



IBM Software Group

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

## ***Functional Acknowledgement Maps***



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This presentation will review WebSphere Data Interchange Functional Acknowledgement Maps.

## Agenda

- Understand how Functional Acknowledgement maps are used
- Describe the functional acknowledgement maps that are provided by WDI
- Explain how to create and modify functional acknowledgement maps
- Compare the TA1 map with other functional acknowledgement maps
- Summary



The presentation will explain how Functional Acknowledgement maps are used, describe map provided by WebSphere Data Interchange (WDI), explain how to create and modify a Functional Acknowledgement map and review the TA1 map.

## What are functional acknowledgement maps ?

- Special type of data transformation map
  - ▶ Convert a generic internal format to an FA transaction
  - ▶ Source document – data format is always  
Dictionary: &FUNC\_ACK\_METADATA\_DICTIONARY  
Document: &FUNC\_ACK\_META
  - ▶ Target document – limited set of functional acknowledgement transactions



Functional Acknowledgement (FA) maps are special data transformation maps. They are used during WDI processing to create a functional Acknowledgement to be returned to your trading partner. The source document definition is always &FUNC\_ACK\_META in the &FUNC\_ACK\_METADATA\_DICTIONARY. The target document definition is selectable and is limited to the functional acknowledgement transaction sets within the Electronic Data Interchange (EDI) standard dictionaries.

## Overview of validation/FA processing

- Validation component (“node”) checks transaction for errors
  - ▶ Missing mandatory segments and elements
  - ▶ Invalid data element values
  - ▶ Validation map
  - ▶ Options on DT rule control level of validation
- Validation info saved in generic format
  - ▶ Described by &FUNC\_ACK\_META definition
  - ▶ Only saved if FA map defined on DT rule



The WDI Validation processing node automatically validate inbound and outbound EDI documents that are to be translated for Data Transformation (DT) mapping. The level of validation that will be performed is specified in the Data Transformation Map Rule 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. Both the WDI EDI Syntax validation and the results from a validation map will produce a Source Message using the data format metadata definition &FUNC\_ACK\_META. The Source message will be processed using a Functional Acknowledgement Map with inbound EDI data only if a functional Acknowledgement map is specified on the data transformation rule.

## Overview of validation/FA processing (cont)

- When ready to generate an FA, validation component passes generic format to translator
  - ▶ End of group for X12, UCS
  - ▶ End of interchange for EDIFACT
- Translator runs the FA map specified on DT rule to create the appropriate 997, CONTRL, etc.



When the Validation is complete, the source message is passed to the data transformation node for translation. Source document attributes for the beginning and end of the interchange and group control when the source message is translated. The transformation node using the Functional Acknowledgement (FA) map specified on the EDI inbound data transformation rule.

## Example of FA map specified on DT map rule

- FA map is specified on WDI Options tab of DT map rule

The screenshot displays a configuration window for Functional Acknowledgement (FA) processing. It is divided into two main sections: 'Acknowledgement Options' and 'Functional Acknowledgement Envelope'. In the 'Acknowledgement Options' section, there are two checkboxes: 'Acknowledgement Expected' and 'Group Level Acknowledgement. Only', both of which are currently unchecked. Below these is a dropdown menu for 'Functional Acknowledgement Map' with the value '\$DT\_FA997V3R7' selected and highlighted by a blue box. The 'Functional Acknowledgement Envelope' section contains two dropdown menus: 'Type' is set to 'Default Envelope' and 'Profile Name' is currently empty.

The fields related to the level of validation and Functional Acknowledgement processing that will be performed are located on the Data Transformation rule and the WDI Options tab. Under the Acknowledgement Options you can select if an Acknowledgement is expected for EDI Target or outbound messages. When your trading partner sends you the functional Acknowledgement this flag will be used to reconcile the Acknowledgement with the original EDI outbound message. The WDI Document Store must be active the reconciliation. For EDI Source or inbound messages you can specify a Functional Acknowledgement Map along with an Envelope profile. WDI will automatically generate the Functional Acknowledgement during the EDI Source document processing.

