



# **Intelligence Community Technical Specification**

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## **XML Data Encoding Specifications for Source Citations**

**Version 2015-AUGr2022-MAY**

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## Chapter 1 - Introduction

### 1.1 - Purpose

This *XML Data Encoding Specification for Source Citations* (SRC.XML) defines detailed implementation guidance for using Extensible Markup Language (XML) to encode source citations in analytic products.

The purpose of sourcing information is to enhance the credibility and transparency of intelligence analysis and to assist readers in making an informed assessment of the quality and the scope of sources underlying the analysis.

### 1.2 - Scope

The *Intelligence Community Technical Specification Framework* [\[4\]](#) defines the basic conceptual structure and outlines the core philosophy of Intelligence Community (IC) technical specifications. For convenience, a copy of this framework is included in every package.

This specification is applicable to covered analytic products, a subset of disseminated analytic products approved by the IC elements in consultation with the Deputy Director, Mission Integration (DDNI/II).

This Data Encoding Specification (DES) may have relevance outside the scope of intelligence; however, prior to applying outside of this defined scope, the DES should be closely scrutinized and differences separately documented and assessed for applicability.

### 1.3 - Enterprise Need

This DES is designed to fulfill a number of requirements in support of the transformational efforts of the IC. These requirements include:

- Capturing source citations to provide intelligence collectors the ability to systematically analyze how and how often the data they gather or produce is being used in order to facilitate better management of collection and production resources.
- Capturing source citations to enhance the analytic integrity of formally disseminated intelligence information and improving the traceability of collected information to analytic judgments and conclusions.

Both enterprise needs and requirements for this specification can be found in the following policies and implementation guidance:

- 200 Series:
  - Intelligence Community Directive (ICD) 206, *Sourcing Requirements for Disseminated Analytic Products* [\[6\]](#)
- 500 Series:
  - ICD 500, *Director Of National Intelligence Chief Information Officer* [\[7\]](#)
  - ICD 501, *Discovery and Dissemination or Retrieval of Information within the IC* [\[8\]](#)
  - Intelligence Community Standard (ICS) 500-20, *IC Enterprise Standards Compliance* [\[10\]](#)

## 1.4 - Conventions

Certain technical and presentation conventions are used in the creation of the IC technical specifications to ensure readability and understanding. For details, please see the “Specification Conventions” chapter in the IC-SF.XML<sup>[4]</sup>.

### 1.4.1 - XML Namespaces

Namespaces referenced in this document and the prefixes used to represent them are listed in the following table. The namespace prefix of any XML Qualified Name used in any example in this document should be interpreted using the information below.

**Table 1 - XML Namespaces**

Prefix	URI
ism	urn:us:gov:ic:ism
src	urn:us:gov:ic:src
tdf	urn:us:gov:ic:tdf

## 1.5 - Dependencies

Specifications often rely on other specifications, components or artifacts, either directly or indirectly. For specific definitions of dependency terminology used throughout this section, please see the “Dependency Definitions” chapter in the IC-SF.XML<sup>[4]</sup>.

### 1.5.1 - Specification Dependencies

The subsequent figure, [Figure 1](#), is an informative graphical representation of all of the Intelligence Community Chief Information Officer (IC CIO) specifications related to this specification. The graphic depicts dependencies. However, the representations may not match an exact schema import tree or dependency diagram that an analysis of the Schema, Schematron or other documents would yield. For example, the graphic only shows a given specification once even though it may actually be imported by many specifications or be a direct dependency. All IC CIO specifications listed in [Table 2](#) will be shown in [Figure 1](#); however not all IC CIO specifications listed in [Figure 1](#) may appear in [Table 2](#). [Figure 1](#) is to aid users in gaining a general understanding of all dependencies whether direct or transitive.

In the related specifications figure, [Figure 1](#), SOME-TDF is not an actual specification but a placeholder in the diagram that represents the fact that this specification depends on some Trusted Data Format (TDF) specification in its usage as an assertion in a Trusted Data Object (TDO).

