

XML DATA ENCODING SPECIFICATION FOR INFORMATION SECURITY MARKING METADATA VERSION 4

ICTechSpec 500.D.2-V4

An Intelligence Community Technical Specification
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Chapter 1 – Introduction

1.1 Purpose

This *XML Data Encoding Specification for Information Security Marking Metadata* (ISM.XML) defines detailed specifications for using Extensible Markup Language (XML) to encode information security marking metadata in compliance with the *Intelligence Community Abstract Data Definition*. This Data Encoding Specification (DES) defines the XML elements and attributes, associated structures and relationships, mandatory and cardinality requirements, and permissible values for representing security marking concepts using XML.

1.2 Needs and Requirements

Information sharing within the national intelligence enterprise will increasingly rely on information assurance metadata (including information security markings) to allow interagency access control, automated exchanges, and appropriate protection of shared intelligence when necessary. A structured, verifiable representation of security marking metadata bound to the intelligence data is required in order for the enterprise to become inherently “smarter” about the information flowing in and around it. Such a representation, when implemented with other data formats, improved user interfaces, and data processing utilities, can provide part of a larger, robust information assurance infrastructure capable of automating some of the management and exchange decisions today being performed by human beings.

Early in the intelligence life cycle, intelligence producers need:

- User interfaces that help reliably assign and manipulate information security markings
- Automated formatting of the IC's classification and control marking system as defined by Executive Order (EO) 13526, ICD 710, Classification and Control Marking System, and implemented by the CAPCO Register and accompanying Implementation Manual, this includes portion marks, security banners, the classification authority block, and other security control markings
- Cross-domain discovery, access, and dissemination capabilities

These capabilities will allow for security marking metadata to be captured and associated with intelligence structures in order to support attribute- and clearance-based information management practices, such as:

- Secure collaboration
- Content management
- Content and portion-level filtering of discovery results
- Cross-security domain content transfers

1.3 Audience and Applicability

DESs are intended primarily to be used by those developing tools and services to create, modify, store, exchange, search, display, or further process the type of data being described. The applicability and conditions for when the DES should be used will be found in the Intelligence Community Enterprise Standards Baseline and referenced in IC policy guidance.

1.4 Utility

A DES specifies how to implement the abstract data elements in the IC.ADD in a particular physical encoding (e.g., data or file format). For example:

- DESs for textual markup formats, such as XML and HyperText Markup Language (HTML), define markup elements and attributes, their relationships, cardinalities, processing requirements, and use.
- DESs for display formats, such as text and Adobe Portable Document Format (PDF), define text and typographic conventions, cardinalities, processing requirements, and use.
- DESs for application-specific formats, such as Microsoft Word, define document properties, styles, fields, cardinalities, processing requirements, and use.

1.5 Version Information

This is **Version 4** of this DES. This version number must be specified in the **DESVersion** attribute within any XML instance document claiming to be valid against this version. A separate **DESVersion** attribute must be specified for each DES against which an instance document is claiming compliance. These attributes must be in the namespace specified by each DES.

The following table lists the major changes made to version this DES. See Appendix F for changes made in prior versions.

Table 1. DES change summary

Change	Artifacts changed	Compatibility Notes
Add support for DoD Distro Statements	Schema Controlled Value Enumerations <u>ISM-DoD5230.24Applies</u> <u>ISM-ICD-710Applies</u> <u>ISM-ID-00119</u> <u>ISM-ID-00120</u> <u>ISM-ID-00155</u> <u>ISM-ID-00156</u> <u>ISM-ID-00157</u> <u>ISM-ID-00158</u> <u>ISM-ID-00159</u> <u>ISM-ID-00160</u> <u>ISM-ID-00161</u> <u>ISM-ID-00162</u>	Data generation and Ingestion systems need to be updated to use the new structures and to properly enforce the new constraint rules
Refactor how NATO marks are represented	Schema Controlled Value Enumerations <u>ISM-ID-00163</u>	Data generation and Ingestion systems need to be updated to use the new structures and to properly enforce the new constraint rules
Use Schema to enforce DES version number	Schema <u>ISM-ID-00102</u>	Forces DES to match version shipped.
Enforce ICD 710 immediately	<u>ISM-ID-00088</u> <u>ISM-ID-00119</u> <u>ISM-ID-00120</u> <u>ISM-ID-00089</u>	Data Ingestion systems need to be updated to properly enforce the new constraint rules. Data generation systems compliant with ICD 710 need make no changes. Existing data may not be valid anymore.
Remove Duplicate or redundant rules.	<u>ISM-ID-00144</u> <u>ISM-ID-00023</u>	Data validation systems may remove duplicate code.

1.6 Components of this DES

This document is the primary documentary component of the DES. This document contains:

- **Chapter 1 – Introduction.** The introduction describes high-level background information for this document. It defines the purpose and scope of this document.
- **Chapter 2 – Development Guidance.** This chapter covers two primary topics: 1) mappings of the XML element and attributes defined within this DES to

appropriate IC.ADD data elements, and 2) descriptions of how particular encoding situations should be handled using the features provided by this DES.

- **Chapter 3 – XML Schema Guide.** Highlights the availability of an interactive presentation of the ISM.XML schema as well as an implementation-specific data element dictionary.
- **Chapter 4 – Data Validation Constraint Rules.** The constraint rules in this chapter define data validation constraints for ISM.XML beyond those in the XML Schema.

This DES consists of a number of additional technical components to include: the interactive *XML Schema Guide* referenced in Chapter 3, XML schema files, Controlled Vocabulary Enumerations (CVE) files, and Extensible Stylesheet Language Transformation (XSLT) files for rendering ISM marks.

1.7 Normative and Informative Components

The XML schemas, CVE values from the XML CVE files, and the Chapter 4 constraint rules are normative for this DES. The rest of this document, the descriptive content referenced within the *XML Schema Guide*, the XSL transformations, and HTML CVE value files are informative.

1.8 Technical Encoding Dependencies

This DES serves a critical role in bridging the text-based security marking instructions and business rules established by the Office of the Director of National Intelligence (ODNI), Special Security Center (SSC), Controlled Access Program Coordination Office (CAPCO) Register and Implementation Manual, Information Security Oversight Office (ISOO) Directive 1, E.O. 13526, and E.O. 12829, as amended; with the technical implementation of marking concepts within local and enterprise systems. It is important to recognize that this DES relies on the CAPCO Register and Implementation Manual as the authoritative sources for the controlled values, marking relationships, and presentation formats. This DES pertains to the technical implementation of a data model for information security markings and in no way attempts to replace or assume authority for text-based security marking instructions, controlled values, or business rules.

The particular value enumerations from the CAPCO Register and other authoritative sources of values used by this DES are described in the CVEs.

1.9 Typographic conventions

Certain typography is used throughout the body of this document to convey certain meanings, in particular:

- *Italics* – A title of a referenced work or a specialized or emphasized term.
- Underscore – An abstract data element.
- **Bold** – An XML element or attribute.

