Constructing XML Schema Definition Element Names from ASC X12 Metadata

Technical Report Type 2

AUGUST 2010
ABSTRACT


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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE</td>
<td>iv</td>
</tr>
<tr>
<td>General</td>
<td>iv</td>
</tr>
<tr>
<td>Version and Release</td>
<td>iv</td>
</tr>
<tr>
<td>Comments</td>
<td>iv</td>
</tr>
<tr>
<td>PURPOSE AND SCOPE</td>
<td>1</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>METADATA</td>
<td>2</td>
</tr>
<tr>
<td>Generic X12 Metadata</td>
<td>2</td>
</tr>
<tr>
<td>TR3 Metadata</td>
<td>2</td>
</tr>
<tr>
<td>SPECIFICATION</td>
<td>3</td>
</tr>
</tbody>
</table>
PREFACE

General
This document is a Technical Report Type 2 (TR2), commonly referred to as a Reference Model. It was developed by ASC X12C, the Communications and Controls subcommittee.

This technical report was prepared under the guidance of the Accredited Standards Committee (ASC) on Electronic Data Interchange, X12. Organized under the procedures of the American National Standards Institute, ASC X12 was charged with the development of transactions and structures for use in an Electronic Data Interchange (EDI) environment.

The Secretariat is the Data Interchange Standards Association, Inc. ASC X12 has the following subcommittees:
- ASC X12C Communications and Controls
- ASC X12F Finance
- ASC X12G Government
- ASC X12I Transportation
- ASC X12J Technical Assessment
- ASC X12M Supply Chain
- ASC X12N Insurance

In developing TR2s, it is the aim of the ASC X12 subcommittees to facilitate the use and understanding of the standards and, in this case, certain aspects of X12 type 3 technical reports (TR3).

Version and Release

This Reference Model is not based on or dependent on any particular version of the X12 Standards referenced; information is useful for applications “.....regardless of which version/release of the standards or the defining documents for the X12 syntax (X12.5 and X12.6) is being used.”

Comments

Comments, questions, and suggestions for improvement of this document may be submitted in writing to the Secretariat who will forward them to the appropriate ASC X12 Subcommittee. X12 Standards are available for purchase from the ASC X12 Secretariat.

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1 Within this technical report, “ASC X12” refers to Accredited Standards Committee X12 and its subcommittees. “X12” labels the standards and other work products of ASC X12.
PURPOSE AND SCOPE

This technical report describes a methodology for constructing Extensible Markup Language (XML) element names from ASC X12 Technical Report Type 3 (TR3) metadata for use in creating schemas written in World Wide Web Consortium (W3C) XML Schema Definition Language (W3C XSD).

This TR2 is intended to serve these major purposes:

1. To specify what X12 metadata is used to form XSD element names
2. To formally define TR3 metadata to be used in the XSD element names
3. To specify how to construct an XSD element name from this metadata

Related X12 Standards and Technical Reports

- X12.6 Application Control Structure
- All ASC X12 Type 3 Technical Reports
- Compliance in X12 Type 2 Technical Report
INTRODUCTION
The use of ASC X12 standards is voluntary, although government agencies may mandate their use. The practice of further defining the standards and restricting options within the standards through implementation guides provides additional metadata that is useful in constructing meaningful XSD element names. The additional metadata, for the most part, has already been defined by X12, but not the aggregation of that metadata for a different purpose.

For example, X12 assigns the NM1 segment the name: Individual or Organizational Name and has an option to specify that the name can be a Bill-to-Party. Using X12 metadata, the more descriptive name: Bill-to-Party Name can be formed by replacing the generic term Individual or Organizational with the more specific term Bill-to-Party.

METADATA

Generic X12 Metadata
This specification uses the following X12 metadata defined in X12.6:

- Transaction Set ID
- Loop ID
- Segment ID
- Reference Designator

TR3 Metadata
This specification defines the following TR3 metadata:

- Transaction Set ID Suffix
  An addition to a Transaction Set ID providing a unique identifier for a transaction set used in a TR3

- Industry Segment Name
  A name assigned to a segment in a TR3 providing a more descriptive term. When used as an XSD element name, each word begins with a capital letter, all spaces are removed and the following characters are removed:

  ![Character Set](image)

- Industry Element Name
  A name assigned to a simple element in a TR3 providing a more descriptive term constructed in the same manner as the industry segment names.

- Loop ID Suffix
  TR3s explicitly limit the repeat values of the X12 standard for segments and loops providing a concise description of the business process. These collections of repetitions, for this TR2, are referred to as a Group. The Loop ID suffix is an addition to a Loop ID specifying an iteration of a loop in a TR3.
## SPECIFICATION

The following tables specify constants and metadata used to construct XSD Element names, constants appear in quotes:

### Transaction Set

<table>
<thead>
<tr>
<th>&quot;X12&quot;</th>
<th>&quot;_&quot;</th>
<th>GS08 value specified in a TR3</th>
<th>&quot;_&quot;</th>
<th>Transaction Set ID</th>
<th>Transaction Set ID Suffix</th>
</tr>
</thead>
</table>

**Notes**

The suffix is necessary because any given TR3 can have more than one transaction set with the same GS08 value, for example, 005010X217 contains two implementations of transaction set 278. It is composed of a letter and a number.

**Example**

X12_005010X217_278A1

### Loops

<table>
<thead>
<tr>
<th>&quot;Loop&quot;</th>
<th>&quot;_&quot;</th>
<th>Loop ID</th>
<th>Loop ID Suffix</th>
</tr>
</thead>
</table>

**Notes**

The suffix is necessary because groups need to be uniquely identified.

**Example**

Loop_1000A

### Segments not in a loop

<table>
<thead>
<tr>
<th>Segment ID</th>
<th>&quot;_&quot;</th>
<th>Industry Segment Name</th>
</tr>
</thead>
</table>

**Notes**

The industry defined segment name is defined in a TR3 and is sometimes identical to the X12 name or is more specific based on context.

**Example**

ST_TransactionSetHeader

### Segments in a loop

<table>
<thead>
<tr>
<th>Segment ID</th>
<th>&quot;_&quot;</th>
<th>Industry Segment Name</th>
<th>&quot;_&quot;</th>
<th>Loop ID</th>
<th>Loop ID Suffix</th>
</tr>
</thead>
</table>

**Notes**

The industry defined segment name is defined in the TR3 and is sometimes identical to the X12 name or is more specific based on context. The suffix is necessary because groups need to be uniquely identified. It is composed of one or more letters.

**Example**

N1_PayerIdentification_1000A
Data Elements

<table>
<thead>
<tr>
<th>Segment ID</th>
<th>Position 1</th>
<th>&quot;_&quot;</th>
<th>Position 2</th>
<th>&quot;_&quot;</th>
<th>Industry term</th>
</tr>
</thead>
</table>

**Notes**
Position 1 is a portion of a Reference Designator and is always present specifying the sequential position of a given element within a segment. Position 2 is another portion of a Reference Designator and is optional specifying the sequential position of a given component element. The industry term is defined in the TR3 and is sometimes identical to the X12 name or is more specific based on context.

**Examples**
ST01__TransactionSetIdentifierCode
SVC01__01_ProductOrServiceIDQualifier