



IBM Software Group

IBM WebSphere® Data Interchange V3.3

Data Formats



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This presentation will review Data Formats.

Agenda

- Review mapping steps
- Describe Data Formats



The presentation will review the steps for mapping and describe Data Formats.

EDI Standards

- 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.

Data Formats

- Defines the layout of your application data
- Records, field names, and lengths
- Repeating structures and loops



The term *data format* defines the layout of your application data. It is a document definition. The word *data* refers to the information itself. The word *format* refers to the physical layout of information in the file, such as field names and lengths. WebSphere Data Interchange requires a description of the data format for each business application that generates data for translation, or uses translated data. Application data must be described to WebSphere Data Interchange so that it can be used as either a source or target for translation.

Data Formats

- Application Business Document Definitions
 - ▶ Defined as Raw data or C&D format
 - ▶ Records
 - ▶ Structures not a record (Occurs within a record)
 - ▶ Fields



You usually need to create a data format for every unique business document that is used or created by WebSphere Data Interchange. A single data format can be mapped to multiple documents. A data format can be defined as raw data or Control and Data (C&D) format. Raw data means there is a record identification that uniquely identifies each record and each record is fixed length. Raw data formats can also be delimited for example comma separated values. C&D format is a WDI defined format. The C or Control Record in the input data contains information for the data format to use for parsing the input, trading partner information, and override information. Each C record in the input data will signal a new message. Each D or Data Record in the input data begins with the value 'D' followed by the Record name used when the data format was defined followed by the data for the record. Records contain fields and structures. Fields are individual values and structures are grouped fields that may or may not repeat within a record.

Data Formats

- C&D format example

CDIUSER	DIUSERWORKSHOP	YY N
DRECORD10	24100000PONUM	19990818
DRECORD11	BY 9999	
DRECORD11	SE V00000WWWW	
DRECORD11	DP XXXX	
DRECORD20	1 0000042XYZ	BP 92 XXXX
DRECORD20	2 00000XXXXXX	BP 92 TEST
DRECORD21	4 00000000001000PCE19990906	
DRECORD21	4 00000000002000PCE19990913	
DRECORD21	4 00000000001000PCE19990906	
DRECORD21	4 00000000002000PCE19990913	
DRECORD21	4 000000000012000PCE20000501	
DRECORD21	4 000000000011000PCE20000601	
DRECORD21	4 000000000010000PCE20000701	



This is an example of C&D input data. The Control or C record is pre-defined and is documented in the WebSphere Data Interchange Version 3.3 Utility Commands and File Formats Reference.

Data Formats

- Raw Data Fixed length records example

```

H00 ROHIT      ZZ003020VICS 9805211022000001708000061920
H01 00121212121212          0007142024190002
SH011          S
SH02CNT250001984          00000000000
SH03B          M ABCD LEASING INC          CC          0000
SH06011940715
SH07STHLLLOOP, INC.          9 DUNSNUMBR0897
SH07SFTEST COMPANY PDQRST          9 0023233332222
SH08123419 STREETS AVENUE
SH09WALKER          GA49503
OR012          O
OR02896261          940712
IT013          I
IT02          UA011111005970          UP1111110059700
IT03          0000000012CA000000000000000000012CA
IT0400000100001200EA          0000000000000000 0000000000000000
IT014          I
IT02
IT03          0000000022CA000000000000000000022CA
IT0400000100001200EA          0000000000000000 0000000000000000
  
```



This is an example of Raw data fixed length records.

