

Guide for Electronically Filing Affordable Care Act (ACA) Information Returns

For Software Developers and Transmitters

PROCESSING YEAR 2024

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Volume 2 of 4



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4.2.2 | Strong Authentication

All external partner communication will need to support encryption using TLS 1.2 Federal Information Processing Standards (FIPS) Publication 140-2. Compliant cryptography will be used for strong and secure communication between Transmitters and IRS.

The A2A **registration and enrollment process** for Transmitters and their application system is an automated process. The authorized user can perform the following functions relative to their A2A Client System ID (ASID) for their organization:

- Enroll, Update, and Un-enroll ASID
- View a deleted ASID
- Inactivate, Activate ASID
- Replace the certificate for ASID

Publication 5308, The Automated Enrollment for ACA Providers External

Guide describes the automated enrollment process and can be found on the **Affordable Care Act Information Returns (AIR)** page.

IRS requires strong authentication when transmitting via the A2A channel, which will affect authentication techniques for all A2A Web services. The strong authentication certificate/credential will replace the password and the ACA Information Returns Web Service Endpoint, Web Services Description Language (WSDL) will accommodate this credential. Each Transmitter will be required to register their certificate with AIR through the AE application. Software Developers must use the set of WSDL files provided by IRS to build their application so that they can use strong authentication. The WSDL files are not automatically sent upon download of the certificate/credential.

Note: To request the WSDLs, the Responsible Official, or an official identified as a Contact on the ACA

Application for TCC, must send an email to the AIR Mailbox (**airmailbox@irs.gov**) with “WSDLs” in the subject line. The email request must include your company name and AIR TCC. The WSDLs will be forwarded upon confirmation of the completed status of the ACA TCC Application and contact information.

Publication 5258, AIR Submission Composition and Reference Guide,

explains the integration and uses of this IRS-provided client code sample to support certificate-based authentication for AIR A2A Web services. In addition to the code itself, this guide provides necessary information for developers to use when integrating the new feature into client software that communicates with A2A Web services.

4.2.3 | Certificate Management

IRS requires the use of client digital (X.509) certificates issued by IRS-designated

certificate authorities (see listing of approved Certificate Authorities in Section 4.2.4) to provide enhanced authentication of external partner application systems for A2A Web service processing. This capability is intended to mitigate threats defined in Treasury Department Publication 85-01, Department of the Treasury Information Technology (IT) Security Program, Vol. II, Handbook, Part 1, Section 5.4.4 Sensitive Systems.

To meet the requirements stated in the Treasury directive, the system will:

1. Provide verification of a digital signature of appropriate message parts produced using the private key for the X.509 certificate submitted with the authentication request and shall prevent (fail) authentication if this verification fails.
2. Verify that a submitted X.509 certificate is properly formatted and is verified by appropriate CA signature

and shall prevent (fail) authentication if this verification fails.

3. Provide checks to ascertain that a submitted X.509 certificate has not been revoked, using most current Certificate Revocation List (CRL) resources from IRS-designated CAs, and shall prevent (fail) authentication if the certificate has been revoked. CRLs will be retrieved from each IRS-designated CA based on the schedule of available updates for that CA, so that the most up-to-date CRL will be made available for A2A authentication.
4. KeyInfo should use the KeyIdentifier tag which has the Base64 encoded certificate as its value. The Base64 encoded certificate should include the entire certificate chain including the root certificate and all the authorized CA certificates to pass the authentication process.

5. Provide checks to ensure that a submitted X.509 certificate has not expired and shall prevent (fail) authentication if the certificate has expired.
6. Ensure that a submitted X.509 certificate matches a certificate previously registered for the application system using data stored in IRS directory by an enrollment process and shall prevent (fail) authentication if the match cannot be made.
7. Mitigate replay attacks for authentication.
8. Provide error handling by which any external failing strong authentication for any reason will receive a SOAP fault response message stating that "Authentication Failed."
9. Provide adequate capacity for A2A certificate-based authentication.

10. Ensure that authentication attempts and results are audited and incorporated into log files for audit and forensic purposes.
11. Accommodate external users that have one or more sites (and client certificates) associated with a single Public Key Infrastructure (PKI) sponsor.
12. Register valid certificates for each enrolled external application system using an automated enrollment process. The authentication credentials structure shall be changed for all A2A Web service requests to accommodate session-less requests.

A2A Transmitters must use digital certificates (X.509) versus passwords upon proper enrollment and registration of the certificate. The registered certificate's Key Usage attribute should ONLY list BOTH of the values "digital signature" and "key encipherment."

Any additional values for this attribute will result in submission rejection due to the strict Key Usage Enforcement policy at the IRS portal. Encryption of the signing key is important on your system. Do not store an unencrypted copy of the signing key on your system. The signing key should be stored in a standard encrypted key store.