## Do you need to create your own FA maps?

- Typically you do not
- Most FA maps you will need are provided by WDI
  - ▶ Load data
  - ▶ Export/Import file provided with package
  - ▶ Updated versions of the FA maps provided on the web site under CSD downloads (CSD 10)



Typically you do not need to create your own Functional Acknowledgement maps. WDI provides these maps with the load data during installation. Updated versions are provided on the WDI web site and with code updates.

## Functional acknowledgement maps list window

The screenshot shows a window titled "WDI33Server (Mapping) - Query: All". The window contains a navigation pane with tabs for Control Strings, Global Variables, Forward Translation Tables, Reverse Translation Tables, and Code Lists. Under the Forward Translation Tables tab, there are sub-tabs for Data Transformation Maps, Validation Maps, Functional Acknowledgement Maps, Send Maps, and Receive Maps. The Functional Acknowledgement Maps tab is selected, displaying a table with the following data:

Map Name	Complete Required	Description	Lock	Updated Date
SDT_FA997V3R7	No	Functional Acknowledgment 997 - X12V3R7	No	3/9/2007 1
SDT_FA997V2R4	Yes	Functional Acknowledgment 997 - X12V2R4	No	3/9/2007 1
SDT_FA997V3R5	Yes	Functional Acknowledgment 997 - X12V3R5	No	3/9/2007 1
SDT_FA997V3R7	Yes	Functional Acknowledgment 997 - X12V3R7	No	3/9/2007 1
SDT_FA997V4R2	Yes	Functional Acknowledgment 997 - X12V4R2	No	3/9/2007 1
SDT_FA997V4R6	Yes	Functional Acknowledgment 997 - X12V4R6	No	3/9/2007 1
SDT_FA999V3R3	Yes	Functional Acknowledgment 999 - UCSV3R3	No	3/9/2007 1
SDT_FA999V5R1	Yes	Implementation Guide Syntax Ack 999 - X12V5R1	No	3/9/2007 1
SDT_FACONTROL	Yes	Functional Acknowledgment CONTROL - Prior to D94B	No	3/9/2007 1
SDT_FACONTROL94B	Yes	Functional Acknowledgment CONTROL - V2R1 (D94B)	No	3/9/2007 1
SDT_FACONTROL99A	Yes	Functional Acknowledgment CONTROL - V4R1 (D99A)	No	3/9/2007 1
8WDI_TA1_ACK	Yes	WDI TA1 mapping	No	3/9/2007 1

At the bottom of the window, there is a status bar with the text "Functional Acknowledgement Maps" and "© 2007 IBM Corporation".

Functional Acknowledgement maps are located in the mapping functional area in the Functional Acknowledgement Maps tab. This is a list of the WDI Version 3.3 functional Acknowledgement maps provided with WDI.



## Can I create my own FA map?

- Yes, definitely
  - ▶ May be needed if you want or need a customized version of a functional acknowledgement
- Can copy one of the FA maps provided
  - ▶ Customize it as needed
- Can create one from scratch
  - ▶ Similar to creating a DT map
  - ▶ Source document will be fixed
  - ▶ Target document will be limited to specific transactions



You can create your own Functional Acknowledgement map if you want or need a customized version. It is recommended that you copy the map provided and customize as needed or create your own map.

# Functional acknowledgement map editor

Source: Data Format\SPURVC\_ACK\_METADATA\_DICTIONARY\SPURVC\_ACK\_META  
 INTERCHANGE\_RESPONSE [Interchange Response Record]  
 GRPHREC\_LOOP

Target: EDI Standard Transaction\SDT99951\999  
 Table 1

Global Variable Name	Local	Special Variable Name	Scope	Data Type
TotalNumEmployee	MsgT	DIOutType	Do...	Character
svccerrorcount	GrpEr	DIOutFile	Do...	Character
EmployeeCnt	MsgC	DICUserData	Do...	Character
Examiner	Synta			
SHDPTyp5	Grp.e			
dmerrorcount				

