Department
of
Defense

DoD Transportation Electronic Data Interchange (EDI) Convention

ASC X12 Transaction Set 824 Application Advice (Version 003050)

DRAFT

December 1997

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1.0 INTRODUCTION

This implementation convention (IC) describes the standard or convention the Military Traffic Management Command (MTMC) and the Department of Defense (DoD) will use to process Tender Compliance Notices This convention supports MTMC's Guaranteed Traffic (GT) program.

Who Needs to Use This Document

Computer programmers use this document to identify the data requirement for populating an EDI transaction.

Why Use a Convention

Trading partners can populate EDI transaction sets in several ways. A convention defines the rules for filling in or "populating" an EDI transaction. Following a convention ensures that trading partners will encounter fewer data quality problems during development and maintenance of EDI systems.

Contents

Additional sections are included in this document.

- Section 2.0, Control Segments, identifies the specific data requirements for formatting the EDI interchange control segments that envelop all EDI transactions.
- Section 3.0, Transaction Set Profile, lists the layout of the target transaction set by segment and data element. Identified along side each transaction set data element is the Application Mapping Matrix index number from Section 4.0.
- Section 4.0, IC Element Matrix, identifies the application data elements trading partners need to exchange. This section can be used to map an existing application database into the transaction set.
- Other sections contain examples of hard copy documents, examples of EDI transaction sets, segment looping logic tables, and other items that serve as references for software developers.

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2.0 Control Segments

Overview

This section describes the EDI control segments (interchange control and functional group segments). The control segment information was derived from the ASC X12 Standards Draft Version 3 Release 5 (003050).

Purpose

This section identifies the specific data requirements for formatting the EDI control segments when transmitting and receiving EDI transactions. The format and data content of the control segments are usually managed by EDI translation software. The data requirements described herein should be used to set control segment formats when installing or initializing translation software for transmission and reception of EDI transactions.

Contents

Two items are included in this section.

- Interchange Control Segment Hierarchy, identifies the control segments in their order of occurrence in an EDI communications interchange.
- This is followed by DoD Convention ASC X12 Control Segments, which presents a detailed description of the DoD's data conventions for formatting EDI standard control segments. Each of the control segments is described by their discrete data elements.

Special Instructions

Any unique eight-bit (byte) character could serve as data element separator, segment terminator, or subelement separator, provided each character is disjoint from all data elements within an interchange and that these do not conflict with telecommunications protocols necessary to the transmission of the interchange. The following recommended values conform with information published in Electronic Data Interchange, X12 Standards, Interchange Control Structures, Section 4.3 Delimiter Specifications.

DATA ELEMENT SEPARATOR

While the data element separator may be graphically displayed as an asterisk (*) or a tilde (~) in ASC X12 documentation, it is the value employed in the fourth byte of an interchange envelope that actually assigns the separator that the translators will use throughout an interchange.

ASC X12 recommends the ASCII character with hexadecimal value "1D" for use as the data element separator (gs).

SEGMENT TERMINATOR

Likewise, the control envelope establishes the byte value used for segment termination within an interchange. ASC X12 documentation usually portrays this as a new line (n/l character, but the actual segment terminator for an interchange will be the byte value occurring immediately following the ISA16 segment.

ASC X12 recommends the ASCII character with hexadecimal value “IC” for use as the segment (fs) terminator.

SUBELEMENT SEPARATOR

The ISA segment provides a discrete element (ISA16) for defining the subelement separator within an interchange. Although designated as reserved for future expansion in Version 3, Release 5, a value in ISA16 is required.

ASC X12 recommends the ASCII character with hexadecimal value “1F” for use as the subelement separation (us) character.

3.0 Standard Implementation Convention

This section presents the DoD's convention for interpreting Guaranteed Traffic Transaction Services Tenders using the ASC X12.44 Transaction Set 824 Application Advice (Version 003050).