Chapter 2 – Development Guidance

This chapter covers two primary topics:

- 1) Mappings of the XML element and attributes defined within this DES to appropriate IC.ADD data elements
- 2) Descriptions of how particular encoding situations should be handled using the features provided by this DES.

2.1 Mapping of Abstract Data Elements to Physical XML Elements

The mapping of abstract data elements from the IC.ADD to the corresponding physical XML structures defined by this DES is shown in the following tables, which reflect the groupings in the IC.ADD. These mappings are provided for reference only. The complete set of DES artifacts, both normative and informative, should be consulted.

This mapping and additional mappings in other DESs provide a starting point for the development of automated transformations between formats defined by the DESs. However, it should be noted that when these transformations are used between formats with different levels of detail, there might be some data loss.

Table 2. Mapping of Abstract Data Element to Physical XML Elements

Abstract Data Element	Definition	XPath and XML implementation notes
Resource Security Mark	<p>The overall security classification and security handling instructions carried by the resource.</p> <p>These values are prominently presented, in the case of publications, at the top and bottom of every page and in other specified locations.</p>	<p>The physical structures representing the conceptual refinements for the Resource Security Mark are intended to be associated with the entire resource being encoded by the presence of @resourceElement="true" on the element that represents the Resource Security metadata.</p> <p>Note: This is the same element that holds the Resource Classification Declassification Mark.</p> <p>The following attributes represent the Resource Security Mark.</p> <p>@classification @compilationReason @disseminationControls @FGISourceOpen @FGISourceProtected @nonICmarkings @ownerProducer @releasableTo @SARIdentifier @SCIcontrols @notice</p>

Abstract Data Element	Definition	XPath and XML implementation notes
Resource Classification Declassification Mark	<p>Classification information and declassification instructions associated with a classified resource based on either an original or derivative classification decision(s).</p> <p>These values are prominently presented with specific labels and formatting on the first page of a document.</p>	<p>The physical structures representing the conceptual refinements for the Resource Classification Declassification Mark are intended to be associated with the entire resource being encoded by the presence of @resourceElement="true" on the element that represents the Resource Security metadata.</p> <p>Note: This is the same element that holds the Resource Security Mark.</p> <p>Note: @compilationReason is used to identify documents intentionally having classification and/or control markings more restrictive than any of the portions in the document.</p> <p>The following attributes represent the Resource Classification Declassification Mark Group.</p> <p>@classificationReason @classifiedBy @compilationReason @dateOfExemptedSource @declassDate @declassEvent @declassException @derivativelyClassifiedBy @derivedFrom @typeOfExemptedSource</p>
Portion Security Mark	<p>The security classification carried by an individual portion or block of narrative or media, such as a title, paragraph, table, list, media, or caption.</p> <p>These values are prominently presented at the beginning of the respective portion, are enclosed in parentheses, and utilize the same separators as the overall classification markings of the information resource.</p>	<p>The following attributes represent the Portion Security Mark.</p> <p>@classification @disseminationControls @FGISourceOpen @FGISourceProtected @nonICmarkings @ownerProducer @releasableTo @SARIdentifier @SCIcontrols</p>

Table 3. Mapping of Abstract Data Element Refinements to Physical XML Attributes

Abstract Data Element Refinement	Definition	XPath and XML implementation notes
Classification	A single indicator of the highest level of classification applicable to an information resource or portion within the domain of classified national security information. The Classification element is always used in conjunction with the Owner Producer element. Taken together, the two elements specify the classification category and the type of classification (US, non-US, or Joint).	@classification @compilationReason
Classification Reason	One or more reason indicators or explanatory text describing the basis for an original classification decision.	@classificationReason @compilationReason
Classified By	The identity, by name or personal identifier, and position title of the original classification authority for a resource.	@classifiedBy @compilationReason
Date Of Exempted Source	A specific year, month, and day of publication or release of a source document, or the most recent source document, that was itself marked with a declassification exemption. This element is always used in conjunction with the Type Of Exempted Source element.	@dateOfExemptedSource
Declassification Date	A specific year, month, and day upon which the information shall be automatically declassified if not properly exempted from automatic declassification.	@compilationReason @declassDate
Declassification Event	A description of an event upon which the information shall be automatically declassified if not properly exempted from automatic declassification.	@compilationReason @declassEvent
Declassification Exemption	A single indicator describing an exemption to the nominal 25-year point for automatic declassification. This element may be used in conjunction with the Declassification Date or Declassification Event.	@compilationReason @declassException
Derivatively Classified By	The identity, by name or personal identifier, of the derivative classification authority.	@compilationReason @derivativelyClassifiedBy

Abstract Data Element Refinement	Definition	XPath and XML implementation notes
Derived From	A citation of the authoritative source(s) or reference to "Multiple Sources" of the classification markings used in a classified resource.	@compilationReason @derivedFrom
Dissemination Controls	One or more indicators identifying the expansion or limitation on the distribution of information.	@compilationReason @disseminationControls
FGI Source Open	One or more indicators identifying information, which qualifies as foreign government information, for which the source(s) of the information is not concealed.	@FGISourceOpen
FGI Source Protected	<p>A single indicator that information qualifies as foreign government information for which the source(s) of the information must be concealed.</p> <p>Within protected internal organizational spaces this element may be used to maintain a record of the one or more indicators identifying information, which qualifies as foreign government information for which the source(s) of the information must be concealed. Measures must be taken prior to dissemination of the information to conceal the source(s) of the foreign government information.</p>	@FGISourceProtected
Non-Intelligence Community Markings	One or more indicators of the expansion or limitation on the distribution of an information resource or portion within the domain of information originating from non-intelligence components.	@compilationReason @nonICmarkings

Abstract Data Element Refinement	Definition	XPath and XML implementation notes
Owner Producer	<p>One or more indicators identifying the national government or international organization that have purview over the classification marking of an information resource or portion therein. This element is always used in conjunction with the Classification element. Taken together, the two elements specify the classification category and the type of classification (US, non-US, or Joint).</p> <p>Within protected internal organizational spaces this element may include one or more indicators identifying information, which qualifies as foreign government information, for which the source(s) of the information must be concealed. Measures must be taken prior to dissemination of the information to conceal the source(s) of the foreign government information.</p>	@ownerProducer
Releasable To	One or more indicators identifying the country or countries and/or international organization(s) to which classified information may be released based on the determination of an originator in accordance with established foreign disclosure procedures. This element is used in conjunction with the Dissemination Controls element.	@releasableTo
Special-Access-Required Program Identifier	One or more indicators identifying the defense or intelligence programs for which special access is required.	@SARIdentifier
SCI Controls	One or more indicators identifying sensitive compartmented information control system(s).	@SCIcontrols
Type Of Exempted Source	A declassification marking of a source document that causes the current, derivative document to be exempted from automatic declassification. This element is always used in conjunction with the Date Of Exempted Source element.	@typeOfExemptedSource

Abstract Data Element Refinement	Definition	XPath and XML implementation notes
Compilation Reason (provisional)	The reason that a portion or resource is marked with a higher and/or more restrictive mark than it's components would indicate. For example this would document why 3 Unclassified bullet items form a Secret List. Without this reason being noted the above-described document would be considered to be miss-marked and overclassified.	@compilationReason
Applicable Ruleset (provisional)	The rulesets that a document asserts compliance with.	@compliesWith

2.2 Physical XML Attribute Groups

The ISM.XML schema defines several attribute groups. These attribute groups are intended be referenced by other DESs (e.g., Information Resource Metadata or Intelligence Publications) to incorporate the information security marking attributes as needed.

