WebSphere Data Interchange v3.2 Data Transformation TA1 and Service Segment Validation Implementation Guide

Data Transformation TA1 and Service Segment Validation CSD Overview

WebSphere Data Interchange(WDI) development has created this CSD in response to the immediate demand to support TA1 interchange acknowledgment and Service Segment Validation with Data Transformation processing. This document is not a formal IBM publication. It is a technical document written by WDI development to help customers implement Data Transformation TA1 and Service Segment Validation functions using this CSD.

WDI Utility Interface Introduction

The WebSphere Data Interchange Utility provides command-level access to WebSphere Data Interchange services. The services categories discussed in this document are listed below:

- Performing general data translation. Data Transformation processing.
- Processing outbound EDI documents. Translating to EDI standard format using a send map, Enveloping, and Sending.
- Processing inbound EDI documents. Receiving, Deenveloping, and Translating to data format using a receive map.
- Managing data. Updating, removing, and status updates for transaction store records
- Reporting and extracting data. Formatting and printing reports. Extracting data.
- SAP status tracking

Data Transformation processing:

Translating data from any EDI, XML, or data format to any other EDI, XML, or data format using a data transformation map. Any-to-any translation is a WebSphere Data Interchange feature that allows you to translate data from any supported source document type to any supported target document type. Supported document types include data formats, EDI standards, and XML data. The Utility command PERFORM TRANSFORM is used for any-to-any translation. The TA1 and Service Segment Validation CSD addresses TA1 processing and service segment validation with data transformation processing. **NOTE:** The new TA1 and service segment validation functionality is described in this document.

Outbound and Inbound EDI processing:

The outbound and inbound EDI processing services were used prior to the data transformation processing services. Service segment validation functions are included in all currently supported WDI releases. Documentation on service segment validation may be found in WebSphere Data Interchange Programmer's Reference under WebSphere Data Interchange commands and Keywords. TA1 processing is only available with Data Transformation processing.

Service Segment Validation:

Indicates at which level the service segments should be validated. The service segments are the segments used when a transaction is enveloped (ISA, GS, ST, UNB, UNH, UNT, and so on). If you do not specify **SERVICESEGVAL** keyword, no validation occurs. Valid values are:

1 Validates the service segments for syntax only. This includes checking for mandatory data that is missing, as well as data elements that are too large or too small.

2 In addition to level 1 checking, validates the service segment date and time data elements according to their types, and if a validation table has been specified, also checks the value of the data element.

Service Segment Validation is not available during data transformation EDI target (send processing). Validation errors that occur during receive processing cause the interchange/group/transaction with the error to be skipped (not processed) but processing continues.

This keyword is used with the following commands:

DEENVELOPE
DEENVELOPE AND TRANSLATE
ENVELOPE
ENVELOPE AND SEND
RECEIVE AND DEENVELOPE
REENVELOPE AND TRANSLATE
REENVELOPE
REENVELOPE AND SEND
TRANSLATE AND ENVELOPE
TRANSLATE AND SEND
TRANSFORM

For Data Transformation processing the service segment validation is accomplished using WDI Client validation mapping. The validation maps are executed in addition to any inbound validation maps specified on the data transformation mapping rule. The keyword **SERVICESEGVAL** on the **PERFORM TRANSFORM** command will identify the level of service segment validation.

$WDI_E99AENV_VAL - UN/EDIFACT based on E99A service segments and code lists
$WDI_UCSENV_VAL - UCS based on UCS 4050 service segments and code lists
$WDI_X44ENV_VAL - X12 based on X12 4040 service segments and code lists

The validation map names cannot change with WDI 3.2 and will be selected based on the inbound interchange or envelope type. Although the shipped validation maps may be modified, it is recommended that customers who want to modify the mapping, make a copy of the WDI validation map and update the WDI mapping to add a DIMAPSWITCH command to switch to the copied validation mapping.

The following translation tables are used within the mapping:

$WDI_E99AENV_VAL
ETEXT00A - For functional acknowledgment error code translation to error message text included with WDI error message UT0033

$WDI_UCSENV_VAL
A1DEC - For error code translation to functional acknowledgment error code
A1TEXT - For functional acknowledgment error code translation to error message text included with WDI error message UT0033

$WDI_X44ENV_VAL
TA1INC - For error code translation to TA1 note code
TA1MT - For TA1 note code translation to error message text included with WDI error message UT0033.

A new property **SERVSEGVAL** has also been added to be used with mapping commands **GetProperty()**.