ELECTRONIC PUBLICATION

File 824D3050.PDF contains the DoD ASC X12 824 Application Advice (Version 003050) implementation convention. For the DoD implementation convention including DTEDI developer notes, see file 824B3050.PDF.

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Section 4.0

IC ELEMENT MATRIX

OVERVIEW

In order to implement an EDI transaction set, trading partners need to identify the application data elements they plan to exchange, identify where they plan to carry the data within the structure of the EDI transaction (a task commonly called mapping), identify any additional X12 data such as qualifier codes, and publish that information in an implementation convention (IC). This section contains an IC element matrix that lists that information.

PURPOSE

Using the IC element matrix will expedite mapping of an application database into a commercial EDI translation package. This IC element matrix applies to a specific application database, which is described in the Application Notes section below.

HOW TO READ THE IC ELEMENT MATRIX

To read the matrix, trading partners need to understand matrix record types, two categories of matrix information, the matrix layout, and the sort order of the matrix.

Record Types

The matrix contains two types of records: segment header records and element records.

- Segment header records begin the description of a segment. Each segment header record starts the description of a discrete occurrence of an X12 segment. The element records (see below) that follow a segment header record cannot be co-mingled with elements from other segments, including those segments with matching IDs.
- Element records identify an individual data element that occurs within a segment. Each element satisfies either an application requirement or X12 standard syntax. If one element in a segment is passed, all elements in the segment need to be passed in accordance with the IC requirement designator.

Two Categories of Record Information

The matrix contains two categories of information: IC application information and ASC X12 information.

- IC application information describes attributes outside the structure and syntax of the X12 standard.
- ASC X12 information is attached to each IC element. That information is extracted directly from the X12 standard dictionary and enables programmers to map the IC element into the standards.

Matrix Layout

The IC element matrix lists information in sixteen columns.

- IC Index Number (Index) enables designers and programmers to quickly cite a record in the matrix.
- IC Data Group Number (DG) is a number assigned by the IC developers. That number identifies an IC element with a group of elements that form a database table within the application data model. In order to quickly reference a table, Defense transportation developers label database tables with a Data Group number. For example, a "Bill To Address" may belong to the "PURCHASE ORDER" parent table with GRP = 10. A "Stop-off Delivery Address" may belong to the "ITEM DELIVERY" child table with GRP = 60.
- IC Data Element Name (Data Name) is a label for each data element using terminology common to the business environment. The IC element matrix identifies an element as a "Route Order Number Qualifier." This is more concise than using the generic X12 label of "Qualifier". A segment header record identifies the segment ID in this field.
- IC Notes & Codes (DoD Information Notes and Codes) can contain application notes about various segment and element conditions or requirements. This column may also list both X12 standard codes and DoD unique codes. If the list is larger than 20 codes, it appears in the section that contains Code Lists.
- IC Attributes (Attributes). When part of a segment header record, this column indicates the usage of the segment. When part of an element record, this column indicates the usage of the element within the segment, if the segment is used. Attributes may differ from those in the X12 standard. For example, if trading partners expect to exchange a purchase order number that has a specific length and structure, those attributes are decribed here. Attributes include requirement designator, data element type, minimum length and maximum length.
- X12 Transaction Set Table Number (Tabl).
- X12 Segment Position (Pos).
- X12 Requirement Designator (Req Des) . This column applies only to Segment Header type matrix records.
- X12 Maximum Usage (Max Use). This column applies only to Segment Header type matrix records.
- X12 Loop Repeat (Lp Rpt) indicates the number of times a loop may be used. This column applies only to Segment Header type matrix records.
- X12 Loop Level (Lp Lv). Loops may be nested within other loops. This column indicates the nesting level for each loop and applies only to Segment Header type matrix records.
- X12 Loop ID (Lp ID). This column applies only to Segment Header type matrix records.
- X12 Segment Reference Designator (Ref Des) . This column applies only to Element type matrix records.
- X12 Simple or Composite Data Element Number (DE#). This column applies only to Element type matrix records.