4.2.4 | Authorized Certificate Authorities

Digital certificates bind digital information to physical identities and provide non-repudiation and data integrity. Before you begin the Automated Enrollment (AE) process, each entity should obtain one valid digital certificate issued by an approved Certificate Authority (CA). AE only recognizes and accepts digital certificates issued by IRS approved certificate authorities, listed below.

Table 4-1: List of Authorized Certificate Authorities

Certificate Authority	Type of Certificate
ORC ECA, naming a server	Go to <u>ORC ECA</u> and select "Order Component/Server Certificates". On the screen for order, please choose "Server Certificates".
IGC Medium Assurance Device, naming a device	Go to <u>Identrust Government Agencies</u> and click on "Buy Now", you'll see a long list of Government programs for which you can get a certificate and select the

	<p>"Department of Treasury - IRS MeF e-File"</p> <p>or "Department of Treasury - IRS Secure Data Transfer".</p> <p>The type to choose is IGC Standard Medium Assurance Organization Identity Device</p>
<p>IGC Medium Assurance Affiliated or IGC Medium Assurance Affiliated Hardware, naming an individual</p>	<p>Go to <u>Identrust Government Agencies</u> and click on "Buy Now", you'll see a long list of Government programs for which you can get a certificate and</p> <p>select the "Department of Treasury - IRS MeF e-File" or "Department of Treasury - IRS Secure</p>

	Data Transfer". The types to choose are IGC Standard Medium Assurance Organization Identity Device or IGC Medium Assurance Business Identity Hardware Storage
--	--

4.3 | XML Overview for AIR

IRS uses XML, a language that specifies the structure and content of electronic documents and files to define the electronic format of ACA Information Returns. This section explains some of the elements of an XML document. For detailed information regarding the IRS Submission File structure, including the XML Schema containing the required Tag Names/Element Names and Namespaces, refer to **Publication 5258, AIR Submission Composition and Reference Guide**.

4.3.1 | AIR XML Schema Package Structure

This section describes the AIR XML Schema file structure and how the schemas will be packaged as of the date this publication was issued.

Schemas for a given ACA Information Return are developed by the respective projects and submitted to the IRS Data Engineering (DE) Group. The DE Group integrates the project XML Schemas into a standard ACA XML Common Library. The ACA XML Common Library consists of several common XML Schema building blocks as follows:

- IRS-CAC.xsd – contains common aggregate components
- IRS-CBC.xsd – contains common basic components
- IRS-SDT.xsd – contains specialized data types

The ACA XML Common Library is built following IRS Enterprise Standards, Naming, and Design Rules.

The common XML Schema building blocks are packaged into a COMMON folder within the XML Library structure as follows:

XML Library *n.n*

COMMON

The ACA XML Library for AIR includes the following folders:

EXT

IRS-EXT-ACA-AIR-1094BC.xsd

MSG

Various .xsd and .xml – contains the Message, Form Data File, Manifest File, and Error Data File

SRV

ACAGetTransmitterBulkRequestService – the WSDL for the transmission endpoint

ACAGetTransmitterBulkRequestStatus –
the WSDL for the retrieve
acknowledgements endpoint

In addition to the schema files, there are six business rule files, one for each Form 1094-B, Form 1095-B, Form 1094-C, Form 1095-C, one for the Shared rules, and one for the Manifest/Header.

The schema and business rule files can be found on the [**Affordable Care Act Information Returns \(AIR\)**](#) page.

4.3.2 | AIR XML Structure

When entering character data into an XML document, it is important to ensure that the specified encoding supports the characters provided. By design, AIR uses Unicode Transformation Format-8 (UTF-8), without Byte Order Mark (BOM). AIR does not support any other encoding scheme (for example, UTF-16 and UTF-32).

4.3.3 | Prohibited and Constrained Special Characters

Software Developers and Transmitters must not include certain special characters in any character data included in the XML of the SOAP message or the XML file attached to the SOAP message. The following special characters must not be included in any of the data fields for either Forms 1094/1095-B or Forms 1094/1095-C transmissions:

Table 4-2: Special Characters Not to Be Included in Any Data

Character	Character Description
--	Double Dash
#	Hash Key

IRS will reject a transmission that contains any of the special characters identified in Table 4-2, either in the SOAP Message or in the XML file, upon receipt.

Example 1: If a record has a last name data field containing **MyCorp #10**, then the transmission must not include the hash key/pound sign, so that the data field instead contains **MyCorp 10**.

Example 2: If a record has an address data field containing **NoPlaceWay--Suite 4**, then the transmission must not include the double dash, so that the data field instead contains **NoPlaceWay-Suite 4**.