- **SecurityAttributesOptionGroup** lists all of the attributes as optional. It is intended for use on elements such as "Sections" where marking of the classification of a section may be optional.
- **SecurityAttributesGroup** lists the attributes **classification** and **ownerProducer** as required. It is the "normal" group to apply to a portion or resource mark element where classification is required.
- **ResourceNodeAttributeGroup** is used on the resource node of an implementing schema it includes **SecurityAttributesGroup**. The resource node is the element in an implementing schema that represents the security attributes for the entire resource; it would be used to generate the "banner" mark for the resource. The Resource Node also specifies rule sets the resource is claiming compliance with such as ICD-710.
- **ISMRootNodeAttributeGroup** is used on the root node of the implementing schema to ensure the DES version is specified.
- **NoticeAttributesGroup** is used on an element designed to contain a warning or notice and which requires portion marking. It references the attributes necessary to record the portion mark as well as those to record the details of the notice.
- **NoticeAttributesOptionGroup** is used on an element designed to contain a warning or notice and which permit, but does not require portion marking.

It references the attributes necessary to record the portion mark as well as those to record the details of the notice.

excludeFromRollup is an attribute not in any group but should be added to any elements in an implementing schema that may require their attributes to be excluded from rollup logic impacting the resource security element. A classic example of this would be a bibliographic source citation where the desire is to indicate that the classification of the referenced source is TS even though the data extracted was U and the document the source citation is in is U.

Chapter 3 – XML Schema Guide

The detailed description and reference documentation for the ISM.XML schema can be found in a separate document entitled *ISM.XML Schema Guide*. This guide serves as an interactive presentation of the ISM.XML schema as well as an implementation-specific data element dictionary.

The guide was generated with a commercially available product named *XML Spy®*, produced by Altova. The physical XML structures illustrated in the guide are described in **Appendix H**.

The guide provides an interactive index to:

- Global Elements and Attributes
- Local Elements and Attributes
- Simple and Complex Types
- Groups and Attribute Groups
- Referenced Schemas

Where applicable, the guide provides:

- Diagram
- Namespace
- Type
- Children
- Used by
- Properties
- Patterns
- Enumerations
- Attributes
- Annotations
- Source Code

The guide is published in a folder consisting of a master HTML file with supporting graphics.

Chapter 4 – Data Validation Constraint Rules

Constraint Rules explicitly define the validation constraints for ISM-XML. They provide additional restrictions (i.e., constraints) on how the data should be structured and encoded, especially for criteria that exceed the constraints implemented in the XML Schema. These rules are written in plain English phrases; however, knowledge of the ISM-XML schemas is required to understand the rules. These constraint rules will eventually be offered in a more declarative form, such as Schematron. Complex constraint rules may be followed by text labeled **Human Readable**. This text is intended to inform the intent of the more formal language above it. Implementers are intended to implement the formal language, and should there be a perception of conflict, bring it to the attention of the appropriate configuration control body to be resolved.

4.1 Basics

The ISM.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 Intelligence Community (IC) policy guidance and codified in these constraint rules. Traditional schema languages are generally unable to effectively represent these additional constraints.

This DES pertains to the technical implementation of a data model for information security markings and in no way attempts to replace or assume authority for text-based security marking instructions, controlled values, or business rules.

4.1.1 “Living” Constraint Rules

These constraint rules are a "living" rule set. The constraint rules provided below are a valid starter set and do not attempt to address the full scope of security marking business rules addressed by authoritative security marking guidance, specifically Classification and Control Markings as defined by ICD 710 implemented in the Register and Implementation Manual, ISOO Directive 1, Executive Order (E.O.) 13526, and E.O. 12829, as amended. These rules will be expanded and modified as the model matures, the CAPCO Register is modified to reflect IC security marking implementation changes, and as applicable security marking policies change.

Since these constraint rules are only a subset of the entire rule base, an XML document that is compliant with these rules may still not be fully compliant with all of the business rules defined in the authoritative guidance. An XML document that is not compliant with these rules is not compliant with the authoritative guidance.

4.1.2 Classified or Controlled Constraint Rules

Additional rules that are either classified or have handling controls can be found in separate annexes closely associated with the DES artifacts wherever they are located.

4.1.3 Terminology

For the purposes of this document, the following statements apply:

- The term “is specified” indicates that an attribute is applied to an element and the attribute has a non-null value.
- The term “must be specified” indicates that an attribute must be applied to an element and the attribute must have a non-null value.
- The term “is not specified” indicates that an attribute is not applied to an element, or an attribute is applied to an element and the attribute has a null value.
- The term “must not be specified” indicates that an attribute must not be applied to an element.

4.1.4 Rule Identifiers

Each constraint rule has an assigned rule ID, indicated in brackets preceding the constraint rule description. The rule IDs from 00001 to 10000 are unclassified and 10001 to 20000 are “for official use only” (FOUO). IDs from 20001 to 30000 are reserved for “Secret” rules and 30001 and above for more classified rules. ISM.XML data validation constrain rule IDs are prefixed with “ISM-ID-”.

As the validation constraint rules are managed over time, IDs from deleted rules will not be reused.

4.1.5 Errors and Warnings

The severity of a constraint rule violation is categorized as either an “Error” or a “Warning.” An “Error” is naturally more severe and is indicative of a clear violation of an

ISM.XML constraint rule, which would be likely to have a significant impact on the quality of a document. A “Warning” is less severe although noteworthy, and may not necessarily have any impact on the quality of a document. The severity of a constraint rule violation is indicated in brackets preceding each constraint rule description

Each system responsible for processing a document (e.g., create, modify, transform, or exchange) must make a mission-appropriate decision about using a document with errors or warnings based on mission needs.

4.2 Conditions

Conditions are used to centralize some common criteria that apply to many constraint rules. They also allow for a change to impact many rules when there is a determination of error.

4.2.1 Conditions

These conditions are used in many of the constraints to centralize conditions that apply to many rules.

[ISM-RESOURCE-ELEMENT][true/false]Return true if:

The element is the only element having **resourceElement** true

OR

The element is the first element in document order having **resourceElement** true

Human Readable: The element in the schema that represents the security of the resource. Aggregator schemas might have multiple elements marked true, validation systems will choose the first one in document order as the one to use.

[ISM-CONTRIBUTES][true/false]Return false if:

The element’s **excludeFromRollup** is true

OR

The element is ISM-RESOURCE-ELEMENT

Human Readable: The element contributes to the overall classification of the document. It is not the resource element.

NOTE: The element could have the **resourceElement** attribute true and still match this condition since there can be multiple elements with **resourceElement** in the same document.