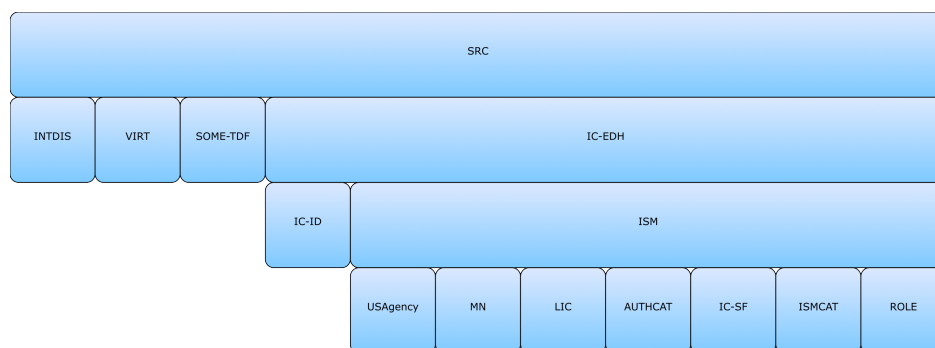
**Table 2 - Dependencies**

Name	Dependency Description
<i>XML Data Encoding Specification for Trusted Data Format</i> (IC-TDF.XML.V2019-MAR+) <sup>[5]</sup>	SRC.XML elements, as well as its dependent specifications, are used in conjunction with IC-TDF.XML <sup>[5]</sup> objects as structured assertions or content that compose the necessary material represented by SRC.XML. The dependence of SRC.XML on IC-TDF.XML is normative. This specification does not depend on a specific version of IC-TDF.XML; versions later than version 2019-MAR MAY be used. The minimum version was based on the earliest non-retired version; Enterprise Standards Baseline (ESB) 22-1 was used for determining the version.
<i>XML Data Encoding Specification for Information Security Marking Metadata</i> (ISM.XML.V2021-NOVr2022-NOV+) <sup>[13]</sup>	This specification depends on the LATEST technically sound, approved version of ISM.XML <sup>[13]</sup> . The minimum version was based on compliance with the authoritative source, which is ICD-710 <sup>[9]</sup> . Per ICD-710, all security markings MUST be updated within 365 days of a release of the Register and Manual. As of this release, the latest version of ISM.XML is 2021-NOVr2022-NOV which is based on the Register and Manual released in August, 2019.
<i>XML Data Encoding Specification for Enterprise Data Header</i> (IC-EDH.XML.V2019-MAR+) <sup>[2]</sup>	This specification does not depend on a specific version of IC-EDH.XML <sup>[2]</sup> ; versions later than version 2019-MAR MAY be used. The dependence of SRC.XML on IC-EDH.XML is normative. The minimum version was based on the earliest non-retired version; ESB 22-1 was used for determining the version.
<i>XML Data Encoding Specification for Intelligence Community Identifier</i> (IC-ID.XML.V1+) <sup>[3]</sup>	The specification does not depend on a specific version of IC-ID.XML <sup>[3]</sup> ; versions later than version 1 MAY be used. The minimum version was based on the earliest non-retired version; ESB 22-1 was used for determining the version.
<i>CVE Encoding Specification for Intelligence Discipline</i> (INTDIS.CES.V2017-JUL+) <sup>[12]</sup>	The specification does not depend on a specific version of INTDIS.CES <sup>[12]</sup> ; versions later than version 2017-JUL MAY be used. The minimum version was based on the earliest non-retired version; ESB 22-1 was used for determining the version.



Name	Dependency Description
<i>XML Data Encoding Specification for Virtual Coverage</i> (VIRT.XML.V2020-OCT+ <sup>[15]</sup> )	This specification does not depend on a specific version of VIRT.XML <sup>[15]</sup> ; versions later than version 2020-OCT MAY be used. The minimum version was based on the earliest non-retired version; ESB 22-1 was used for determining the version.
<i>Intelligence Community Specification Framework</i> (IC-SF.XML.V2021-NOV+ <sup>[4]</sup> )	This specification does not depend on a specific version of IC-SF.XML <sup>[4]</sup> ; versions later than version 2021-NOV MAY be used, however, the newest version of IC-SF.XML SHOULD be used as IC-SF.XML is expected to always replace its preceding version. The minimum version was based on technical dependencies on IC-SF.XML; IC-SF.XML is the basic structure of and philosophy behind intelligence community technical specifications.
Schematron <sup>[14]</sup>	<p>Schematron — International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 19757-3:2006 — is a rule-based document schema definition language. In this specification Schematron is a formal language used to express normative business rules, so this reference is normative.</p> <p>The Schematron rules are normative in the sense that they convey criteria that a document MUST adhere to, exactly as English may be used to convey normative criteria. It is not necessary for implementers to use the specific Schematron encoding in this specification. Implementers MAY use any encodings, tools, or languages desired to implement validation schemes for conformance to this specification.</p> <p>Note: The Schematron rules in this specification use Transformations (XSLT) 2.0<sup>[16]</sup> query binding.</p>