TA1 Overview

The TA1 is an X12 Interchange Acknowledgment. It acknowledges the receipt and or syntactical correctness of an X12 interchange header and trailer (ISA/IEA) pair. A request to generate a TA1 is based on the value in the ISA14 element. If the ISA14 element (I13) is 1, then an Interchange acknowledgment (TA1) has been requested. If the ISA14 element (I13) is 0, then a TA1 should not be created in response to the ISA. The Interchange control number of a TA1 is matched to a previously transmitted X12 Interchange with the same control number to complete the acknowledgment process.

The TA1 segment may appear within an ISA/IEA of its own, or in conjunction with, but prior to, GS/GE segments.

The TA1 segment consists of five separate elements:

Interchange Control Number
Interchange Date (formatted as YYMMDD)
Interchange Time (formatted as HHMM)
Interchange Acknowledgment Code

A= Accepted
R= Rejected
E= Accepted but the file contains errors and must be resubmitted

Interchange Note Code

000 No error
001 The Interchange Control Number in the header and trailer do not match.
002 This Standard as noted in the Control Standards Identifier is not supported.
003 This Version of the controls is not supported
004 The Segment Terminator is invalid
005 Invalid Interchange ID Qualifier for sender
006 Invalid Interchange Sender ID
007 Invalid Interchange ID Qualifier for receiver
008 Invalid Interchange Receiver ID
009 Unknown Interchange Receiver ID
010 Invalid Authorization Information Qualifier value
011 Invalid Authorization Information value
012 Invalid Security Information Qualifier value
013 Invalid Security Information value
014 Invalid Interchange Date value
015 Invalid Interchange Time value
016 Invalid Interchange Standards Identifier value
017 Invalid Interchange Version ID value
018 Invalid Interchange Control Number
019 Invalid Acknowledgment Requested value
020 Invalid Test Indicator value
021 Invalid Number of Included Group value
022 Invalid control structure
023 Improper (Premature) end-of-file (Transmission)
024 Invalid Interchange Content (e.g., invalid GS Segment)
025 Duplicate Interchange Control Number
026 Invalid Data Element Separator
027 Invalid Component Element Separator
028 Invalid delivery date in Deferred Delivery Request
029 Invalid delivery time in Deferred Delivery Request
030 Invalid delivery time Code in Deferred Delivery Request

031 Invalid grade of Service Code

WDI TA1 processing

To request a TA1 for outbound EDI transactions, the ISA14 element (I13) must be populated with the value 1 by using the SetProperty() command within the data transformation map, or via the envelope profiles. Pending interchange acknowledgments can be viewed as a report of WDI Client. A pending interchange acknowledgment will be identified as a Send Interchange.

When the response TA1 is received for a given interchange, it may be reflected or reconciled in the Transaction Store. TA1 reconciliation is only possible if WDI Transaction Store is active. If Transaction Store is not active, the TA1 segment will be ignored. TA1 reconciliation will not be performed for Interchanges which use control numbers by transaction (document ID), such Interchanges cannot be uniquely identified from information in the TA1 and its encompassing ISA. Only the last TA1 received for a given Interchange will be reflected in the Transaction Store.

When a TA1 is requested for inbound EDI transactions, the TA1 segment will be generated for incoming EDI transactions regardless of Transaction Store setting. The TA1 will also be generated and enveloped when using delayed functional acknowledgments **FADELAY(Y)**.

WDI will set the TA1 acknowledgment code and note code based on ISA/IEA validation accomplished using the **SERVICESEGVAL** keyword and WDI validation map **$WDI_X44ENV_VAL**. The TA1 acknowledgment code of R will be based on the TA1 note code, which is determined by the first error detected during ISA/IEA validation. Only the first error is reported. Interchanges with E errors will be rejected. WDI will use the functional acknowledgment map **$WDI_TA1_ACK** to map the errors reported from the validation map to the TA1 segment.

Considerations

Since the TA1 acknowledges the receipt and syntactical correctness of an X12 Interchange header and trailer (ISA/IEA) pair, the E acknowledgment code cannot be supported. These errors are reported in the functional acknowledgment message.

The following TA1 note codes are not supported during interchange validation:

> 002 This Standard as noted in the Control Standards Identifier is not supported.
> 004 The Segment Terminator is invalid
> 022 Invalid control structure
> 024 Invalid Interchange Content (e.g., invalid GS Segment)
> 026 Invalid Data Element Separator
> 027 Invalid Component Element Separator

The TA1 note code 009 will be reported with WDI Rule not found conditions. Additional validation and reporting may be possible creating and adding mapping commands and code lists based on

individual requirements. TA1 note code 020 for Invalid Test Indicator value may result in TA1 reporting code 009 WDI Rule not found condition.