[ISM-CONTRIBUTES-CLASSIFIED][true/false]Return true if:

The element's ISM-CONTRIBUTES true

AND

The element's attribute **classification** is not "U"

Human Readable: The element contributes to the overall classification of the document and is not Unclassified.

[ISM-CONTRIBUTES-USA][true/false]Return true if:

ISM-CONTRIBUTES and element's **ownerProducer** contains "USA"

Human Readable: A US or JOINT portion that contributes to the overall classification of the document.

[ISM-RESOURCE-CREATE-DATE] The value of the **createDate** attribute on the element that is the ISM-RESOURCE-ELEMENT.

Human Readable: The date a processing system should use to determine if certain rules apply.

[ISM-CAPCO-RESOURCE][true/false]return true if:

ISM-RESOURCE-ELEMENT element's **ownerProducer** contains "USA"

Human Readable: The resource is a USA resource and CAPCO rules apply to it.

[ISM-NSI-EO-APPLIES][true/false]return false if:

NOT(ISM-CAPCO-RESOURCE)

OR

Every element meeting ISM-CONTRIBUTES-CLASSIFIED in the document has the attribute **disseminationControls** containing one of ("FRD", "RD")

OR

ISM-RESOURCE-ELEMENT element's **classification** having the value of "U"

OR

ISM-RESOURCE-CREATE-DATE Before 4/11/1996
(180 days after 10/14/1995 signature of E.O. 12958)

Human Readable: Documents meeting any of the following conditions:

Not created by the USA

Containing no classified National Security Intelligence (NSI)

Created before 4/11/1996 the date E.O. 12958 became effective (180 days after 10/14/1995)

are not required to comply with E.O. 13526 authority block requirements.

A document for which this condition is true must comply with the current Executive Order for Classified National Security Information requirement to include classification authority and declassification instruction on the face of the document, typically referred to as the classification authority block.

NOTE: When a mixture of RD/FRD and NSI occurs, IC guidance is that the current NSI E.O. (either 12958 or 13526) applies.

[ISM-DoD5230.24Applies][true/false]Return true if:

ISM-RESOURCE-ELEMENT element's **compliesWith** contains "DoD5230.24"

Human Readable: A document that claims compliance with DoD5230.24.

[ISM-ICD-710Applies][true/false]Return true if:

ISM-RESOURCE-ELEMENT element's **compliesWith** contains "ICD-710"

Human Readable: A document that claims compliance with ICD-710.

4.3 Global Constraints

[ISM-ID-00002][Error] For every optional attribute that is used in a document, a non-null value must be present.

Human Readable: In other words, the attribute “is specified” as defined in Section 4.1.3.

4.3.1 Resource Element Constraints

[ISM-ID-00103][Error] At least one element must have **resourceElement** true.

[ISM-ID-00118][Error] The first element in document order having **resourceElement** true must have **createDate** specified.

4.3.2 DES Constraints

The DES version is specified through attributes on the root element. The Schema constrains the values of these attributes. The DESVersion enables systems processing an instance document to be certain which set of constraint rules, schema, CVEs and business rules are intended by the author to be used.

[ISM-ID-00102][Error] The root element must have the attribute **DESVersion** in the namespace urn:us:gov:ic:ism.

4.4 Validation Against CVEs

Several ISM attributes are explicitly associated with CVEs. There are constraint rules defining which CVE should be used to verify each such restricted attribute.

Developers of systems processing SCI or SAP from the unpublished register will need to contact the DES POC listed in Appendix E for guidance since those values are not in the CVE.

Validation engines must be aware that CVE may contain patterns in addition to explicit values.

4.5 Information Resource-level Specific Constraints

The constraint rules in this section usually apply to elements that meet the concrete implementation of the abstract condition ISM-RESOURCE-ELEMENT.

[ISM-ID-00013][Error] If ISM-NSI-EO-APPLIES then either attribute **classifiedBy** or **derivedFrom** must be specified on the ISM-RESOURCE-ELEMENT.

Human Readable: Documents under E.O. 13526 must have classification authority block information.

[ISM-ID-00014][Error] If ISM-NSI-EO-APPLIES then one or more of the following attributes: **declassDate**, **declassEvent**, **declassException**, or **typeOfExemptedSource** must be specified on the ISM-RESOURCE-ELEMENT.

Human Readable: Documents under E.O. 13526 must have classification authority block information.

[ISM-ID-00056][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "U" then no element meeting ISM-CONTRIBUTES-USA in the document may have a **classification** attribute of "C", "S" or "TS".

Human Readable: USA unclassified documents can't have TS, S, or C data.

[ISM-ID-00057][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "U" then no element meeting ISM-CONTRIBUTES in the document may have a **classification** attribute of "R".

Human Readable: USA unclassified documents can't have R data.

[ISM-ID-00058][Error]] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "C" then no element meeting ISM-CONTRIBUTES-USA in the document may have a **classification** attribute of "S" or "TS".

Human Readable: USA confidential documents can't have TS or S data.

[ISM-ID-00059][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "S" then no element meeting ISM-CONTRIBUTES-USA in the document may have a **classification** attribute of "TS".

Human Readable: USA secret documents can't have TS data.

[ISM-ID-00108][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "TS" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **classification** attribute of "TS".

Human Readable: USA TS documents not using compilation must have TS data.

[ISM-ID-00109][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "S" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **classification** attribute of "S".

Human Readable: USA S documents not using compilation must have S data.

[ISM-ID-00110][Error] If ISM-CAPCO-RESOURCE and attribute **classification** of ISM-RESOURCE-ELEMENT has a value of "C" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **classification** attribute of "C".

Human Readable: USA C documents not using compilation must have C data.

[ISM-ID-00060][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **SCIcontrols** containing a value of "SI" then the ISM-RESOURCE-ELEMENT element's **SCIcontrols** must contain "SI".

Human Readable: USA documents having SI must have it at the resource level.

[ISM-ID-00111][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** of ISM-RESOURCE-ELEMENT contains "SI" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **SCIcontrols** attribute containing "SI".

Human Readable: USA SI documents not using compilation must have SI data.

[ISM-ID-00061][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **SCIcontrols** containing a value of "SI-G" then the ISM-RESOURCE-ELEMENT element's **SCIcontrols** must contain "SI-G".

Human Readable: USA documents having SI-G must have it at the resource level.

[ISM-ID-00112][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** of ISM-RESOURCE-ELEMENT contains "SI-G" and attribute **compilationReason** does not have

a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **SCIcontrols** attribute containing "SI-G".

Human Readable: USA SI-G documents not using compilation must have SI-G data.

[ISM-ID-00062][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **SCIcontrols** containing a value of "TK" then the ISM-RESOURCE-ELEMENT element's **SCIcontrols** must contain "TK".

Human Readable: USA documents having TK must have it at the resource level.

[ISM-ID-00113][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** of ISM-RESOURCE-ELEMENT contains "TK" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **SCIcontrols** attribute containing "TK".

Human Readable: USA TK documents not using compilation must have TK data.