Data Formats

- Raw Data delimited example

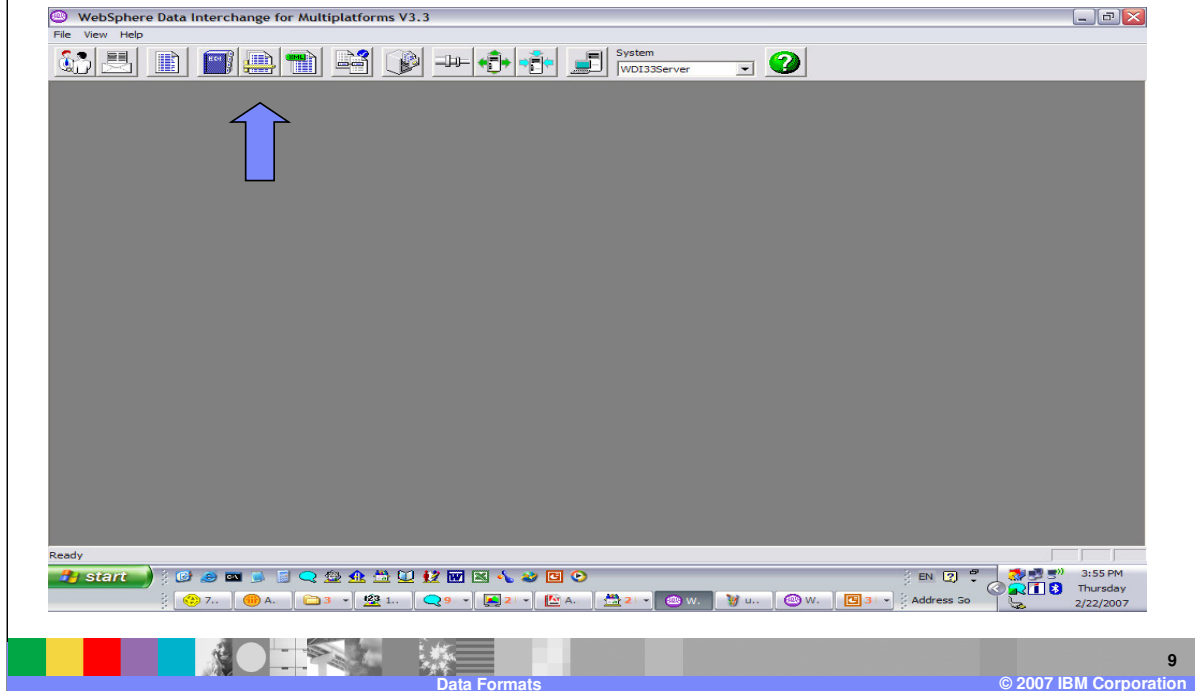
```
"(201) 207-0109","Record 1 / N/A",12/20/2004,"AC149",$0.00,120,$0.00,$149.99,$11.94
```

```
"(201) 207-4445","Record 2 / N/A",12/20/2004,"NE300",$0.00,470,$30.80,$35.00,$0.00
```



This is an example of Raw data comma delimited records.

Data Formats



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

Data Formats

WebSphere Data Interchange for Multiplatforms V3.3.3 - WDI33Server (Data Formats) - Query: All

System: WDI33Server

WDI33Server (Data Formats) - Query: All

Dictionary Name	Description	Lock	Updated Date and Time	Updated User ID
SFUNC_ACK_METADATA_DICTIONARY	Function...	No	2/20/2007 8:38:38 AM	awinters
ADF-TO-EDI_DICT	Demo fo...	No	1/26/2007 10:52:17...	awinters
CREATE_DICTIONARY		No	3/15/2007 1:50:55 PM	awinters
DATETEST_DICTIONARY	DATE TE...	No	1/17/2007 9:04:57 AM	awinters
DEMOBSOCL_DICTIONARY	Demo fo...	No	2/1/2007 4:53:11 PM	awinters
FUNCACKCTLAPP_DICTIONARY	Function...	No	2/20/2007 8:38:39 AM	awinters
FUNCACKJCSAPP_DICTIONARY	Function...	No	2/20/2007 8:38:39 AM	awinters
FUNCACKO12APP_DICTIONARY	Function...	No	2/20/2007 8:38:39 AM	awinters
HIPAA-BASICS	Applicat...	No	2/23/2007 2:49:33 PM	awinters
MULTIREC_TST_DICTIONARY	TS EDIF...	No	2/20/2007 9:44:02 AM	awinters
NEW_DICTIONARY		No	3/15/2007 1:27:21 PM	awinters
SAP40-ORDER501_DICTIONARY	SAP 4.0 ...	No	2/7/2007 12:46:19 PM	awinters
TSTEST_E_DICTIONARY	TS EDIF...	No	2/23/2007 9:14:51 AM	awinters
WDI CONPHLAB_DICTIONARY	DI User ...	No	3/1/2007 3:54:59 PM	awinters
WDI LAB1_DICTIONARY	WDI Us...	No	2/27/2007 9:16:52 AM	awinters