Name	Dependency Description
XSLT 2.0 <sup>[16]</sup> implementation of Schematron <sup>[14]</sup> by Rick Jelliffe (2010-04-14)  Note: The only available identifying descriptors for this implementation are the implementer's name and date of release. This implementation may be found at the following Uniform Resource Locator (URL): <a href="http://code.google.com/p/schematron/">http://code.google.com/p/schematron/</a> .	<p>The International Organization for Standardization does not create nor endorse reference implementations of its standards. For the purposes of this specification the <i>behavior</i> of the implementation created by Mr. Jelliffe is normative.</p> <p>Implementers MAY use any encodings, tools, or languages desired to implement validation schemes for conformance to this specification. To conform to this specification, a validator <b>MUST</b> find a document valid <i>if and only if</i> the Schematron implementation by Mr. Jelliffe would find the document valid according to the Schematron rules in this specification.</p>

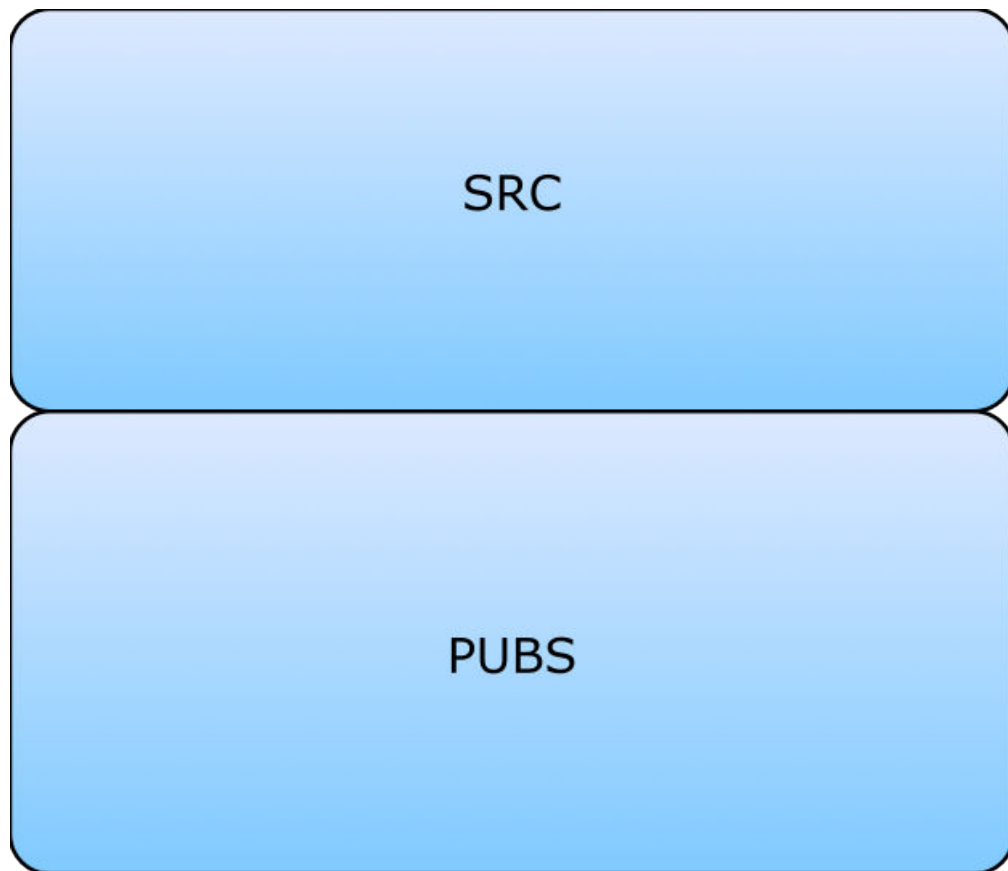


**Figure 1 : Related Specifications**

## 1.5.2 - Inverse Dependencies

Generally, it is only necessary to think of the *dependencies* in the dependency tree. However, with the specification versions being decoupled, it is also important to consider the *inverse dependencies*, for compatibility with newer versions of a given specification. The changes introduced to a given specification can sometimes make it incompatible with current versions of its inverse dependencies (specifications that uses the given specification).

Since this specification is one such specification that is used by other specifications released by the IC CIO, the [Figure 2](#) has been included to assist readers in understanding all of the inverse dependency relationships and how changes in this given specification may impact others specifications. This diagram is representative of direct and transitive inverse dependencies at the time of the release of this specification, but are subject to change over time and is presented in a list format that is different than [Figure 1](#).