[ISM-ID-00063][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **SCIcontrols** containing a value of "HCS" then the ISM-RESOURCE-ELEMENT element's **SCIcontrols** must contain "HCS".

Human Readable: USA documents having HCS must have it at the resource level.

[ISM-ID-00116][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** of ISM-RESOURCE-ELEMENT contains "HCS" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **SCIcontrols** attribute containing "HCS".

Human Readable: USA HCS documents not using compilation must have HCS data.

[ISM-ID-00154][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** of ISM-RESOURCE-ELEMENT contains "FOUO" and attribute **compilationReason** does not have a value then at least one element meeting ISM-CONTRIBUTES in the document must have a **disseminationControls** attribute containing "FOUO".

Human Readable: USA FOUO documents not using compilation must have FOUO data.

[ISM-ID-00064][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **FGIsourcesOpen** containing any

value then the ISM-RESOURCE-ELEMENT must have either **FGIsourceOpen** or **FGIsourceProtected** with a value.

Human Readable: USA documents having FGI Open data must have FGI Open or FGI Protected at the resource level.

[ISM-ID-00065][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **FGIsourceProtected** containing any value then the ISM-RESOURCE-ELEMENT must have **FGIsourceProtected** with a value.

Human Readable: USA documents having FGI Protected data must have FGI Protected at the resource level.

[ISM-ID-00066][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FOUO"
AND

ISM-RESOURCE-ELEMENT has the attribute **classification** "U"
AND

No element meeting ISM-CONTRIBUTES in the document has **nonICmarkings** containing any of "SBU", "SBU-NF", "LES", "LES-NF"

Then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "FOUO".

Human Readable: USA Unclassified documents having FOUO data and not having any of SBU, SBU-NF, LES, LES-NF must have FOUO at the resource level.

[ISM-ID-00067][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "OC" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "OC".

Human Readable: USA documents having ORCON data must have ORCON at the resource level.

[ISM-ID-00068][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing

"IMC" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "IMC".

Human Readable: USA documents having IMCON data must have IMCON at the resource level.

[ISM-ID-00069][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "SAMI" and the ISM-RESOURCE-ELEMENT does not have attribute **SCIcontrols**, then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "SAMI".

Human Readable: USA documents having SAMI data must have SAMI at the resource level.

[ISM-ID-00070][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "NF" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "NF".

Human Readable: USA documents having NF data must have NF at the resource level.

[ISM-ID-00071][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "PR" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "PR".

Human Readable: USA documents having PROPIN data must have PROPIN at the resource level.

[ISM-ID-00072][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "RD" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "RD".

Human Readable: USA documents having RD must have RD at the resource level.

[ISM-ID-00132][Error] If ISM-CAPCO-RESOURCE and the ISM-RESOURCE-ELEMENT has the attribute **disseminationControls** containing "RELIDO" then every element meeting ISM-CONTRIBUTES-CLASSIFIED in the document must have the attribute **disseminationControls** containing "RELIDO".

Human Readable: USA documents having RELIDO at the resource level must have every classified portion having RELIDO.

[ISM-ID-00073][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "RD-CNWDI" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "RD-CNWDI".

Human Readable: USA documents having Restricted CNWDI Data must have Restricted CNWDI Data at the resource level.

[ISM-ID-00074][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "RD-SG-##" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "RD-SG-##". ## represent digits 1 through 99 the ## must match.

Human Readable: USA documents having Restricted SIGMA-## Data must have the same Restricted SIGMA-## Data at the resource level.

[ISM-ID-00075][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "FRD" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "FRD".

Human Readable: USA documents having Formerly Restricted Data must have Formerly Restricted Data at the resource level.

[ISM-ID-00077][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FRD-SG-##" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "FRD-SG-##". ## represent digits 1 through 99 the ## must match.

Human Readable: USA documents having Formerly Restricted SIGMA-## Data must have the same Formerly Restricted SIGMA-## Data at the resource level.

[ISM-ID-00078][Error] If ISM-CAPCO-RESOURCE RESOURCE and ISM-RESOURCE-ELEMENT element's **classification** has the value of "U" and any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "DCNI" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "DCNI".

Human Readable: Unclass USA documents having DCNI Data must have DCNI at the resource level.

[ISM-ID-00079][Error] If ISM-CAPCO-RESOURCE and ISM-RESOURCE-ELEMENT element's **classification** has the value of "U" and any element meeting ISM-

CONTRIBUTES in the document has the attribute **disseminationControls** containing "UCNI" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "UCNI".

Human Readable: Unclass USA documents having UCNI Data must have UCNI at the resource level.

[ISM-ID-00080][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "DSEN" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "DSEN".

Human Readable: USA documents having DSEN Data must have DSEN at the resource level.

[ISM-ID-00081][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "FISA" then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "FISA".

Human Readable: USA documents having FISA Data must have FISA at the resource level.

[ISM-ID-00082][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **nonICmarkings** containing "SC" then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "SC".

Human Readable: USA documents having SC Data must have SC at the resource level.

[ISM-ID-00083][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **nonICmarkings** containing "SINFO" then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "SINFO".

Human Readable: USA documents having SINFO Data must have SINFO at the resource level.

[ISM-ID-00084][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **nonICmarkings** containing "DS" then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "DS".

Human Readable: USA documents having DS Data must have DS at the resource level.

[ISM-ID-00085][Error] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "XD" and does not have any element meeting ISM-CONTRIBUTES in the document having the attribute **nonICmarkings** containing "ND" then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "XD".

Human Readable: USA documents having XD Data and not having ND must have XD at the resource level.

[ISM-ID-00086][Error] If ISM-CAPCO-RESOURCE and any element in the document:

Meets ISM-CONTRIBUTES

AND

Has the attribute **nonICmarkings** containing "ND"

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "ND".

Human Readable: USA documents having ND Data must have ND at the resource level.

[ISM-ID-00104][Error] If ISM-CAPCO-RESOURCE and any element in the document:

Meets ISM-CONTRIBUTES

AND

Has the attribute **nonICmarkings** containing "SBU-NF"

AND

The ISM-RESOURCE-ELEMENT has attribute **classification** equal to "U"

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "SBU-NF".

Human Readable: Unclassified USA documents having SBU-NF must have SBU-NF at the resource level.

[ISM-ID-00105][Error] If ISM-CAPCO-RESOURCE and any element in the document:

Meets ISM-CONTRIBUTES
AND

Has the attribute **nonICmarkings** containing "SBU"

AND

The ISM-RESOURCE-ELEMENT has attribute **classification** equal to "U"

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "SBU".

Human Readable: Unclassified USA documents having SBU must have SBU at the resource level.

[ISM-ID-00087][Error] If ISM-CAPCO-RESOURCE and there exist at least 2 elements in the document:

Each element:

Meets ISM-CONTRIBUTES

AND

One of the elements:

Has the attribute **nonICmarkings** containing "SBU-NF"

AND

One of the elements:

Has the attribute **classification** NOT having a value of "U"

Then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "NF".

Human Readable: Classified USA documents having SBU-NF Data must have NF at the resource level.