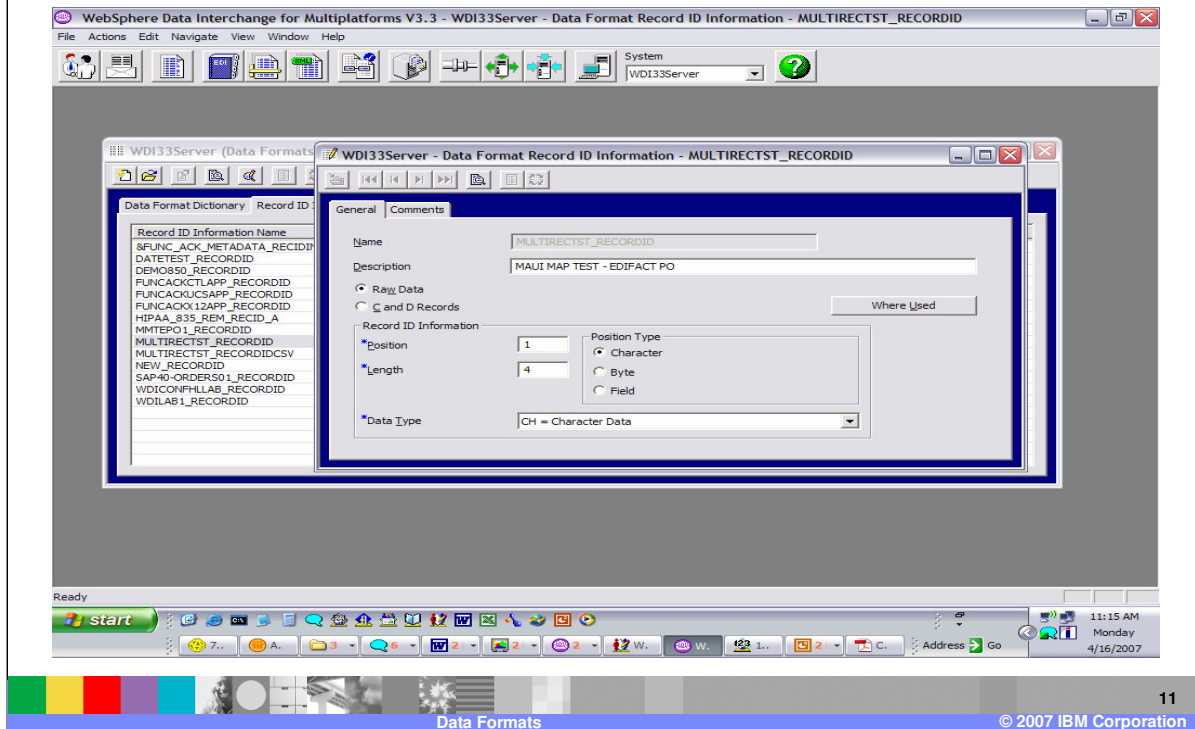
15 rows

11:08 AM Monday 4/16/2007

Data Formats © 2007 IBM Corporation

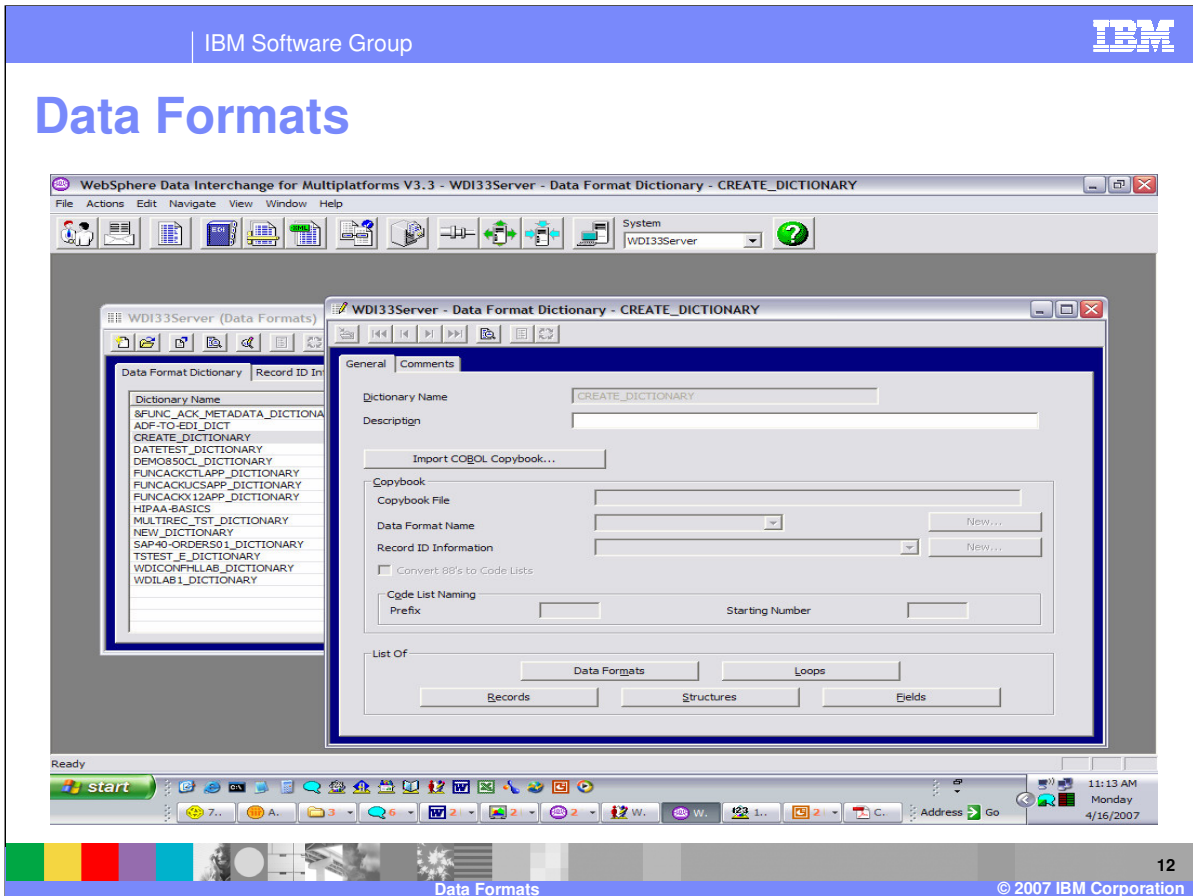
Components of Data formats are dictionary, record ID information, data formats, loops, records, structures, and fields. These are similar to Electronic Data Interchange (EDI) Standards components but describe your application data. The dictionary contains the component