SDT\_FA999VSR1  
 WDI Development Changes  
 GrpLevelOnly = (StrComp(GetProperty("GRPLVFA"), N) )  
 INTERCHANGE\_RESPONSE [Interchange Response Record]  
 GRPHREC\_LOOP  
 GROUP\_RESPONSE [Group Response Record]  
 MSGHREC\_LOOP [Message Response Loop]  
 Qualify (GrpLevelOnly = 0 OR (GrpLevelOnly = 0 AND GrpError != 0))  
 MapTo ((Table 1\300 O AK2 Loop\))  
 MESSAGE\_RESPONSE [Message Response Record]  
 SEGREC\_LOOP [Data Segment Note Loop]  
 MapTo ((Table 1\300 O AK2 Loop\400 O IK3 Loop\))  
 DATA\_SEGMENT\_RECORD [Data Segment Note Record]  
 SEG\_CONTEXT\_RECORD [Segment Context Record]  
 ELEREC\_LOOP [Data Element Note Loop]  
 MapTo ((Table 1\300 O AK2 Loop\400 O IK3 Loop\600 O IK4 Loop\))  
 DATA\_ELEMENT\_RECORD [Data Element Rules Record]  
 ELE\_CONTEXT\_RECORD [Element Context Record]  
 MESSAGE\_RESPONSE\_TRAILER [Message Response Record]  
 GROUP\_RESPONSE\_TRAILER [Message Response Record]

This is the layout of the Source Message generated during Validation. The source message and the functional acknowledgement map are used to create the functional acknowledgement target message.

## TA1 maps

- TA1 map is a special type of FA map
  - ▶ Used to generate TA1 interchange acknowledgement for X12
  - ▶ Reports errors found in the interchange Service Segments.
  - ▶ PERFORM keyword SERVICESEGVAL(0/1/2)



The TA1 Functional Acknowledgement map is used to generate the X12 TA1 Acknowledgement. The X12 TA1 reports Service Segment Errors. Service Segment validation is optional. This level of validation is for the inbound or source EDI Envelope Segments. To request this level of validation the PERFORM command keyword SERVICESEGVAL must be specified. A value of 1 indicates mandatory and minimum maximum length checking for the Envelope elements. A value of 2 indicates the value should also be validated using a code list.

## TA1 maps (cont)

- For X12 data, the validation node checks a flag in the ISA header to determine if a TA1 is needed
  - ▶ May create TA1 info in addition to or instead of FA info
  - ▶ TA1 info uses same generic data format structure
  - ▶ TA1 info is passed to translator along with fixed map name to generate TA1
    - - Map name is always &WDI\_TA1\_ACK
  - ▶ PERFORM keyword DOTA1(Y/N) to control TA1 processing.



To create the TA1 the ISA14 element is checked. If the value is '1', the TA1 will be generated in addition to the Functional Acknowledgement if it has been requested. The TA1 map uses the same source document definition and the processing is the same. The TA1 map name is &WDI\_TA1\_ACK and is located with the other functional Acknowledgement maps. The PERFORM keyword DOTA1 will control the TA1 processing if the ISA14 flag requests the TA1 you can override this with a value of 'N'.

## Customizing TA1 maps

- Cannot specify TA1 map name on the rule
- To create customized TA1 map
  - ▶ Copy &WDI\_TA1\_ACK map provided by WDI
  - ▶ Customize the new map
  - ▶ Add a MapSwitch command in &WDI\_TA1\_ACK so it will switch to the new map instead



The TA1 map is not selectable. The map &WDI\_TA1\_ACK will always be executed. You can create a customized version by making a copy of the provided TA1 map and doing a MapSwitch to your customized map.

## Summary

- Functional acknowledgement maps are used to create a specific FA (i.e., 997 or CONTRL) from generic validation information
- You can select one of the FA maps shipped with WDI for most purposes
- To customize the FA, you can copy/modify one of the WDI FA maps, or create your own
- The TA1 map is a special FA map for generating an X12 TA1



Functional acknowledgement maps are used to create a specific Functional Acknowledgement for example the X12 997 or UN/EDIFACT CONTRL. You can select one of the Functional Acknowledgement maps shipped with WDI for most of your processing needs. To customize the Functional Acknowledgement map, you can copy and modify one of the map provided by WDI, or create your own. The TA1 map is a special Functional Acknowledgement map for generating an X12 TA1.

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