The following special characters must be escaped before they are included in the data fields that allow escaped characters of either Forms 1094/1095-B or Forms 1094/1095-C transmissions:

Table 4-3: Allowable Characters

Character	Character Description	Character Allowed?	Escape Characters	Escape Character Allowed
&	Ampersand	Rejected	&	Allowed
'	Apostrophe	Rejected	'	Allowed
<	Less Than	Rejected	<	Allowed
“	Quotation Mark	Rejected	"	Allowed
>	Greater Than	Allowed	>	Allowed

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***Caution:** *"PersonFirstNm"*, *"PersonMiddleNm"*, and *"PersonLastNm"* cannot contain any special characters. For example, if a record has a last name data field containing an apostrophe, such as **"O'Malley"**, the transmission cannot include the apostrophe or the escaped apostrophe characters. The apostrophe must be stripped, and the last name data must be entered as **"OMalley"**. The transmission will be rejected if the apostrophe is used. As a rule, the schema definitions must be followed.

However, the escaped apostrophe will be allowed in the *"BusinessNameLine1Txt"* and *"BusinessNameLine2Txt"* schema elements. Any special characters that are not listed in the Table 4-3 or Table 4-4 will be allowed as-is. For example, a hyphen is allowed in the *"PersonFirstNm"*, *"PersonMiddleNm"*, *"PersonLastNm"*, *"BusinessNameLine1Txt"* and *"BusinessNameLine2Txt"*.

Additional elements may also be restricted by XML schema data element definitions. For example, the schema does not allow the use of escaped Less Than or escaped Quotation within "*BusinessNameLine1Txt*" and "*BusinessNameLine2Txt*".

4.3.4 | Tag Names

Each field on the AIR Forms 1094/1095-B or Forms 1094/1095-C is identified using an XML tag name within the XML schema.

Tag names were created using the following conventions:

- A meaningful phrase with the first letter of each word capitalized and using no spaces (upper Camel case)
- A length of not more than 30 characters
- Standard abbreviations to meet the tag name 30-character limit

The Tag Names, also known as Element Names, were standardized by IRS for all ACA Information Return forms. A notional example of a simple XML element that identifies the record number in a submission would be:

```
<xsd:element ref="UniqueRecordId"  
minOccurs="1" maxOccurs="unbounded"/>
```

A notional example of a complex XML element that identifies all the data elements required for Form 1094-B would be:

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```

<xsd:complexType name="Form1094BUpstreamDetailType">
  <xsd:annotation>
    <xsd:documentation>
      <Component>
        <DictionaryEntryNm>Form 1094-B Upstream Detail Type</DictionaryEntryNm>
        <MajorVersionNum>3</MajorVersionNum>
        <MinorVersionNum>0</MinorVersionNum>
        <VersionEffectiveBeginDt>2016-07-05</VersionEffectiveBeginDt>
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>
        <DescriptionTxt>Form 1094-B - Transmittal of Health Coverage Information Returns</DescriptionTxt>
      </Component>
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="SubmissionId"/>
    <xsd:element ref="OriginalUniqueSubmissionId" minOccurs="0"/>
    <xsd:element ref="TestScenarioId" minOccurs="0"/>
    <xsd:element ref="irs:TaxYr"/>
    <xsd:element ref="BusinessName" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="BusinessNameControlTxt" minOccurs="0"/>
    <xsd:element ref="irs:TINRequestTypeCd" minOccurs="0"/>
    <xsd:element ref="irs:EmployerEIN"/>
    <xsd:element ref="ContactNameGrp" minOccurs="0"/>
    <xsd:element ref="ContactPhoneNum" minOccurs="0"/>
    <xsd:element ref="MailingAddressGrp" minOccurs="0"/>
    <xsd:element ref="Form1095BAttachedCnt" minOccurs="0"/>
    <xsd:element ref="Form1095BUpstreamDetail" maxOccurs="unbounded"/>
    <xsd:element ref="JuratSignaturePIN" minOccurs="0"/>
    <xsd:element ref="PersonTitleTxt" minOccurs="0"/>
    <xsd:element ref="irs:SignatureDt" minOccurs="0"/>
  </xsd:sequence>
  <xsd:attribute name="recordType" type="xsd:string" use="required"/>
  <xsd:attribute name="lineNum" type="xsd:integer" use="required"/>
</xsd:complexType>

```

Figure 4-4: Form 1094-B Schema Structure

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4.3.5 | Attributes

Attributes provide additional information or describe a constraint of a data element.

- The first letter of the first word of an attribute name is lower case; the first letter of each subsequent word is capitalized (lower camel case).

For instance, in the example of the simple XML element *Form1094BUpstreamDetail* above, the attribute *maxOccurs="unbounded"* identifies that there is no limit to the number of Forms 1095-B that can be included in the XML. (However, the number of Forms 1095-B included in a submission is constrained by the 100 MB file size limit.)

4.3.6 | Repeating Group

Repeating groups are specified in XML schema definitions using the minOccurs and maxOccurs facets on sequence or choice definitions. An example of a repeating group is as follows:

```
<xsd:element  
ref="CoveredIndividualGrp"  
minOccurs="0" maxOccurs="99"/>
```

The element 'CoveredIndividualGrp' allows a maximum of 99 groups within each 1095 record that is submitted. Beginning and ending tags are necessary for each group submitted. The reference element resolves to the eFile Type

EmployerCoveredIndividualType:

```
<xsd:element  
name="CoveredIndividualGrp"  
type="EmployerCoveredIndividualType"  
>
```

EmployerCoveredIndividualType is a complex data element that includes the nodes Covered Individual Name, Social Security Number or Date of Birth, and several other indicators required for the repeating group. All the elements of the *EmployerCoveredIndividualType* repeat as each *CoveredIndividualGrp* are reported.

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```
<xsd:sequence>
  <xsd:element ref="CoveredIndividualName" minOccurs="1" maxOccurs="1"/>
  <xsd:element ref="PersonNameControlTxt" minOccurs="0"/>
  <xsd:element ref="irs:TINRequestTypeCd" minOccurs="0"/>
  <xsd:choice minOccurs="0">
    <xsd:element ref="irs:SSN" minOccurs="1"/>
    <xsd:element ref="BirthDt" minOccurs="1"/>
  </xsd:choice>
  <xsd:choice minOccurs="0">
    <xsd:element ref="CoveredIndividualAnnualInd" minOccurs="1"/>
    <xsd:element ref="CoveredIndividualMonthlyIndGrp" minOccurs="1"/>
  </xsd:choice>
</xsd:sequence>
```

Figure 4-5: Example of the Covered Individual Repeating Group

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The ability to repeat information within the XML Schema is the electronic equivalent of attaching additional forms when there is insufficient space on the form to include all the information that must be filed (e.g., If there are more than six covered individuals, see Form 1095-B Part IV, Continuation Sheet(s), for information about the additional covered individuals.).

4.3.7 | AIR Schema and Business Rules

A schema is an XML document that specifies the data elements, structure and rules for the transmission Manifest and each form or document. In addition to formats defined by schemas, information returns must also adhere to business rules, which provide a second level of validation for information returns processed by the AIR System.

IRS created an XML schema for each of the different types of ACA Information Returns

(Form 1094-B, Form 1094-C, Form 1095-B, and Form 1095-C), Transmission File, and Acknowledgement File. Each schema also has a respective set of business rules that are used during AIR validation.

Within the XML schema, data elements are the basic building blocks of an XML document. Schemas recognize two categories of element types: simple and complex. A simple type element contains only one data type and may only have documentation attributes, such as description or line number. A complex type element is an element that has one or more attributes or is the parent to one or more child elements.

The Transmitter and Issuer have the responsibility to provide information as specified by IRS forms, instructions and regulations.

Note: The software used to transmit AIR documents to IRS must be capable of putting

the information in the specified schema while also abiding by all applicable business rules.

The AIR schemas do not allow empty or null values within schema tags. All data elements present by virtue of an opening and a closing tag must contain a value. Empty or null tags (even for optional data elements) will result in a transmission rejection. **Do not include tags for optional data elements that are empty.**

Each year, new legislation and/or improvements to IRS programs impact IRS forms and processing procedures. IRS evaluates these changes to determine if updates to the XML schemas and business rules are necessary.

When the AIR schemas are posted on the Affordable Care Act Information Returns (AIR) page, IRS will identify when the schemas are available in the AATS and Production environments. Software Developers are not required to retest when new schemas (minor

or major) are posted. However, IRS strongly recommends the use of AATS to retest when Software Developers update their software in response to schema changes. Links to the AIR XML Schemas and Business Rules are located on the [**Affordable Care Act Information Returns \(AIR\)**](#) page.

Note: If there are critical changes required due to late legislation changes, national disasters, or errors identified during testing or production, IRS may issue updated XML schemas and business rules after December and during the processing year.

General Information about Version Numbers follows:

Each version of the XML Schemas and the corresponding business rules has a unique version number assigned. It is important to note the following principles regarding version numbers:

- Each information return's schema version has an associated set of business rules with the same version number. This ensures that each updated schema version includes an updated set of business rules.
- The "*FormnnnnnUpstreamDetailType*" complex element includes a documentation element and dictionary entry name that identifies the form including the major and minor version numbers of the schema for each return type as well as the effective begin date for the XML Schema. For example, the "*Form1095BUpstreamDetailType*" from *IRS-Form1094-1095BTransmitterUpstreamMessage.xsd* file shown below identifies the schema version as v1.0 with an effective date of 2015-01-27.