definitions for fields, structures, records, loops which allows you to re-use components within different data format definitions. Data format definitions contain records and loops. Loops contain records. Records contain fields and structures. And structures contain fields.

Data Formats



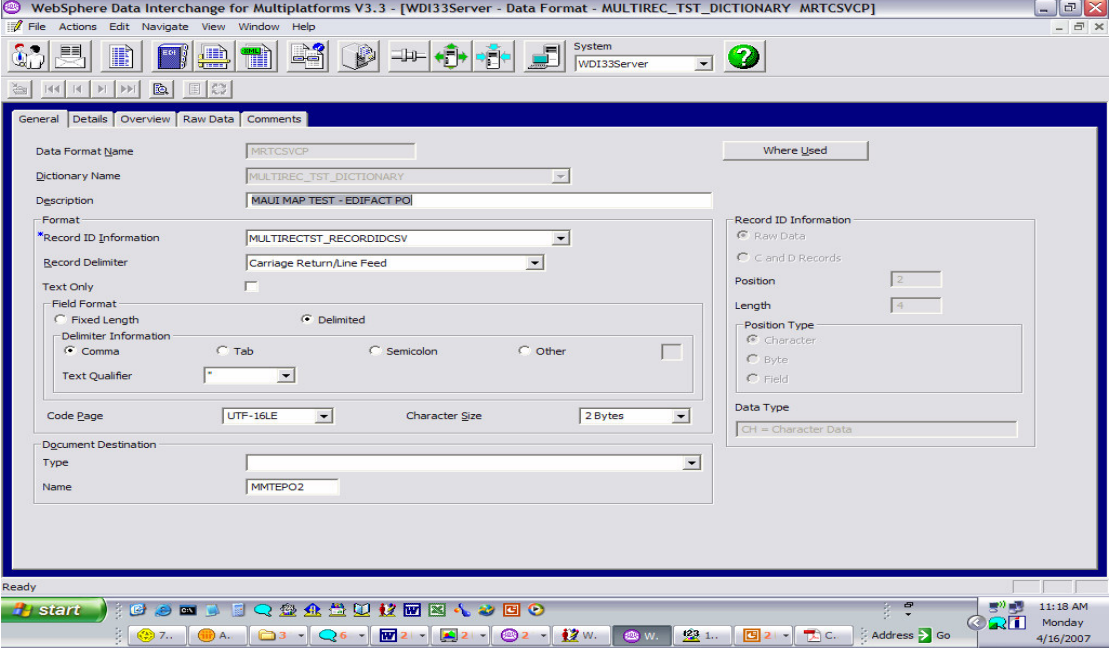
Raw data as opposed to C&D format is identified in the Record ID Information object.