[ISM-ID-00145][Error] If ISM-CAPCO-RESOURCE and any element in the document:

Meets ISM-CONTRIBUTES

AND

Has the attribute **nonICmarkings** containing "LES"

AND

No element meeting ISM-CONTRIBUTES in the document has **nonICmarkings** containing any of "LES-NF"

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "LES".

Human Readable: Documents having LES and not having LES-NF must have LES at the resource level.

[ISM-ID-00146][Error] If ISM-CAPCO-RESOURCE and there exist at least 2 elements in the document:

Each element:

Meets ISM-CONTRIBUTES

AND

One of the elements:

Has the attribute **nonICmarkings** containing "LES-NF"

AND

One of the elements:

Meets ISM-CONTRIBUTES-CLASSIFIED

Then the ISM-RESOURCE-ELEMENT must have **disseminationControls** containing "NF".

Human Readable: Classified USA documents having LES-NF Data must have NF at the resource level.

[ISM-ID-00147][Error] If ISM-CAPCO-RESOURCE and there exist at least 2 elements in the document:

Each element:

Meets ISM-CONTRIBUTES

AND

One of the elements:

Has the attribute **nonICmarkings** containing "LES-NF"

AND

One of the elements:

Meets ISM-CONTRIBUTES-CLASSIFIED

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "LES".

Human Readable: Classified USA documents having LES-NF Data must have LES at the resource level.

[ISM-ID-00148][Error] If ISM-CAPCO-RESOURCE, then Name tokens "LES", and "LES-NF" are mutually exclusive for attribute **nonICmarkings**.

[ISM-ID-00149][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "LES-NF"

AND

ISM-RESOURCE-ELEMENT has the attribute **classification** "U"

Then the ISM-RESOURCE-ELEMENT must have **nonICmarkings** containing "LES-NF".

Human Readable: USA Unclassified documents having LES-NF data must have LES-NF at the resource level.

[ISM-ID-00088][Error] If ISM-CAPCO-RESOURCE and any element in the document:

Meets ISM-CONTRIBUTES

AND

Has the attribute **disseminationControls** NOT containing "REL"

AND

Has the attribute **classification** NOT having a value of "U"

Then the ISM-RESOURCE-ELEMENT must NOT have attribute **disseminationControls** containing "REL".

Human Readable: USA documents having any classified portion that is not Releasable can't be REL at the resource level.

[ISM-ID-00090][Error] If ISM-CAPCO-RESOURCE and any element:

Meets ISM-CONTRIBUTES

AND

Has the attribute **disseminationControls** containing "REL"

Then the ISM-RESOURCE-ELEMENT must not have attribute **disseminationControls** containing "EYES".

Human Readable: USA documents with any portion that is REL must not be EYES at the resource level.

4.6 General Constraints

The rules in this section are valid for any element to which security attributes can be legitimately applied according to an XML Schema. They are directly based on, or indirectly derived from, applicable IC policy and CAPCO marking guidance.

Some of these rules are not likely to trigger for most portion-level elements since they include classification authority block attributes, such as **typeOfExemptedSource**, and these attributes are unlikely to be used on a portion-level element.

[ISM-ID-00012][Error] If any of the attributes defined in this DES other than **DESVersion** are specified for an element, then attributes **classification** and **ownerProducer** must be specified for the element.

[ISM-ID-00125][Error] If any attributes in namespace urn:us:gov:ic:ism exist, the "local name" must exist in CVEnumISMAttributes.

Human Readable: Ensure that no attributes that appear to be in the ISM namespace but are not defined by ISM.XML are used in a schema that might have an `xsd:anyAttribute`.

[ISM-ID-00126][Error] If any elements in namespace `urn:us:gov:ic:ism` exist.

Human Readable: Ensure that no elements that appear to be in the ISM namespace but are not defined by ISM.XML are used in a schema that might have an `xsd:any`.

Note: ISM.XML does not declare any elements so they should not exist.

[ISM-ID-00141][Error] If ISM-NSI-EO-APPLIES and

ISM-RESOURCE-ELEMENT attribute **declassException** does not have value of "25X1-human"

AND

ISM-RESOURCE-ELEMENT attribute **declassDate** is not specified

AND

ISM-RESOURCE-ELEMENT attribute **declassEvent** is not specified

Human Readable: **declassDate** or **declassEvent** are required unless 25X1-human is specified.

4.6.1 Attribute classification

[ISM-ID-00015][Error] If ISM-CAPCO-RESOURCE and attribute **classification** has a value of "U", then attributes **releasableTo**, **SARIdentifier**, and **SCIcontrols** must not be specified.

[ISM-ID-00016][Error] If ISM-CAPCO-RESOURCE and attribute **classification** has a value of "U", then attributes **classificationReason**, **classifiedBy**, **derivativelyClassifiedBy**, **dateOfExemptedSource**, **declassDate**, **declassEvent**, **declassException**, **derivedFrom**, and **typeOfExemptedSource** must not be specified.

[ISM-ID-00142][Error] If ISM-CAPCO-RESOURCE and attribute **classification** has a value other than "U", then attribute **classifiedBy** or **derivativelyClassifiedBy** must be specified on the ISM-RESOURCE-ELEMENT.

Human Readable: Classified data including DOE data requires either an original classifier or a derivative classifier be identified.

[ISM-ID-00040][Error] If ISM-CAPCO-RESOURCE and attribute **ownerProducer** contains "USA" then attribute **classification** must have a value in CVEnumISMClassificationUS.xml.

[ISM-ID-00115][Error] If attribute **classification** is specified it must have a value in CVEnumISMClassificationAll.xml.

4.6.2 Attribute classifiedBy

[ISM-ID-00017][Error] If ISM-NSI-EO-APPLIES and attribute **classifiedBy** is specified, then attribute **classificationReason** must be specified.

Human Readable: Originally Classified data requires a classification reason be identified.

Note: classificationReason is optional for derivatively classified information.

4.6.3 Attribute derivativelyClassifiedBy

[ISM-ID-00143][Error] If ISM-CAPCO-RESOURCE and attribute **derivativelyClassifiedBy** is specified, then attribute **derivedFrom** must be specified.

Human Readable: Derivatively Classified data including DOE data requires a derived from value to be identified.

4.6.4 Attribute typeOfExemptedSource

[ISM-ID-00011][Error] If ISM-CAPCO-RESOURCE and attribute **typeOfExemptedSource** is specified, must have a value in CVEnumISMSourceMarked.xml.

[ISM-ID-00018][Error] If ISM-NSI-EO-APPLIES and attribute **typeOfExemptedSource** is specified, then attribute **dateOfExemptedSource** must be specified.

[ISM-ID-00019][Error] If ISM-NSI-EO-APPLIES and attribute **typeOfExemptedSource** is not specified, then attribute **dateOfExemptedSource** must not be specified.

[ISM-ID-00020][Error] If ISM-NSI-EO-APPLIES and attribute **typeOfExemptedSource** contains the name token "OADR", then attribute **dateOfExemptedSource** must not be later than 1995-10-14.

