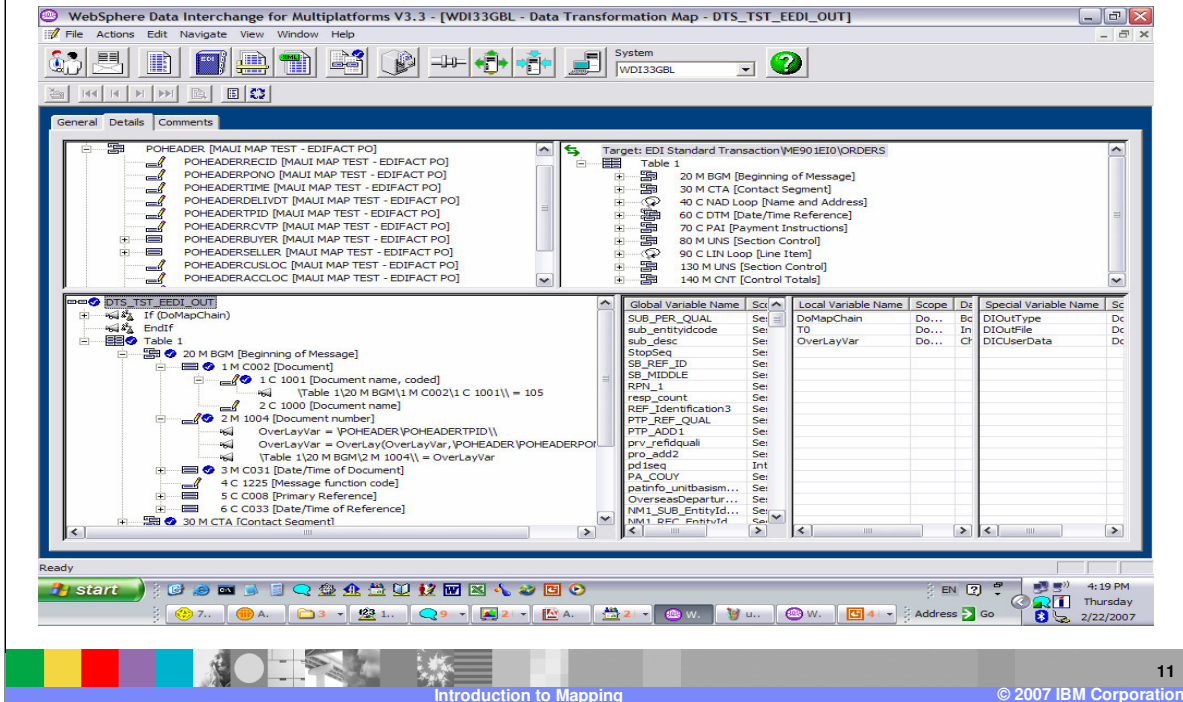
- Data Transformation mapping process.
  - ▶ Load or Define the source document type
    - EDI, application data, or XML.
  - ▶ Load or Define the target document type
    - EDI, application data, or XML
  - ▶ Identify the map base.
    - Mapping based on Source Document type.
    - Mapping based on Target Document type.



Data Transformation maps have no “real” direction association. There is a source document and a target document. The Data Transformation processing flow is develope, translate or transform, envelope. The source message is deenveloped and transformed to the target message. The target message is enveloped.

With WDI Client mapping you have the choice to select which document type you want to use for the mapping commands.

# Introduction to Mapping



This is the WDI Client Data Transformation Mapping Dialogue. In this example the source document type is data format metadata and is located in the top left window. The target document type is EDI Standard metadata and is located in the top right window. The mapping commands are located in the bottom left window. Since the mapping window contains the metadata definition for the target document, this is a target based map.

## Introduction to Mapping

- Common Data Transformation mapping functions.
  - ▶ Drag/Drop
  - ▶ Assignment
  - ▶ Conditional mapping
  - ▶ SetElementAttribute() - &ZEROSIG.
  - ▶ Loop Qualification
  - ▶ Translation Table
  - ▶ Validation Table (Code List)
  - ▶ Use of Variables



Some common Data Transformation mapping functions include: drag/drop, supplying literal values not found in the data, conditional mapping, formatting and validating values, and loop qualification.

## Introduction to Mapping

- Functional Acknowledgment Maps:
  - ▶ Functional Acknowledgment (FA) maps are used to create EDI Standard functional acknowledgements.
  - ▶ The FA mapping is specified on the Data Transformation (DT) mapping Rule for EDI Source documents.