Data Formats



All components except for record ID information are available when selecting a specific Data Format Dictionary.

Data Formats



The screenshot displays the 'WebSphere Data Interchange for Multiplatforms V3.3' interface. The main window is titled 'WebSphere Data Interchange for Multiplatforms V3.3 - [WDI33Server - Data Format - MULTIREC_TST_DICTIONARY MRTCSVCP]'. The 'General' tab is selected, showing the following configuration:

- Data Format Name: MRTCSVCP
- Dictionary Name: MULTIREC_TST_DICTIONARY
- Description: MAUI MAP TEST - EDIFACT PO
- Record ID Information: MULTIREC_TST_RECORDIDCSV
- Record Delimiter: Carriage Return/Line Feed
- Text Only:
- Field Format: Delimited
- Delimited options: Comma, Tab, Semicolon, Other
- Code Page: UTF-16LE
- Character Size: 2 Bytes
- Document Destination Name: MMTEPO2

The 'Where Used' section on the right shows:

- Record ID Information: Raw Data, C and D Records
- Position: 2
- Length: 4
- Position Type: Character, Byte, Field
- Data Type: Character Data

The Windows taskbar at the bottom shows the system clock as 11:18 AM on Monday, 4/16/2007. The page number '13' and copyright notice '© 2007 IBM Corporation' are visible in the bottom right corner.

Raw data fixed and comma delimited is identified in the Data Format general tab.

Data Formats

Position	Type	Loop or Record Name	Area	Maximum Repeat	Unlimited Repeat	Record ID	Description
1	Record	POHEADERCSV	Detail	1	No	POHD	MAUI M...
2	Loop	HEADERCSV_LOOP	Detail		Yes		
3	Record	PONAMEADDRESS	Detail		Yes	PONA	
4	Record	PONAMEADDRESSM	Detail		Yes		
5	Record	POLINEITEM	Detail		Yes	POLI	MAUI M...
6	Record	POLINEITEMM	Detail		Yes		MAUI M...

When all the components of the Data format have been defined, the data format can be used as a source or target document in mapping.

Data Formats

WebSphere Data Interchange for Multiplatforms V3.3 - [WDI33Server - Data Transformation Map - WDI33CONFLB2_S850S]

Source: Data Format(WDILAB1_DICTIONARY(WDILAB1))

- HEADER [Header Record WDI User Conference 2006 - Lab 1]
- LINEITEMS [LineItems Record WDI User Conference 2006 - Lab 1]
- TRAILER [Trailer Record WDI User Conference 2006 - Lab 1]

Target: EDI Standard Transaction(X12V-R1)850

- Table 1
- Table 2
- Table 3

Global Variable Name | Scope | Local Variab... | Scope | Special Variable

Global Variable Name	Scope	Local Variab...	Scope	Special Variable
TotalNumEmployees	Session	T0	Documer	
svccerrorcount	Session			DIOutType
EmployeeCnt	Session			DIOutFile
tranerror	Session			DICUserData
SNPTtype5	Group			
clmerrorcount	Session			

Ready

9:57 AM Thursday 3/15/2007

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This is an example of a Data Transformation map. The source document is in the top left window and the target document is in the top right window. The mapping commands are in the bottom left window. This map is an application data format to EDI Standard map and is a source based map. The data format document definition contains all the record, structure and field definitions for this business document.