**Figure 2 : Inverse Dependency Specifications**

## Chapter 2 - Development Guidance

For information on the structure and content of the specifications, please see the “Specification Overview” chapter in the IC-SF.XML<sup>[4]</sup> framework document. This chapter is intended to expand upon the common information that the framework specifies providing specific development guidance that is specific to the implementation of this specification.

### 2.1 - Understanding Source Citations

Structured sourcing information can help provides credibility, and transparency on a bibliographic resource. A source citation is a special type of bibliographic reference (i.e., a formal identification system) unique to the intelligence discipline that contains pertinent information resource metadata and details of the extent of the information being referenced. In accordance with ICD 206, *Sourcing Requirements for Disseminated Analytic Products*<sup>[6]</sup>, 22 January 2015, source citations are to be listed in a special section at the end of intelligence products.

The encoding of a source citation is made up of four components:

- **Source Reference Citation (SRC)** A specified set of factual information elements about a source, presented in uniform format in an endnote. Information in SRCs enable readers to locate and retrieve the source, and may help readers assess the quality or credibility of the source.
- **Appended Reference Citation (ARC)** A specified set of descriptive elements about information that relates to analysis in a supplemental or complementary way, but that does not expressly affect or support a specific aspect or outcome of analysis. ARCs may refer to information considered with sources in the development of analysis, or may refer to information that provides broader context or background.
- **Source Descriptors** A brief, narrative exposition of factors that affect or indicate the quality or credibility of a single source. These factors are distinct from the information elements in a source reference citations. Source descriptor factors may include accuracy and completeness, possible denial and deception, age and continued currency of information, and technical elements of collection as well as source access, validation, motivation, possible bias, or expertise. When a source’s relevance is unlikely to be apparent if a reader consults the source report directly, a source descriptor may also include an explanation of the source’s relevance.
- **Source Summary Statement** An explanation of quality, credibility, or validity factors that pertain for sources considered together, usually for the whole set of sources upon which a disseminated analytic product is based.

### 2.2 - Source Citations Usage

SRC.XML is used in conjunction with a TDF structure such as IC-TDF.XML<sup>[5]</sup> objects as structured assertions. A TDO conforms to SRC.XML when it contains:

- A structured assertion of `@tdf:scope="TDO"` or `"PAYL"` and an `src:SourceCitations` element

where the token "**TDO**" means this assertion applies to every element within the TDO other than itself (includes peer **@HandlingAssertions**, **Assertions**, and the **Payload**).

## Chapter 3 - Constraints

### 3.1 - Data Validation Constraint Rules

The SRC.XML schema defines the data elements, attributes, cardinalities and parent-child relationships for which XML instances must comply. Validation of these syntax aspects is an important first step in the validation process. An additional level of validation is needed to ensure that the content complies with the constraints as specified in applicable IC policy guidance and codified in these constraint rules. Traditional schema languages are generally unable to effectively represent these additional constraints. For more information, please see the “Data Validation Constraint Rules” chapter in the IC-SF.XML<sup>[4]</sup> framework document.

#### 3.1.1 - Inherited Constraints

In an instance of SRC.XML, the use of attributes and elements from supplementary data encoding specifications must be fully conformant with the constraint rules defined in those specifications. For a full list of supplementary specifications, see [Section 1.5 - Dependencies](#).

#### 3.1.2 - Additional Constraints

##### 3.1.2.1 - DES Constraints

The DES version is specified through attributes on the root element. The schema constrains the values of these attributes. The **DESversion** attribute enables systems processing an instance document to be certain which set of constraint rules, schema, Controlled Vocabulary Enumeration (CVE)s and business rules are intended by the author to be used.

#### 3.1.3 - Constraint Rules

The detailed constraint rules for the SRC.XML schema can be found in a separate document inside the Documents/SRC directory, in the “SRC\_Rules.pdf” file. This document is generated from the individual Schematron files to provide a single searchable document for all of the constraint rules encoded in Schematron. Obsolete rule numbers are listed in the “SRC\_Rules.pdf” file.

### 3.2 - Data Rendering Constraint Rules

#### 3.2.1 - Purpose

Rendering rules define constraints on the rendering and display of SRC.XML documents. The intent is to inform the development of systems capable of rendering or displaying SRC.XML data for use by individuals not familiar with the details of the SRC.XML markup. While expressed in a similar manner to the data validation constraint rules above, there is no expectation that evaluation of these rules can be automated; rather these rules should inform the evaluation of a system’s capabilities and functionality.

## 3.2.2 - Rendering Constraint Rules

The following table contains the information for the SRC.XML data rendering constraint rules.