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```
<xsd:complexType name="Form1095BUpstreamDetailType">  
  <xsd:annotation>  
    <xsd:documentation>  
      <Component>  
        <DictionaryEntryNm>Form 1095-B Upstream Detail Type</DictionaryEntryNm>  
        <MajorVersionNum>1</MajorVersionNum>  
        <MinorVersionNum>0</MinorVersionNum>  
        <VersionEffectiveBeginDt>2015-01-27</VersionEffectiveBeginDt>  
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>  
        <DescriptionTxt>Form 1095-B - Health Coverage Information Return</DescriptionTxt>  
      </Component>  
    </xsd:documentation>  
  </xsd:annotation>  
</xsd:complexType>
```

Figure 4-6: 1095-B Upstream Detail Type

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- Each business rule document's version number identifies the version and effective begin date of the business rules.
- The "Active Validating Schema Version" specifies the business rules and schema version that will be used to validate an information return that has been received by IRS during a timeframe. This provides a mechanism for different versions to be accepted at the same time. It also enables an older version to be validated against a newer version's set of schemas and business rules. IRS will publish all valid schema/ business rule versions.

The active validating schema version will be the most recent schema version posted on the **Affordable Care Act Information Returns (AIR)** page. IRS will provide the "Start" dates when schemas are available in Production and AATS. These "Start" dates also represent when the latest schema posted becomes the active validating schema.

4.3.8 | Validating Schema Versions

Throughout the year, multiple versions of XML Schemas and Business Rules may be posted to IRS.gov depending upon whether a change to the schema is major or minor; AIR may not require that the schema version used to submit the return data match the schema version used by AIR during validation. In general, there is one active validating schema version for each return type in a tax year. The Schema/Business Rules tables will include the Start dates and End dates, if applicable, for AATS and Production. IRS strives to limit the number of schema and/or business rule revisions, especially after production opens. A QuickAlerts message is issued when a new version of the XML Schemas and Business Rules are posted on the [**Affordable Care Act Information Returns \(AIR\)**](#) page.

Minor Schema Changes – When IRS issues revised schemas for an information return type and changes the increment for the minor

number, AIR continues to accept returns composed using previous schema versions. When the minor number is changed, IRS allows Software Developers to decide for themselves whether they need to use the latest version or not based on what is included in their tax preparation software and what changes were made to the schemas.

Returns may be composed using previously published schema versions, but IRS will only validate against the “active validating schema version” when the return is processed. For example:

If the current schema version is 1.0 and the schema change is minor, IRS will assign the new number 1.1. The active validating schema version is 1.1. AIR will continue to accept returns composed using version

1.0. However, all returns (whether composed with version 1.0 or 1.1) will be validated with the latest version, 1.1.

Major Schema Change – When IRS issues revised schemas for an information return type and changes the increment for the major number, all returns must be composed by software using the latest version. If information returns are composed using previously published schema versions, they will not validate against the active validating schema version when the return is processed and will be rejected.

For example, if the current version is 1.1 and IRS determines it can no longer accept information returns composed using schema version 1.1 (or v1.0), it will assign the new major number 2.0. The active validating schema version is 2.0. Returns submitted with version 1.1 or earlier will be rejected for using an unsupported schema version.

Software Developers and Transmitters should select the applicable form type on the AIR Schemas and Business Rules page to get information about all active and prior year schemas and business rules used by the AIR Production and AATS.

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Tax Year 2017 Forms 1094-B, 1094-C, 1095-B, and 1095-C

Version	Date Posted	AATS Dates	Production Dates
TY2017v1.0 Updates: 05/25/2018 - New posting of revised Release Memo and business rule v1.1, v1.2, v1.3, and v1.4	07/02/2017	Start Date: 10/30/2017 Note: Schemas v1.0 and Business Rules v1.1, v1.2, v1.3, and v1.4 are valid for AATS. End Date: TBD	Start Date: 1/22/2018 Note: Schemas v1.0 and Business Rules v1.1, v1.2, v1.3, and v1.4 are valid for Production. End Date: TBD

Figure 4-7: Example of AIR Schema Information

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4.3.9 | Example of Schema Versioning

The [**Affordable Care Act Information Returns \(AIR\)**](#) page provides information and technical guidance for Software Developers and Transmitters who are interested in developing software for AIR for Tax Years 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 and 2023. Included are the XML Schemas, Business Rules, Release Memorandums and specific instructions.

Note: When creating payload for prior year (TY2015, TY2016, TY2017, TY2018, TY2019, TY2020, TY2021, TY2022 and TY2023) data, please use the schemas and business rules that were in effect for that tax year. Do not use the current year schemas and rules. In addition, do not mix or combine tax years within the same submission or the same transmission. Transmitters should use the latest schema package Filing Season (FS) 2024

(TY2023) Manifest schema to generate A2A SOAP message or the UI Manifest file regardless of which tax year is being submitted.

Below is a sample of the AIR Forms XML Schema Version

```
<xsd:complexType name="Form1094BUpstreamDetailType">
  <xsd:annotation>
    <xsd:documentation>
      <Component>
        <DictionaryEntryNm>Form 1094-B Upstream Detail Type</DictionaryEntryNm>
        <MajorVersionNum>2</MajorVersionNum>
        <MinorVersionNum>0</MinorVersionNum>
        <VersionEffectiveBeginDt>2015-04-20</VersionEffectiveBeginDt>
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>
        <DescriptionTxt>Form 1094-B - Transmittal of Health Coverage Information Returns</DescriptionTxt>
      </Component>
    </xsd:documentation>
  </xsd:annotation>
```