- X12 Simple Data Element Attributes (Attributes). Attributes listed include the data element requirement designator, data element type, minimum length and maximum length. This column applies only to Element type matrix records.
- X12 Composite Data Element Attributes ((Composite) Attributes) . Attributes listed include the simple data element number, requirement designator, data element type, minimum length and maximum length. This column applies only to Element type matrix records.

Sort Order of the Matrix

The IC elements in the matrix are presented in an order that enables programmers to generate application-to-translator interface files (also known as user-defined files or UDFs) that are syntactically correct to ASC X12 standards. IC elements are grouped under segment header records. When exchanging an IC element, the programmer needs to generate the entire segment under which the element is listed. Likewise, when exchanging a segment, the programmer needs to generate the entire loop structure to which the segment belongs.

APPLICATION NOTES

The IC element matrix in this section maps data requirements for the Military Traffic Command's MTMC's Guaranteed Traffic (GT) Tender Program from the Tender Compliance Notice into the ASC X12 Transaction Set 824 Application Advice. DoD derived the IC elements from the following sources:

- Examination of sample paper tenders
- Analysis of MT FORM 364-R Instruction for Use
- Comparing data dictionaries of various tender application systems
- Analysis of ASC X12 Transaction Set 824 Application Advice (Version 003050)
- Comments submitted by transportation activities involved in the DoD electronic data interchange effort.

DoD INFORMATION					SEGMENT INFORMATION							ELEMENT INFORMATION				
Index	DG	Data Name	Notes and Codes	Attributes	Tabl	Pos	Req Des	Max Use	Lp Rpt	Lp Lv	Lp ID	Ref Des	DE #	(Simple) Attributes		(Composite) Attributes
1	10	ST SEGMENT	>>>>>>>>	M	1	010						ST		M	/	/
2	10	Transaction Set ID	824 - X12.44 Application Advice	M ID 3/3	1	010						ST01	143	M	ID 3/3	
3	10	Transaction Set Control Number	Identifying control number assigned by the originator of the transaction that must be unique within the Transaction Set Functional Group.	M AN 4/9	1	010						ST02	329	M	AN 4/9	
4	10	BGN SEGMENT	>>>>>>>>	M	1	020						BGN		M	/	/
5	10	Transaction Set Purpose Code	00 - Original	M ID 2/2	1	020						BGN01	353	M	ID 2/2	
6	10	GT Module Database Keys	This item contains three data entities. They will be concatenated into one continuous string of alphanumeric characters. The three entities are: 1) The Solicitation ID of data type N 6/6; 2) the tender ID of data type N 4/4; and 3) the carrier's SCAC of data type AN 2/4. Example "0000010001CFWY".	M AN 12/14	1	020						BGN02	127	M	AN 1/30	
7	10	Date Action Was Taken	Use YYMMDD date format.	M DT 6/6	1	020						BGN03	373	M	DT 6/6	
8	10	Interface Data Flow Type Code	Use code value 'ZZ' to indicate Bid Compliance Notice. ZZ - Mutually Defined	M ID 2/2	1	020						BGN07	640	O	ID 2/2	
9	10	OTI SEGMENT	>>>>>>>>	M	2	010						OTI		M	/	/
10	10	Action Taken Type Code	TA - Transaction Set Accept TR - Transaction Set Reject	M ID 2/2	2	010						OTI01	110	M	ID 1/2	
11	10	Carrier's Tender ID Qualifier	ZS - Software Application Number	M ID 2/2	2	010						OTI02	128	M	ID 2/2	