**Table 3 - Constraint Rules**

Rule Number	Severity	Description	Human Readable Description
There are no Data Rendering Constraint rules at this time.			

## 3.3 - Source Citations

Source citations are a special type of bibliographic reference (i.e., a formal identification system) unique to intelligence. Source Citations contain information necessary to enable readers to discover and retrieve cited sources consistent with ICD 501, *Discovery and Dissemination or Retrieval of Information Within the Intelligence Community* [\[8\]](#), 21 January 2009 as specified in ICD 206 [\[6\]](#).

## Chapter 4 - Requirement Mapping

### 4.1 - Mapping of ICD 206 Conceptual Elements to SRC-XML Elements

The conceptual elements defined in ICD 206<sup>[6]</sup> are mapped to XML elements as shown below. In the mapping, classification information is usually mapped to the ISM.XML<sup>[13]</sup> and denoted as @ism:\* to represent the collection of attributes defined by ISM.XML<sup>[13]</sup>.

**Table 4 - Mapping of ICD 206 Conceptual Elements to SRC-XML Elements**

ICD 206 Conceptual Elements	XPath and XML Implementation Notes
Source Citations	src:SourceCitations  is the root element and contains the following <ul style="list-style-type: none"> <li>• src:SRCList</li> <li>• src:ARCList</li> <li>• src:SourceSummaryStatement</li> </ul>
Source Reference Citation	src:SRCList/ src:SourceReferenceCitation
Appended Reference Citation	src:ARCList/ src:AppendedReferenceCitation
Citation Classification	src:SRCList/ src:SourceReferenceCitation/@ism:* - classification  src:ARCList/ src:AppendedReferenceCitation/@ism:* - classification
Source Summary Statement  <i>Covers strengths and weaknesses of source base, which sources are most important to key judgements, what sources are meaningfully corroborative or conflicting, and highlight any specific subject matter expertise used to develop the assessment.</i>	src:SourceSummaryStatement  src:SourceSummaryStatement/@ism:* - classification



ICD 206 Conceptual Elements	XPath and XML Implementation Notes
<p>Information Originator</p> <p><i>Country of origin, organization, or author, producer, owner, and classification, if included.</i></p>	<p>Elements and attributes below are relative to  src:SRCList/  src:SourceReferenceCitation/  src:InformationOriginator</p> <ul style="list-style-type: none"> <li>• src:Agency/edh:Country</li> <li>• src:Agency/edh:Organization</li> <li>• src:Agency/edh:SubOrganization</li> <li>• src:Agency/@ism:* - classification</li> <li>• src:AuthorInfo</li> <li>• src:AuthorInfo/@ism:* - classification</li> <li>• src:EditorInfo</li> <li>• src:EditorInfo/@ism:* - classification</li> <li>• src:POCinfo</li> <li>• src:POCinfo/@ism:* - classification</li> </ul>

ICD 206 Conceptual Elements	XPath and XML Implementation Notes
<p>Overall Source Classification</p> <p><i>Overall classification of the source document cited.</i></p>	<p>Elements and attributes below are relative to  src:SRCList/  src:SourceReferenceCitation/</p> <ul style="list-style-type: none"> <li>• Security attributes that represent the contemporary Security Markings Program (SMP) marks for the segment referenced SHOULD be put in  src:OverallSourceClassification/  @ism:*<sup>a</sup></li> <li>• Legacy SMP or other markings SHOULD be put in  src:OverallSourceClassification/  src:OriginalClassificationMarking</li> <li>• Should the <b>@OriginalClassification</b> text be in and of itself classified that Classification information SHOULD be provided in:  src:OverallSourceClassification/  src:OriginalClassificationMarking/  @ism:*</li> </ul>
<p>Source Identifier</p> <p><i>Unambiguous source identifier that is either an IC-ID.XML<sup>[3]</sup> or a Document Identifier (e.g., report serial number, document name or number, image frame identification code, etc.</i></p>	<p>src:SRCList/  src:SourceReferenceCitation/  src:SourceID</p> <p>src:ARCList/  src:AppendedReferenceCitation/  src:SourceID</p>
<p>Alternative Source Identifier</p> <p><i>A secondary source identifier that may or may not be unambiguous.</i></p>	<p>src:SRCList/  src:SourceReferenceCitation/  src:AlternativeSourceID</p> <p>src:ARCList/  src:AppendedReferenceCitation/  src:AlternativeSourceID</p>
<p>Source Reference Type</p> <p><i>e.g., book or periodical, on-line publication, Internet site (blogs, wikis)</i></p>	<p>src:SRCList/  src:SourceReferenceCitation/  src:SourceType</p>
<p>Intelligence Discipline</p>	<p>src:SRCList/  src:SourceReferenceCitation/  src:IntelDiscipline</p>