```
<xsd:complexType name="Form1095BUpstreamDetailType">
  <xsd:annotation>
    <xsd:documentation>
      <Component>
        <DictionaryEntryNm>Form 1095-B Upstream Detail Type</DictionaryEntryNm>
        <MajorVersionNum>1</MajorVersionNum>
        <MinorVersionNum>0</MinorVersionNum>
        <VersionEffectiveBeginDt>2015-01-27</VersionEffectiveBeginDt>
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>
        <DescriptionTxt>Form 1095-B - Health Coverage Information Return</DescriptionTxt>
      </Component>
    </xsd:documentation>
  </xsd:annotation>
```

```
<xsd:complexType name="Form1094CUpstreamDetailType">
  <xsd:annotation>
    <xsd:documentation>
      <Component>
        <DictionaryEntryNm>Form 1094-C Upstream Detail Type</DictionaryEntryNm>
        <MajorVersionNum>1</MajorVersionNum>
        <MinorVersionNum>0</MinorVersionNum>
        <VersionEffectiveBeginDt>2015-01-27</VersionEffectiveBeginDt>
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>
        <DescriptionTxt>Form 1094-C - Transmittal of Employer-Provided Health Insurance Offer and Coverage Information Returns</DescriptionTxt>
      </Component>
    </xsd:documentation>
  </xsd:annotation>
```