DoD INFORMATION					SEGMENT INFORMATION							ELEMENT INFORMATION			
Index	DG	Data Name	Notes and Codes	Attributes	Tabl	Pos	Req Des	Max Use	Lp Rpt	Lp Lv	Lp ID	Ref Des	DE #	(Simple) Attributes	(Composite) Attributes
12	10	Carrier's Tender ID	This item contains three data entities. They will be concatenated into one continuous string of alphanumeric characters. The three entities are: 1) The tender number of data type N 6/6; 2) the tender supplement number of data type N 2/2; and 3) the carrier's SCAC of data type AN 2/4. Example: "65432100CFWY".	M AN 10/12	2	010						OTI03	127	M AN 1/30	
13	10	TED SEGMENT	>>>>>>>>	M	2	070						TED		M /	/
14	10	Bid Compliance Message Qualifier	Use code value 'ZZZ' to satisfy X12 syntax. ZZZ - Mutually Defined	M ID 3/3	2	070						TED01	647	M ID 1/3	
15	10	Bid Compliance Message (free form text)	Free-form description of acceptance or reasons for rejection.	M AN 1/60	2	070						TED02	3	O AN 1/60	
16	900	SE SEGMENT	>>>>>>>>	M	2	090						SE		M /	/
17	900	Number of Included Segments	Total segments in this transaction set (counting ST and SE segments).	M N0 1/10	2	090						SE01	96	M N0 1/10	
18	900	Transaction Set Control Number	Must match value in ST02 of same transaction.	M AN 4/9	2	090						SE02	329	M AN 4/9	

Section 5.0

IC ELEMENTS IN EDI FORMAT

Contents

This section contains an example of the 824 transaction set as it is used for the Department of Defense (DoD) Guaranteed Traffic Tender Compliance Acknowledgment.

Example 1 illustrates an acknowledgment that MTMC's GT*STEP system accepted the subject carrier's GT tender bid.

Example 2 illustrates an acknowledgment that MTMC's GT*STEP system rejected the subject carrier's GT tender bid. Also, it provides messages that describe the reasons for the rejection.

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Example 1 – GT Tender Acceptance Acknowledgment

ST~824~000000001 n/l
BGN~00~0000010001CFWY~950301~~~~BC n/l
OTI~TA~ZS~65432100CFWY n/l
TED~ZZZ~No errors detected, tender accepted for evaluation.
SE~5~000000001 n/l

Example 2 – GT Tender Rejection Acknowledgment

ST~824~000000001 n/l
BGN~00~0000010001CFWY~950301~~~~BC n/l
OTI~TR~ZS~65432100CFWY n/l
TED~ZZZ~A-01. Carrier’s zip code is less than 5 characters.
TED~ZZZ~J(e). Rates are not in proper regression (Across: Row [1],
TED~ZZZ~ Column [6]).
SE~5~000000001 n/l

Section 6.0

RESERVED

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Section 7.0

RESERVED

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Section 8.0

IC ELEMENT CHANGE MATRIX

As business requirements change, trading partners need to update the Section 4.0 Element Matrix. This section contains a summary of all changes made to the IC Element Matrix since the last publication of the IC. These changes are a direct result of Data Maintenance Work Requests that are approved by the DTEDI Data Maintenance Work Group. This table is sorted by the IC Element Number.

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Section 9.0

ADDITIONAL INFORMATION FOR THE DEVELOPER

This section describes the data groups cited in the IC element matrix (Section 4.0) and lists the compliance error messages that may be reported in response to a tender bid submission.

Data Groups

Table 9-1 summarizes the IC data groups a programmer observes to construct an 824 transaction set.

Table 9-1 824 Data Exchange Flows

Data Group Number	Data Group Description	Notes
10	Acknowledgment Header Information	Occurs once per 824 transaction.
900	Transaction Trailer Information	Occurs once per 824 transaction.

Compliance Error Messages

Table 9-2 lists the compliance error messages that may be reported in response to a tender bid submission.

Table 9-2 Compliance Error Messages

Invalid Solicitation Id.
A-00. Invalid Tender Id.
A-01 Carrier’s name is blank.
A-01. Carrier’s address is blank.
A-01. Carrier’s city name is blank.
A-01. Carrier’s state code is blank.
A-01. Carrier’s zip code is blank.