ICD 206 Conceptual Elements	XPath and XML Implementation Notes
<p>Source Descriptor</p> <p><i>When the producing organization assesses that factors contained in a cited report or publicly available information may affect the quality or reliability of information in the specific report cited.</i></p>	<p>Elements and attributes below are relative to src:SRCList/ src:SourceReferenceCitation/</p> <ul style="list-style-type: none"> <li>• src:SourceDescriptor</li> <li>• src:SourceDescriptor/@ism:* – classification</li> </ul>
<p>Language</p>	<p>src:SRCList/ src:SourceReferenceCitation/ src:Language</p>
<p>Date of Publication</p> <p><i>or date of issuance, posting, or access if posting is unknown</i></p>	<p>src:SRCList/ src:SourceReferenceCitation/ src:DatePublished</p>
<p>Date of Time Referenced</p> <p><i>A reference to a point in time when a source being cited was consulted.</i></p>	<p>src:SRCList/ src:SourceReferenceCitation/ src:DateTimeReferenced</p>
<p>Date of Information</p>	<p>src:SRCList/ src:SourceReferenceCitation/ src:DateInformation</p>
<p>Source Title</p> <p><i>Document title or subject and/or volume and issue numbers, and classification if included, name of publication or Internet site.</i></p>	<p>Elements and attributes below are relative to src:SRCList/ src:SourceReferenceCitation/</p> <ul style="list-style-type: none"> <li>• src:Title</li> <li>• src:Title/@ism:* – classification</li> <li>• src:SubTitle</li> <li>• src:SubTitle/@ism:* – classification</li> <li>• src:CompilationTitle</li> <li>• src:CompilationTitle/@ism:* – classification</li> <li>• src:EditionNumber</li> <li>• src:VolumeNumber</li> <li>• src:IssueNumber</li> </ul>

ICD 206 Conceptual Elements	XPath and XML Implementation Notes
<p>Source Information Classification</p> <p><i>Classification of the extracted information.</i></p>	<p>Elements and attributes below are relative to  <code>src:SRCList/</code>  <code>src:SourceReferenceCitation/</code></p> <ul style="list-style-type: none"> <li>• Security attributes that represent the contemporary SMP marks for the segment referenced <b>SHOULD</b> be put in  <code>src:SegmentReferenced/</code>  <code>src:SourceInformationClassification/@ism:*</code></li> <li>• Legacy SMP or other markings <b>SHOULD</b> be put in <code>src:SegmentReferenced/</code>  <code>src:SourceInformationClassification/</code>  <code>src:OriginalClassificationMarking</code></li> <li>• Should the <b>@OriginalClassification</b> text be in and of itself classified that Classification information <b>SHOULD</b> be provided in <code>src:SegmentReferenced/</code>  <code>src:SourceInformationClassification/</code>  <code>src:OriginalClassificationMarking/</code>  <code>@ism:*</code></li> </ul>
<p>Segment Indicator</p> <p><i>Page number or paragraph number where the relevant information can be found when applicable.</i></p>	<p>Elements and attributes below are relative to  <code>src:SRCList/</code>  <code>src:SourceReferenceCitation/</code></p> <ul style="list-style-type: none"> <li>• <code>src:SegmentReferenced/</code>  <code>src:MediaExtent</code></li> <li>• <code>src:SegmentReferenced/</code>  <code>src:SegmentLabel</code></li> </ul>
<p>Link</p> <p><i>Citations <b>SHOULD</b> include a hyperlink or URL to the source reference cited, when applicable.</i></p>	<p>Elements and attributes below are relative to  <code>src:SRCList/</code>  <code>src:SourceReferenceCitation/:</code></p> <ul style="list-style-type: none"> <li>• <code>src:Link/@xlink:href</code></li> <li>• <code>src:Link/@ism:*</code> – classification</li> <li>• <code>src:SegmentReferenced/src:Link/</code>  <code>@xlink:href</code></li> <li>• <code>src:SegmentReferenced/src:Link/</code>  <code>@ism:*</code> – classification</li> </ul>

ICD 206 Conceptual Elements	XPath and XML Implementation Notes
<p>Inclusion Reason</p> <p><i>Succinct explanation why ARC is included; provides further information related to SRC.XML or specific passage in the body of the product or notes use of analytic outreach or other type of engagement or analytic technique.</i></p>	<p>Elements and attributes below are relative to src:ARCList/ src:AppendedReferenceCitation/</p> <ul style="list-style-type: none"> <li>• src:InclusionReason</li> <li>• src:InclusionReason/@ism:* – classification</li> </ul>
<p>Publisher Type</p> <p><i>e.g., IC, open-source, or foreign</i></p>	<p>src:SRCList/ src:SourceReferenceCitation/ @src:publisherType</p>

<sup>a</sup>The security attributes on the **security** element do NOT impact the overall security mark of the citation since they only convey what the classification of the cited resource is not any data in the current document.