```
<xsd:complexType name="Form1095CUpstreamDetailType">
  <xsd:annotation>
    <xsd:documentation>
      <Component>
        <DictionaryEntryNm>Form 1095-C Upstream Detail Type</DictionaryEntryNm>
        <MajorVersionNum>1</MajorVersionNum>
        <MinorVersionNum>0</MinorVersionNum>
        <VersionEffectiveBeginDt>2016-06-13</VersionEffectiveBeginDt>
        <VersionDescriptionTxt>Initial version</VersionDescriptionTxt>
        <DescriptionTxt>Form 1095-C Employer-Provided Health Insurance Offer and Coverage Statement</DescriptionTxt>
      </Component>
    </xsd:documentation>
  </xsd:annotation>
```

Figure 4-8: Samples of Schema Versioning for AIR Forms

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4.4 | Threat Mitigations in AIR Transmissions

Information Submission Services (ISS) will only accept XML files and attachments. Each file, message and/ or attachment transmitted through the ISS-A2A or ISS-UI channels will be checked for threats before being routed to AIR back-end systems. In the event the system detects a threat in the Transmission File, the following steps will be taken:


- ISS will perform threat mitigation and initial validation on authorized connections
- The Transmission will be rejected and a fault code (TPE Error) response will be returned
- The Transmitter must remove the infected data and then retransmit the file

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```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <soapenv:Fault>
      <faultcode>soapenv:Client</faultcode>
      <faultstring>We were unable to authenticate your credentials. Please review the information
about digital certificates included in Section 5 of the AIR Submission Composition and Reference
Guide located at https://www.irs.gov/for-Tax-Pros/Software-Developers/Information-Returns/Affordable-Care-Act-Information-Return-AIR-Program, ensure that the credentials are valid,
and try again.</faultstring>
      <detail>
        <errorcode>TPE1128</errorcode>
        <UniqueTransmissionId/>
      </detail>
    </soapenv:Fault>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 4-9: Sample of an A2A Channel Fault Message

ACA Transmission File Upload

 1 error has occurred. See below for more information. If the problem continues, please [contact us](#).

[TPE1201] Our system has detected a potential threat in the Form file and it cannot be transmitted. This may be due to malformed XML. Please review the XML standards outlined in Section 3 of the AIR Submission Composition and Reference Guide located [here](#), correct any issues on the Form file, and try again.

Figure 4-10: Sample of a UI Channel Fault Message

Table 4-4 below defines fault codes and messages from the ISS.

Table 4-4: List of Fault Codes (TPE Errors) for Tax Years 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 and 2023

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1001	Request	Message Delivery Failure	A2A	We are experiencing a technical issue. Please try your request again later. We apologize for the inconvenience.
			UI	We are experiencing a technical issue [Error Code 6052]. Please try your request again later. We apologize for the inconvenience.
TPE1101	Request	Invalid/Incorrect Namespace	A2A	Our system detected invalid or outdated XML namespaces in your message. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1101] Our system detected invalid or outdated XML namespaces in the Manifest file. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1102	Request	Service Window Closed	A2A	The requested service is not available at this time. Please resubmit during normal operation hours.
			UI	*Error not applicable to ISS-UI
TPE1104	Request	Request is not compliant	A2A	The request is not compliant with web service policy requirements. Please review the transmission instructions outlined in Section 5 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE1105	Request	XML is not well- formed	A2A	The message was not formatted properly and/or cannot be interpreted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1105] Our system has detected a potential threat in the Manifest file you are attempting to transmit, and it cannot be transmitted. This may be due to malformed XML. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1106	Request	SOAP message does not conform to WSDL	A2A	The message did not match our current WSDL and/or schema. Please see the Fault Details information below for the particular element(s) our system has detected a potential issue with. Please review the published WSDLs and schemas located on the AIR page , correct any issues, and try again.
			UI	[TPE1106] The Manifest file does not match our current schema. In particular, our system has detected a potential issue with the following element(s): <Element1>, <Element2>, <Element3>, and others. Please review the published schemas on the AIR page , correct any issues, and try again.
TPE1107	Request	Message exceeds maximum size limit of 100 MB	A2A	Request message exceeds the 100 MB maximum size limit. Please review the XML file standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues with the request, and try again.
			UI	[TPE1107] The Form file exceeds the 100 MB size limit. Please review the XML file standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues with the request, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1108	Request	Potential Code Injection Threat	A2A	Our system has detected a potential threat in the transmission and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1108] Our system has detected a potential threat in the Manifest file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.
TPE1109	Request	Potential SQL Injection Threat	A2A	Our system has detected a potential threat in the transmission and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1109] Our system has detected a potential threat in the Manifest file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1110	Request	Potential Document Structure Threat	A2A)	Our system has detected a potential threat in the transmission, and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1110] Our system has detected a potential threat in the Manifest file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.
TPE1112	Request	HTTP Compression Failure	A2A	The request message must be sent using HTTP compression (RFC 1952 - GZIP). Please review the transmission instructions outlined in Section 5 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	*Error not applicable to ISS-UI
TPE1114	Request	Message not MTOM encoded	A2A	The request message must be MTOM encoded. Please review the transmission instructions outlined in Section 5 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	*Error not applicable to ISS-UI
TPE1115	Request	Unable to decode MTOM encoded request message	A2A	We are experiencing a technical issue. Please try your request again later. We apologize for the inconvenience.
			UI	*Error not applicable to ISS-UI

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1118	Request	UTF-8 BOM encoding in the Manifest file and cannot be interpreted	UI only	Our system has detected UTF-8 BOM encoding in the Manifest file and cannot be interpreted. Please review the XML standards outlined in Section 10 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
TPE1122	Request	Invalid WS Security Signature (Keystore, Password)	A2A	Our system identified an issue with the WS-Security Header in your message. Please review the WS-Security instructions outlined in Section 5 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again
			UI	*Error not applicable to ISS-UI
TPE1123	Request	Invalid Digital Signature (Signed Parts)	A2A	Our system identified an issue with one or more signed parts in your message. Please review the WS-Security instructions outlined in Section 5 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	*Error not applicable to ISS-UI