Data Formats

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.3 interface. The title bar indicates the current map is 'WDI33Server - Send Map - WDICONFLAB1_S850'. The interface is divided into two main panes:

- Left Pane (Source Document):** Shows a tree view of the source document structure under 'WDILAB1 [WDI User Conference 2006 - Lab 1]'. Elements include:
 - HEADER (header Record WDI User Conference 2006 - Lab 1)
 - RECORDID [WDI User Conference 2006 - Lab 1]
 - TYPECODE [WDI User Conference 2006 - Lab 1]
 - PONUMBER [WDI User Conference 2006 - Lab 1]
 - PODATE [WDI User Conference 2006 - Lab 1]
 - NAME [WDI User Conference 2006 - Lab 1]
 - VENDORNUMBER [WDI User Conference 2006 - Lab 1]
 - ADDRESS [WDI User Conference 2006 - Lab 1]
 - CITY [WDI User Conference 2006 - Lab 1]
 - AOIFILLER2 [WDI User Conference 2006 - Lab 1]
 - STATE [WDI User Conference 2006 - Lab 1]
 - ZIP [WDI User Conference 2006 - Lab 1]
 - NAMEADDR [WDI User Conference 2006 - Lab 1]
 - LINEITEMS [Lineitems Record WDI User Conference 2006 - Lab 1]
 - TRAILER [Trailer Record WDI User Conference 2006 - Lab 1]
- Right Pane (Target Document):** Shows a tree view of the target document structure under '950 [Purchase Order]'. Elements include:
 - 20 M BEG [Beginning Segment for Purchase Order]
 - 1 M 353 [Transaction Set Purpose Code]
 - 2 M 92 [Purchase Order Type Code]
 - 3 M 324 [Purchase Order Number]
 - 4 O 328 [Release Number]
 - 5 M 373 [Date]
 - 6 O 367 [Contract Number]
 - 7 O 387 [Acknowledgment Type]
 - 8 O 1019 [Invoice Type Code]
 - 9 O 1166 [Contract Type Code]
 - 10 O 1232 [Purchase Category]
 - 11 O 786 [Security Level Code]
 - 12 O 640 [Transaction Type Code]
 - 40 O CLR [Currency]
 - 50 O REF [Reference Identification]
 - 60 O PER [Administrative Communications Contact]
 - 70 O TAX [Tax Reference]
 - 80 O FOB [F.O.B. Related Instructions]
 - 90 O CTP [Pricing Information]
 - 95 O PAM [Period Amount]

Mapping commands are visible in the right pane, such as 'Literal of : 00', 'TYPECODE in HEADER', 'Literal of : 8SET SPONUMBER 8E(CHAR(SPONUMBER) SC 5,6)', and 'Literal of : 8SET SPONUMBER 8E(* + CHAR(SPONUMBER))'. The bottom of the window shows a Windows taskbar with the date 3/15/2007 and time 10:01 AM.

This is an example of a Send map. The source document is in the left window and the target document is in the right window. The mapping commands are in the target document on the right. This map is an application data format to EDI Standard map. The data format definition contains all the record, structure, and field definitions for this business document.

Data Formats

- Defining Data Formats
- Create Data Format Dictionary
 - ▶ Create Data Format Definitions or Document
 - Create Record definitions
 - Create Structures
 - Create Fields
 - Create Fields
 - Create Loops
 - ▶ Import Cobol Copybook
 - Imports records, structures, fields, creates code lists



The concepts for defining a data format are similar to EDI Standards. You Define a Data Format Dictionary. The Dictionary contains components for field, structure, record, and loop definitions. The data format definition contains record and loop definitions for the business document layout. Records can contain structures which contain fields and fields. All the components within a Data Format Dictionary can be copied, updated, and deleted and all components can be re-used in different business document definitions. For example a record can be used in 2 different data format definitions.

COBOL copybooks can be imported into a Data Format Dictionary. You can use this mechanism to create or update Data Format Record, structures, fields, and code lists. The imported Records, Structures, and Fields will be a part of the Data Format Dictionary into which they are imported. The Data Format Records can be used in a existing Data Format or a new Data Format.

Reference

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



More information can be found in the WebSphere Data Interchange Version 3.3 Mapping Guide.

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