[ISM-ID-00021][Error] If ISM-NSI-EO-APPLIES and attribute **typeOfExemptedSource** contains any of the name tokens "X1" through "X8", then attribute **dateOfExemptedSource** must not be later than 2003-09-22.

4.6.5 Attribute **declassException**

[ISM-ID-00003][Error] If ISM-CAPCO-RESOURCE and attribute **declassException** is specified, then it must have a value in CVEnumISMN25X.xml.

[ISM-ID-00133][Error] If ISM-NSI-EO-APPLIES and attribute **declassException** is specified and does contain the name token "25X1-human", then attribute **declassDate** or **declassEvent** must NOT be specified.

4.6.6 Attributes **FGISourceOpen** and **FGISourceProtected**

[ISM-ID-00005] Replaced by ISM-ID-00024.

[ISM-ID-00006] Replaced by ISM-ID-00025.

[ISM-ID-00024][Error] If ISM-CAPCO-RESOURCE and attribute **FGISourceOpen** is specified then it must have one or more values, delimited by a space, and each value must be in CVEnumISMFGIOpen.xml.

[ISM-ID-00095][Error] If ISM-CAPCO-RESOURCE and attribute **FGISourceOpen** is specified then each of its values must be ordered in accordance with CVEnumISMFGIOpen.xml.

[ISM-ID-00025][Error] If ISM-CAPCO-RESOURCE and attribute **FGISourceProtected** is specified, then it must have one or more values, delimited by a space, and each value must be in CVEnumISMFGIProtected.xml.

[ISM-ID-00096][Error] If ISM-CAPCO-RESOURCE and attribute **FGISourceProtected** is specified then each of its values must be ordered in accordance with CVEnumISMFGIProtected.xml.

[ISM-ID-00097][Warning] If ISM-CAPCO-RESOURCE and attribute **FGISourceProtected** is specified and its value is not "FGI" then the value(s) must not be discoverable in IC shared spaces.

Human Readable: FGI Protected should not be discoverable outside of an agency's internal systems.

4.6.7 Attribute SARIdentifier

[ISM-ID-00114][Error] If ISM-CAPCO-RESOURCE and attribute **SARIdentifier** is specified, then it must have one or more values, delimited by a space and each value must be in CVEnumISMSAR.xml.

[ISM-ID-00121][Error] If ISM-CAPCO-RESOURCE and attribute **SARIdentifier** is specified, then each of its values must be ordered in accordance with CVEnumISMSAR.xml.

4.6.8 Attribute disseminationControls

[ISM-ID-00004][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** is specified, then it must have one or more values, delimited by a space, and each value must be in CVEnumISMDissem.xml.

[ISM-ID-00026][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** is specified, then each of its values must be ordered in accordance with CVEnumISMDissem.xml.

[ISM-ID-00027][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "RD-CNWDI" then attribute **classification** must have a value of "TS" or "S".

[ISM-ID-00107][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "IMC" then attribute **classification** must have a value of "TS" or "S".

Human Readable: IMCON may only be used with S or TS.

[ISM-ID-00028][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "OC", "SAMI", "EYES", "RD", "RELIDO", or "FRD", then attribute **classification** must have a value of "TS", "S", or "C".

[ISM-ID-00029][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains a name token starting with "RD-SG" or "FRD-SG", then attribute **classification** must have a value of "TS", "S", or "C".

[ISM-ID-00030][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "FOUO", then attribute **classification** must have a value of "U".

[ISM-ID-00031][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "REL" or "EYES", then attribute **releasableTo** must be specified.

[ISM-ID-00032][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** is not specified or is specified and does not contain the name token "REL" or "EYES", then attribute **releasableTo** must not be specified.

[ISM-ID-00033][Error] If ISM-CAPCO-RESOURCE, then Name tokens "REL", "EYES" and "NF" are mutually exclusive for attribute **disseminationControls**.

[ISM-ID-00034][Error] If ISM-CAPCO-RESOURCE, then Name tokens "RELIDO" and "NF" are mutually exclusive for attribute **disseminationControls**.

[ISM-ID-00091][Warning] If ISM-CAPCO-RESOURCE and any element meeting ISM-CONTRIBUTES in the document have the attribute **disseminationControls** containing "SAMI" then ISM-RESOURCE-ELEMENT should have **disseminationControls** containing "NF".

Human Readable: USA documents having SAMI data are usually NF, but there are valid exceptions.

[ISM-ID-00092][Error] If ISM-CAPCO-RESOURCE and element's **classification** does not have a value of "U" then attribute **disseminationControls** must not contain the name token "UCNI".

Human Readable: UCNI may only be used on Unclass portions.

[ISM-ID-00093][Error] If ISM-CAPCO-RESOURCE and element's **classification** does not have a value of "U" then attribute **disseminationControls** must not contain the name token "DCNI".

Human Readable: DCNI may only be used on Unclass portions.

[ISM-ID-00094][Error] ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "REL", then attribute **classification** must not have a value of "U".

Human Readable: REL may not be used on Unclass portions.

[ISM-ID-00140][Error] ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "NF", then attribute **classification** must not have a value of "U".

Human Readable: NF may not be used on Unclass portions.

[ISM-ID-00106][Error] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "SAMI" and ISM-RESOURCE-CREATE-DATE is after 25 September 2010

Human Readable: SAMI is not authorized for use after 25 September 2010.

[ISM-ID-00117][Warning] If ISM-CAPCO-RESOURCE and attribute **disseminationControls** contains the name token "SAMI" and ISM-RESOURCE-CREATE-DATE is before 25 September 2010

Human Readable: SAMI is deprecated now and not authorized for use after 25 September 2010.

[ISM-ID-00124][Warning] If ISM-CAPCO-RESOURCE and

ISM-CONTRIBUTES

AND

Attribute **ownerProducer** does not contain "USA"

AND

Attribute **disseminationControls** contains "RELIDO"

Human Readable: Relido is not authorized for non-US portions.

4.6.9 Attribute **nonICmarkings**

[ISM-ID-00007][Error] If ISM-CAPCO-RESOURCE and attribute **nonICmarkings** is specified, then it must have one or more values, delimited by space and each value must be in CVEnumISMNonIC.xml.

[ISM-ID-00035][Error] If ISM-CAPCO-RESOURCE and attribute **nonICmarkings** is specified, then each of its values must be ordered in accordance with CVEnumISMNonIC.xml.

[ISM-ID-00036][Error] If ISM-CAPCO-RESOURCE and attribute **nonICmarkings** contains the name token "SC", then attribute **classification** must have a value of "TS", "S", or "C".

[ISM-ID-00037][Error] If ISM-CAPCO-RESOURCE and attribute **nonICmarkings** contains the name token "SINFO", "SBU", or "SBU-NF", then attribute **classification** must have a value of "U".

[ISM-ID-00038][Error] If ISM-CAPCO-RESOURCE Name tokens "XD" and "ND" are mutually exclusive for attribute **nonICmarkings**.

4.6.10 Attribute **nonUSControls**

[ISM-ID-00163][Error] If attribute **nonUSControls** exists the attribute **ownerProducer** must equal "NATO".