TPE1126	Request	Failed to connect to the Authentication Policy Server	A2A	We are experiencing a technical issue. Please try your request again later. We apologize for the inconvenience.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1127	Request	Missing credentials in HTTP request	A2A	Message not formatted properly and is missing HTTP credentials. Please check message and try again.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE1128	Request	Failed to authenticate with the Authentication Policy Server	A2A	We were unable to authenticate your credentials. Please review the information about digital certificates included in Section 5 of the Publication 5258, AIR Submission Composition and Reference Guide , ensure that the credentials are valid, and try again.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE1129	Request	Failed to authorize with the Authentication Policy Server	A2A	We were unable to authenticate your credentials. Please review the information about digital certificates included in Section 5 of the Publication 5258, AIR Submission Composition and Reference Guide , ensure that the credentials are valid, and try again.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1130	Request	Request contains Invalid Test File Code value	A2A	Our system has detected an error with the Test File Code. Please check the message and try again. Please note that the Test File Code value of 'T' is used for AATS transmissions and the Test File Code value of 'P' is used for transmissions intended for IRS compliance processing.
			UI	[TPE1130] Our system has detected an error with the Test File Code of your Manifest file. Please check the file and try again. Please note that the Test File Code value of 'T' is used for AATS transmissions and the Test File Code value of 'P' is used for transmissions intended for IRS compliance processing.
TPE1131	Request	Request message UTID is either missing or invalid	A2A	Our system has detected an error with the Unique Transmission ID. Please review the UTID format outlined in Section 5 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1131] Our system has detected an error with the Unique Transmission ID of your Manifest file. Please review the UTID format outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Manifest file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1132	Request	Failed due to checksum validation error	A2A	“ChecksumAugmentationNum” value in your transmission against the calculated value of the form data file attachment. Please review Publication 5258, AIR Submission Composition and Reference Guide , Section 3.4.3, Computing Checksum, correct the checksum value, and retransmit.
			UI	[TPE1132] Our system detected an error while validating the “ChecksumAugmentationNum” value in your manifest file against the calculated value of the form data file. Please review Publication 5258, AIR Submission Composition and Reference Guide , Section 3.4.3, Computing Checksum. Correct the checksum value and retransmit.
TPE1133	Request	Unable to extract UserId from Manifest	A2A	Our system has detected an error with the UserId field of the ACASecurityHeader. Please verify that your A2A Client Application System ID (ASID) is included in the UserId field. For more information, please review the UserId guidelines outlined in section 5 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	*Error not applicable to ISS-UI
TPE1134	Request	Unauthorized request	A2A	*Error not applicable to A2A
			UI	403 Static Error Page
TPE1135	Request	Unauthorized request	A2A	*Error not applicable to A2A
			UI	[TPE1135] Our system has detected an issue with your request. Please return to the homepage and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1136	Request	Unauthorized request	A2A	*Error not applicable to A2A
			UI	[TPE1136] Our system has detected an issue with your request. Please return to the homepage and try again.
TPE1137	Request	Unauthorized request	A2A	*Error not applicable to A2A
			UI	[TPE1137] Our system has detected an issue with your request. Please return to the homepage and try again.
TPE1138	Request	Unauthorized request	A2A	*Error not applicable to A2A
			UI	[TPE1138] Our system has detected an issue with your request. Please return to the homepage and try again.
TPE1139	Request	Unable to process provided certificate	A2A	Our system has detected an issue with the transmission's certificate. Please check the request and try again.
			UI	*Error not applicable to ISS-UI
TPE1141	Request	Invalid request	A2A	*Error not applicable to A2A
			UI	[TPE1141] Our system has detected an issue with your request. Please return to the homepage and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1201	Request	Attachment is malformed	A2A	The attachment was not formatted properly and/or cannot be interpreted. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1201] Our system has detected a potential threat in the Form file, and it cannot be transmitted. This may be due to malformed XML. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Form file, and try again.
TPE1203	Request	Potential Code Injection in Attachment	A2A	Our system has detected a potential threat in the request message attachment. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1203] Our system has detected a potential threat in the Form file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Form file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1204	Request	Potential SQL Injection in Attachment	A2A	Our system has detected a potential threat in the request message attachment. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1204] Our system has detected a potential threat in the Form file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Form file and try again.
TPE1205	Request	Potential Document Structure Threat in Attachment	A2A	Our system has detected a potential threat in the request message attachment. Please review the XML standards outlined in Section 3 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
			UI	[TPE1205] Our system has detected a potential threat in the Form file and it cannot be transmitted. Please review the XML standards outlined in Section 3 of the Publication 5258, AIR Submission Composition and Reference Guide , correct any issues on the Form file, and try again.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE1206	Request	Extra attachment(s)	A2A	The request message contains more than one attachment. Please review the transmission instructions outlined in Section 5 of Publication 5258, AIR Submission Composition and Reference Guide , and resubmit with only one attachment.
			UI	*Error not applicable to ISS-UI
TPE1207	Request	Missing attachment(s)	A2A	The request message is missing an attachment. Please review the transmission instructions outlined in Section 5 of Publication 5258, AIR Submission Composition and Reference Guide , add an attachment to the request, and resubmit.
			UI	We are experiencing a technical issue [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE1208	Request	UTF-8 BOM encoding in the Form file and cannot be interpreted	UI and A2A	Our system has detected UTF-8 BOM encoding in the Form file and cannot be interpreted. Please review the XML standards outlined in Section 10 of Publication 5258, AIR Submission Composition and Reference Guide , correct any issues, and try again.
TPE2001	Response	Consumer is unreachable	A2A	Unable to deliver response message to transmitter.
			UI	TPE2001 is deprecated in the A2A service policy. Can be triggered via ISS UI, but under extremely rare circumstances. Could possibly remove this entry from the table entirely as transmitters are extremely unlikely to ever see this code.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE2111	Response	Unable to parse Receipt ID from Receipt message using XPath	A2A	Parse Receipt ID from Response message using XPath.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE2112	Response	Unable to parse timestamp from Receipt message using XPath	A2A	Parse Timestamp from Response Message using XPath.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE2113	Response	Unable to parse UTID from Receipt message using XPath	A2A	Parse UTID from Response Message using XPath.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE2114	Response	Unable to parse Error Code from Receipt message using XPath	A2A	Parse Error Code from Response Message using XPath.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE2115	Response	Unable to parse Error Message from Receipt message using XPath	A2A	Parse Error Message from Response Message using XPath.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.

Fault Code	Service Leg	Reason	Channel	ISS Fault Message
TPE2201	Response	There is an excess number of attachments in the response	A2A	We are experiencing a technical issue. Please try your request again later. We apologize for the inconvenience.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.
TPE2202	Response	The attachment in the response exceeded maximum size limit	A2A	We are experiencing a technical issue. Please try your request again later. We apologize for the inconvenience.
			UI	We are experiencing a technical issue with the receipt [Error Code 6064]. Please try your request again later. We apologize for the inconvenience.

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