A-01. Carrier's zip code is less than 5 characters.
A-02. Carrier's dispatcher contact name is blank.
A-02. Carrier's dispatcher phone number is blank.
A-03. Invalid mode code [*value*].
A-03. Mode code is blank.
A-03. Mode code on bid [*value*] does not match solicitation [*value*].
A-04. Tender number [*value*] must be in 600,000 series.
A-04. Supplement number on bid [*value*] does not match solicitation [*value*].
A-08. Issue date on bid [*value*] does not match solicitation [*value*].
A-09. Effective date on bid [*value*] does not match solicitation [*value*].
A-11. Interstate application on bid does not match solicitation.
A-11. Intrastate application/state on bid does not match solicitation.
A-12. Carrier's operating authority is blank.
A-17. Load application on bid [*value*] does not match solicitation [*value*].
B(g). Governing publication bid [*value*] does not match solicitation [*value*].
B(h). Combination/Proportional Rate designation on bid [*value*] does not match solicitation [*value*].
C. Agent's name is blank.
C. Agent's street address is blank.
C. Agent's city name is blank.
C. Agent's state code is blank.
C. Agent's zip code is blank.
C. Agent's zip code is less than 5 characters.
C. Carrier's authorized agent name is blank.
C. Carrier's authorized agent phone is blank.
C. Carrier's authorized agent title is blank.
C. Carrier's authorized agent date is blank.
APNB. Commodity missing: [*value*]
APNB. Commodity added: [*value*]
J(a). Section J missing.

J(a). Matrix type on bid [*value*] does not match solicitation [*value*].
J(a). Rate qualifier on bid [*value*] does not match solicitation [*value*].
J(a). Class rates effective date on bid [*value*] does not match solicitation [*value*].
J(b). Equipment code missing: [*value*]
J(b). Equipment code added: [*value*]
J(c). Route SPLC code missing: [*value*]
J(c). Route type code on bid [*value*] does not match solicitation [*value*].
J(c). Route SPLC code added: [*value*]
J(d). Exception route missing: [*value*]
J(d). Exception route added: [*value*]
J(e). Minimum charge not specified.
J(e). Minimum charge must be whole dollars.
J(e). Minimum charge on bid [*value*] does not match solicitation [*value*].
J(e). Rate matrix row missing: [*value*]
J(e). Row minimum mileage on bid [*value*] does not match solicitation.
J(e). Row maximum mileage on bid [*value*] does not match solicitation.
J(e). Rate matrix row added: [*value*]
J(e). Rate matrix column missing: [*value*]
J(e). Minimum Quantity column on bid [*value*] does not match solicitation.
J(e). Rate matrix column added: [*value*]
J(e). Rate matrix cell missing: [*value*]
J(e). Rate not positive: [*value*]
J(e). Rate matrix cell out of bounds [*value*].
J(e). No rows found for regression check.
J(e). No columns found for regression check.
J(e). No cells found for regression check.
J(e). Rates are not in proper regression (Column + [*value*]).
J(e). Rates are not in proper regression (Across: Row [*value*], Column [*value*]).
J(e). Rates are not in proper regression (Down: Row [*value*], Column [*value*]).

K. Service code missing: [*value*]
K. Charge type for service code [*value*] changed from [*value*] to [*value*].
K. Rate qualifier for service code [*value*] changed from [*value*] to [*value*].
K. Eval factor 1 for service code [*value*] changed from [*value*] to [*value*].
K. Eval factor 2 for service code [*value*] changed from [*value*] to [*value*].
K. Eval factor 1 units for service code [*value*] changed from [*value*] to [*value*].
K. Eval factor 2 units for service code [*value*] changed from [*value*] to [*value*].
K. MTMC FIXED variable for service code [*value*] changed.
K. Rate not entered for service code [*value*].
K. Minimum charge not entered for service code [*value*].
K. Accessorial/Protective service added: [*value*].
No errors detected, tender accepted for evaluation.