Functional Acknowledgment maps are used to create EDI Standard functional acknowledgements. WDI provides a basic set of Functional Acknowledgement Maps to produce common functional acknowledgements including the TA1 X12 Interchange Acknowledgment. You should only need to create your own or modify these if you have special requirements.

The Functional Acknowledgement map to be used for generating acknowledgements is specified on the Data Transformation mapping Rule for EDI Source documents.

# Introduction to Mapping

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.3 interface. The title bar indicates the configuration is for a Functional Acknowledgment Map. The source document type is Data Format Metadata, and the target document type is EDI Standard Transaction. The mapping commands are visible in the bottom left window.

Global Variable Name	Local Variable Name	Scope	Special Variable Name	Scope	Data Type
TotalNumEmploys	MsgType	Loop	DIOutType	Do...	Character
EmployeeCnt	GrpError	Loop	DIOutFile	Do...	Character
	MsgCnt	Loop	DIUserData	Do...	Character
	SyntaxCode	Do...			
	GrpLevelOnly	Do...			

Functional Acknowledgment maps are data transformation maps. The source document type is data format metadata and is located in the top left window. The source document is always &FUNC\_ACK\_META. The target document type is EDI Standard metadata and is located in the top right window. The mapping commands are located in the bottom left window. Functional Acknowledgment maps are always source based maps.

## Introduction to Mapping

- Validation Maps:
  - ▶ WDI will automatically validate inbound EDI documents that are to be translated for both Receive mapping and Data Transformation (DT) mapping.
  - ▶ EDI Standard Transaction documents will be validated to ensure they comply with the corresponding EDI Standard.
    - Additional validation beyond what is specified in the corresponding EDI Standard, a Validation Map can be used.
    - Validation maps can only be used with the DT map processing and is not available for Receive map processing.
    - The name of the Validation Map is specified in the Map Rule when it is to be used to perform additional validation on the source or target document in a translation.



WDI will automatically validate inbound EDI documents that are to be translated for both Receive mapping and Data Transformation (DT) mapping. The level of validation that will be performed is specified in the DT Map Rule or DT Receive Usage associated with the map.

EDI Standard Transaction documents will be validated to ensure they comply with the corresponding EDI Standard. If you need additional validation beyond what is specified in the corresponding EDI Standard, a Validation Map can be used.

Validation Maps provide the instructions needed to perform additional validation beyond what is specified in the EDI Standard. Validation maps can only be used with the DT map processing and is not available for Receive map processing.

The name of the Validation Map is specified in the Map Rule when it is to be used to perform additional validation on the source or target document in a translation.

## Introduction to Mapping

- Validation Maps:
  - ▶ Validation maps are heavily used with HIPAA implementations.
  - ▶ WDI ships 4 validation maps with the product.
    - Used for “Service Segment Validation”.



Validation maps are heavily used with HIPAA implementations. HIPAA document processing requires additional validation on EDI documents that is not defined within the standard definition.

WDI ships 4 validation maps with the product. These are used to validate inbound EDI envelope segments. This is called “Service Segment Validation”.



# Introduction to Mapping

The screenshot displays the WebSphere Data Interchange (WDI) interface for a validation map named 'MYFACTVAL1'. The main window shows a hierarchical tree of validation map elements, including segments like BGM, C002, C106, and various loops (NAD, TAX, CUX, PAT, TDT, TOD, PAC, EQD, SCC, APR). The right-hand pane contains three tables for variable definitions:

Global Variable Name	Scope	Data Type
SUB_PER_QUAL	Ses...	Character
sub_authcode	Ses...	Character
sub_desc	Ses...	Character
StopSeq	Ses...	Character
SB_REF_ID	Ses...	Character
SB_MIDDLE	Ses...	Character

Local Variable Name	Scope	Data Type
LineItemCount	Do...	Integer
traceit	Do...	Character

Special Variable Name	Scope	Data Type
DIOuType	Do...	Character
DIOuFile	Do...	Character
DIOUserData	Do...	Character

The interface also shows a Windows taskbar at the bottom with the date 2/22/2007 and time 4:35 PM. The slide number 17 and copyright notice © 2007 IBM Corporation are visible in the bottom right corner.

Validation maps only have a source document type because they are used for additional validation of EDI Standard data. WDI processing validates EDI data using the EDI defined syntax. Some industry groups have additional requirements that are not defined by the EDI Standard syntax.

## Introduction to Mapping

- References

- ▶ More information can be found in the WDI V3.3 Mapping Guide.



More information can be found in the WDI Version 3.3 Mapping Guide.

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