Appendix A Feature Summary

The following tables summarize major features by version for SRC.XML. The “Required date” is the date when systems SHOULD support a feature based on the specified driver. Executive Orders, Information Security Oversight Office (ISOO) notices, ICDs and other policy documents have a variety of effective dates. The “Required date” may be later than the date of applicable policy based on the effective date defined in the policy (e.g., The IC Markings<sup>[1]</sup> has an implementation date of one year after issuance).

Table 5 - Feature Summary Legend

Key	Description
F	Full (able to comply and verified by spec to some degree)
P	Partial (Able to comply but not verifiable)
N	Non-compliance (Can’t comply)
N/A	Not Applicable. Feature is no longer required.
Cell Colors represent the same information as the Key value	

A.1. SRC.XML Feature Summary

Table 6 - SRC Feature Comparison

Required date	Feature	V2015-AUG	V2015-AUGr2022-MAY
January 22, 2016	Compliance with ICD 206 <sup>[6]</sup>	F	F
	Correct bug in SRC schema	N	F

## Appendix B Change History

The following table summarizes the version identifier history for this DES.

**Table 7 - DES Version Identifier History**

Version	Date	Purpose
2015-AUG	August 13, 2015	Initial Release. For details of changes, see <a href="#">Section B.2 - V2015-AUG Change Summary</a>
2015-AUGr2022-MAY	May 13, 2022	Routine revision to technical specification. For details of changes, see <a href="#">Section B.1 - V2015_AUGr2022-MAY Change Summary</a>

### B.1 - V2015\_AUGr2022-MAY Change Summary

Significant drivers for Version V2015\_AUGr2022-MAY include:

- Community Change Requests

The following table summarizes the changes made to V2015\_AUG in developing V2015\_AUGr2022-MAY.

**Table 8 - Data Encoding Specification V2015\_AUGr2022-MAY Change Summary**

#	Change	Artifacts changed	Compatibility Notes
1	SRC Schema Validation error @src:citationID. (CR-2022-009)	Schema	No impact to systems
2	Add @id, @role and ISM attributes to Schematron (CR-2017-233), CR-2017-316)	Schematron SRC-ID-00001 modified SRC-ID-00002 modified SRC-ID-00003 modified SRC-ID-00004 modified SRC-ID-00006 modified SRC-ID-00007 modified SRC-ID-00009 modified SRC-ID-00010 modified SRC-ID-00011 modified	No impact to existing systems.

#	Change	Artifacts changed	Compatibility Notes
3	Update implementation notes in the schema and schema guide schema. (CR-2021-018)	Schema	No impact to systems
4	Updated documentation to use the specification framework. (CR-2019-041)	Documentation	No impact to systems.
5	Update version attributes for SRC direct dependencies on SRCRootNodeAttributeGroup (CR-2017-141)	Schema Schematron SRC-ID-00011 modified SRC-ID-00016 added SRC-ID-00017 added SRC-ID-00018 added SRC-ID-00019 added	Data generation and ingestion systems need to be updated to support the latest version of the schema.
6	Update SRC with environment validation schematron rules for its direct dependencies. (CR-2017-095)	Schematron SRC-ID-00001 modified SRC-ID-00012 added SRC-ID-00013 added SRC-ID-00014 added SRC-ID-00015 added	Data generation and ingestion systems need to be updated to support the latest version of the schema.
7	Added schema PDF. (CR-2018-028)	Documentation	No impact to systems.
8	Update Dependency table to point to the appropriate law or policy. (CR-2019-159)	Documentation	No impact to systems.
9	Add rule to enforce DESVersion. (CR-2022-015)	Schematron SRC-ID-00020 added	Data generation and ingestion systems need to be updated to support the latest version of the schema.

## B.2 - V2015-AUG Change Summary

Significant drivers for Version V2015-AUG include:

- Creation of SRC.XML specification.

The following table summarizes the changes in V2015-AUG.



