IAIABC XSD Overview and Maintenance Guidelines

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Purpose of the XSD

The purpose of the XSD is to enforce the integrity of a standard XML reporting file. It provides a high-level check to ensure it meets minimum reporting requirements. The XSD checks an XML file for the following:

XML structure

Ensures the file conforms to basic XML structure which includes matching begin/end tags, proper formatting, and proper sequencing and nesting of child elements

Data Element Tags

Confirms the data element tag names are correct and consistent. Does not allow data element tag names that do not exist in the schema.

Data Element Types

Verifies the value of a data element is the proper data type (numeric, string, date, etc.) and length.

Required Fields

Ensures the minimum required data elements are populated in the XML transaction. These are related to Fatal fields in the Element Requirement Table.

Note: If multiple transactions are sent in an XML file the entire file will reject if any transaction violates an integrity check, regardless of how many valid transactions exist.

All parties involved with XML reporting are strongly encouraged to run the XSD checks against an XML file prior to sending and processing.

For Jurisdictions, an XML file should be checked against the XSD <u>prior</u> to the jurisdiction edits outlined in the Element Requirement Table and EDI Matrix. No jurisdiction edits are applied in the XSD, with the exception of fatal (required) fields where noted. Trading Partners should be notified of XML files that fail XSD validation.

For Trading Partners, a generated XML file should be checked against the XSD to ensure quality and unnecessary XSD rejections at the Jurisdiction level.

Usage

The XSD file is just like any other data file. Organizations should store the XSD file in a common location that can be accessed by their EDI process. It is strongly encouraged that only one XSD file exists in the production environment, for ease of maintenance. Multiple copies of the XSD file can exist in a production environment depending on an organization's setup, but care must be taken to ensure they are all the same version. It is also highly recommended that organizations maintain an archive of previous XSD files in the event of a rollback.

Most modern programming languages have the capability to verify an incoming XML file against an XSD. When this happens the XSD file is normally loaded into memory (from the common location) and used by the program to verify the lines in the XML. The validation routine should be able to identify the line in the XML file and type of error encountered.

XSD validation routines will generally report all the errors it finds in the XML file. However, a poorly structured XML file may cause the XSD validation to halt before all errors are found. Therefore, it is possible to correct all reported errors and encounter additional errors in subsequent runs. This behavior is common to programming language compliers and should be familiar to all software developers.

When a new XSD file is published (see "Release Schedule"), a copy/overwrite of the existing XSD file in the common location is all that is needed. The next time the XSD validation routine is run it will pull in the updated XSD.

Changes to the XSD

Changes to data elements in the implementation guide will require changes to the XSD. The type of change (add, update, remove) will impact how the updated XSD is adopted.

Add New Data Element

The addition of a new data element to the XSD will have no impact on XML processing for a jurisdiction that does not plan to use it. Since XML processing is explicitly looking for specific data elements to load, it will not be aware of the new data element and it will be ignored.

Trading Partners can start including the data element in their XML during the Trading Partner adoption period (see "Release Schedule"). In this scenario, the new data element will pass XSD validation and be ignored by the Jurisdiction. During the Jurisdiction adoption period Trading Partners will continue to use the prior XSD version with no impact.

Updates to / removal of data element

While rare, it may be possible for an existing data element to change its name, data type, length, requirement, or be removed altogether. In this scenario the previous version of the data element will be moved to the "Deprecated" portion of the XSD. Jurisdictions should no longer utilize Deprecated data elements. This also allows time for Trading Partners to sunset the use of a data element without impacting XSD validation.

Release Schedule

Updates to the XSD will be released on a quarterly basis (XSD Release Date). The release is based on data element changes and "Earliest Date to Implement" specified in the Supplement of Changes appendix in the implementation guide.

Earliest Date to Implement	XSD Release Date	Jurisdiction Adoption Period*	Trading Partner Adoption Period**
January / February / March	Q4 (10/1)	10/1 - 11/30	12/1 - 12/31
April / May / June	Q1 (1/1)	1/1 - 2/28	3/1 - 3/31
July / August / September	Q2 (4/1)	4/1 - 5/31	6/1 - 6/30
October / November / December	Q3 (7/1)	7/1 - 8/31	9/1 - 9/30

*Jurisdictions must adopt the latest XSD release by the end of the Adoption Period, but any new/updated data element(s) should be ignored until the approved for use date. If a Jurisdiction does not plan to use the new/updated data element(s) (NA in Element Requirement Table) they can continue to ignore after the approved for use date.

**Trading partners can send the new data element in the XML, but it should be ignored by the jurisdiction until the approved for use date.

Emergency release

All XSD updates will be tested prior release and the risk of issues with the XSD is very low. However, in the event of an unexpected issue an emergency release will be published outside of the quarterly window.   Immediate adoption after the correction is published is highly recommended.