**Table 9 - Data Encoding Specification V2015-AUG Change Summary**

#	Change	Artifacts changed	Compatibility Notes
1	Creation of SRC specification.	DES Schema Examples Schematron	Data generation and ingestion systems need to be updated to support the latest version of the schema.

## Appendix C Glossary

This appendix lists terms, definitions and sources of the definitions for terms used in this document.

attribute	<p>A distinct characteristic of an object. In the context of ICAM standards for PE and NPE entities, an attribute captures characteristics of PEs and NPEs.</p> <p>Source: ICS 500-30, <i>Enterprise Authorization Attributes: Assignment, Sources, and Use for Attribute-Based Access Control of Resources</i> <sup>[11]</sup>.</p>
token	<p>A token datatype is an XML schema language built-in datatype. A token datatype is a string datatype that contains one or more strings separated by a single space, e.g., <code>ism:releasableTo='USA AFG FVEY'</code> is an example of an ISM attribute that has token datatype. A token datatype contains no leading or trailing spaces, no carriage returns, no line feeds and no tab characters. The individual strings in an element or attribute that is a token datatype are referred to as <u>tokens</u>. In the <code>ism:releasableTo='USA AFG FVEY'</code> example, the tokens are 'USA', 'AFG' and 'FVEY'. In contrast, the <u>value</u> of <code>ism:releasableTo</code> is the entire string 'USA AFG FVEY'.</p> <p>Source: <a href="https://www.w3.org/TR/2004/REC-xmlschema-2-20041028/#token">https://www.w3.org/TR/2004/REC-xmlschema-2-20041028/#token</a></p>

## Appendix D List of Abbreviations

This appendix lists all the acronyms and abbreviations referenced in this encoding specification.

ARC	Appended Reference Citation
CVE	Controlled Vocabulary Enumeration
DDNI/MI	Deputy Director, Mission Integration
DES	Data Encoding Specification
DNI	Director of National Intelligence
ESB	Enterprise Standards Baseline
IC	Intelligence Community
ICAM	Identity, Credential, and Access Management
IC CIO	Intelligence Community Chief Information Officer
ICD	Intelligence Community Directive
IC ESB	Intelligence Community Enterprise Standards Baseline
ICS	Intelligence Community Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ISOO	Information Security Oversight Office
NPE	Non-Person Entity
PE	Person Entity
SMP	Security Markings Program
SRC	Source Reference Citation
TDF	Trusted Data Format
TDO	Trusted Data Object
URL	Uniform Resource Locator
XML	Extensible Markup Language
XSL	Extensible Stylesheet Language
XSLT	XSL Transformations

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## Appendix F Points of Contact

The Intelligence Community Chief Information Officer (IC CIO) facilitates one or more collaboration and coordination forums charged with the adoption, modification, development, and governance of IC technical specifications of common concern. This technical specification was produced by the IC CIO and coordinated with these forums, approved by the IC CIO or a designated representative, and made available at the following Director of National Intelligence (DNI)-sponsored web sites.

Public Website: <https://w3id.org/ic/standards/public>

Intelshare: <https://w3id.org/ic/standards/data-specs>

Direct all inquiries about this IC technical specification, IC technical specification collaboration and coordination forums, or IC element representatives involved in those forums, to the IC CIO.

E-mail: [ic-standards-support@odni.gov](mailto:ic-standards-support@odni.gov).

## Appendix G IC CIO Approval Memo

An IC CIO Approval Memo should accompany this enterprise technical data specification bearing the signature of the IC CIO or an IC CIO-designated official(s). If an IC CIO Approval Memo is not accompanying this specification's version release package, then refer back to the authoritative web location(s) for this specification to see if a more complete package or a specification update is available.

Specification artifacts display a date representing the last time a version's artifacts as a whole were modified. This date most often represents the conclusion of the IC Element collaboration and coordination process. Once the IC Element coordination process is complete, the specification goes through an internal IC CIO staffing and coordination process leading to signature of the IC CIO Approval Memo. The signature date of the IC CIO Approval Memo will be later than the last modified date shown on the specification artifacts by an indeterminable time period.

Upon signature of the IC CIO Approval Memo, IC Elements may begin to use this specification version in order to address mission and business objectives. However, it is critical for IC Elements, prior to disseminating information encoded with this new specification version, to ensure that key enterprise services and consumers are prepared to accept this information. IC Elements should work with enterprise service providers and consumers to orchestrate an orderly implementation transition to this specification version in concert with mandatory and retirement usage decisions captured in the Intelligence Community Enterprise Standards Baseline (IC ESB) as defined in ICS 500-20<sup>[10]</sup>.