Human Readable: NATO is the only nonUSControls currently authorized.

4.6.11 Attribute **ownerProducer**

[ISM-ID-00001][Error] The attribute **ownerProducer**, when it exists, must have a non-null value.

[ISM-ID-00008] [] Replaced by ISM-ID-00039

[ISM-ID-00039][Error] If ISM-CAPCO-RESOURCE and attribute **ownerProducer** is specified, then it must have one or more values, delimited by a space, and each value must be in CVEnumISMOwnerProducer.xml.

[ISM-ID-00099][Error] If ISM-CAPCO-RESOURCE attribute **ownerProducer** contains "FGI", it must be the only value.

[ISM-ID-00100][Error] If ISM-CAPCO-RESOURCE and attribute **ownerProducer** is specified, then each of its values must be ordered in accordance with CVEnumISMOwnerProducer.xml.

4.6.12 Attribute releasableTo

[ISM-ID-00009][Error] If ISM-CAPCO-RESOURCE and attribute **releasableTo** is specified, then it must have one or more values, delimited by space, and each value must be in CVEnumISMRelTo.xml.

[ISM-ID-00041][Error] If ISM-CAPCO-RESOURCE and attribute **releasableTo** is specified, then each of its values must be ordered in accordance with CVEnumISMRelTo.xml.

4.6.13 Attribute SCIcontrls

[ISM-ID-00010][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** is specified, then it must have one or more values, delimited by space, and each value must be in CVEnumISMSCIcontrls.xml.

[ISM-ID-00042][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** is specified, each of its values must be ordered in accordance with CVEnumISMSCIcontrls.xml.

[ISM-ID-00043][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** contains the name token "SI", then attribute **classification** must have a value of "TS", "S", or "C".

[ISM-ID-00044][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** contains the name token "SI-G", then attribute **classification** must have a value of "TS".

[ISM-ID-00045][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** contains the name token "SI-G", then attribute **disseminationControls** must contain the name token "OC".

[ISM-ID-00046][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** contains a name token starting with "SI-ECI", then attribute **classification** must have a value of "TS".

[ISM-ID-00047][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrls** contains the name token "TK", then attribute **classification** must have a value of "TS" or "S".

[ISM-ID-00048][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** contains the name token "HCS", then attribute **classification** must have a value of "TS", "S", or "C".

[ISM-ID-00049][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** contains the name token "HCS", then attribute **disseminationControls** must contain the name token "NF".

[ISM-ID-00122][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** contains the name token "KDK", then attribute **classification** must have a value of "TS" or "S".

[ISM-ID-00123][Error] If ISM-CAPCO-RESOURCE and attribute **SCIcontrols** contains the name token "KDK", then attribute **disseminationControls** must contain the name token "NF".

4.6.14 Attribute notice

[ISM-ID-00131][Error] If ISM-CAPCO-RESOURCE and attribute **notice** is specified, then it must have one or more values, delimited by space, and each value must be in CVEnumISMNotice.xml.

[ISM-ID-00127][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "RD"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "RD"

[ISM-ID-00135][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "RD"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "RD"

[ISM-ID-00128][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FRD"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "FRD"

[ISM-ID-00136][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FRD"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "FRD"

[ISM-ID-00129][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "IMC"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "IMC"

[ISM-ID-00137][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "IMC"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "IMC"

[ISM-ID-00130][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FISA"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "FISA"

[ISM-ID-00139][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **disseminationControls** containing "FISA"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "FISA"

[ISM-ID-00134][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "DS"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "DS"

[ISM-ID-00138][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "DS"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "DS"

[ISM-ID-00150][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "LES"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "LES"

[ISM-ID-00151][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "LES"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "LES"

[ISM-ID-00152][Error] If ISM-CAPCO-RESOURCE and:

Any element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "LES-NF"

AND

No element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "LES-NF"

[ISM-ID-00153][Error] If ISM-CAPCO-RESOURCE and:

No element meeting ISM-CONTRIBUTES in the document has the attribute **nonICmarkings** containing "LES-NF"

AND

Any element meeting ISM-CONTRIBUTES in the document has the attribute **notice** containing "LES-NF"

4.7 ICD-710 Constraints

[ISM-ID-00119][Error] If ISM-CAPCO-RESOURCE and

attribute **classification** is not "U"

AND

ISM-ICD-710Applies

AND

Attribute **disseminationControls** does not contain one or more of "REL", "RELIDO", "EYES", or "NF"

Human Readable: All classified NSI that claims compliance with ICD 710 must have an appropriate foreign disclosure or release marking.

4.8 DoD5230.24 Constraints

[ISM-ID-00155][Error] If ISM-CAPCO-RESOURCE and:

ISM-DoD5230.24Applies

AND

attribute **notice** of ISM-RESOURCE-ELEMENT does not contain one of "DoD-Dist-A", "DoD-Dist-B", "DoD-Dist-C", "DoD-Dist-D", "DoD-Dist-E", "DoD-Dist-F", or "DoD-Dist-X".

Human Readable: All documents that claim compliance with DoD5230.24 must have a distribution statement for the entire document.

[ISM-ID-00156][Error] If ISM-CAPCO-RESOURCE and:

The attribute **notice** contains one of "DoD-Dist-B", "DoD-Dist-C", "DoD-Dist-D", "DoD-Dist-E", "DoD-Dist-F", or "DoD-Dist-X".

AND

One of the attributes **noticeDate** and **noticePOC** is not specified.

Human Readable: DoD distribution statements B, C, D, E, F, and X all require a Date and a POC.

[ISM-ID-00157][Error] If ISM-CAPCO-RESOURCE and:

The attribute **notice** contains one of "DoD-Dist-B", "DoD-Dist-C", "DoD-Dist-D", or "DoD-Dist-E".

AND

the attribute **noticeReason** is not specified.

Human Readable: DoD distribution statements B, C, D, and E all require a reason.

[ISM-ID-00158][Error] If ISM-CAPCO-RESOURCE and:

ISM-DoD5230.24Applies

AND

attribute **classification** of ISM-RESOURCE-ELEMENT is not "U"

AND

attribute **notice** of ISM-RESOURCE-ELEMENT does not contain one of "DoD-Dist-B", "DoD-Dist-C", "DoD-Dist-D", "DoD-Dist-E", or "DoD-Dist-F".

Human Readable: All classified documents that claim compliance with DoD5230.24 must use one of DoD distribution statements B, C, D, E, or F.

[ISM-ID-00159][Error] If ISM-CAPCO-RESOURCE and:

attribute **classification** of ISM-RESOURCE-ELEMENT is not "U"

AND

attribute **notice** of ISM-RESOURCE-ELEMENT contains one of "DoD-Dist-A".

Human Readable: Distribution statement A (Public release) is forbidden on classified documents.

[ISM-ID-00160][Error] If ISM-CAPCO-RESOURCE and:

attribute **notice** of ISM-RESOURCE-ELEMENT contains one of "DoD-Dist-A".

AND

attribute **disseminationControls** contains any of "FOUO", "PR", "DCNI", "UCNI", "DSEN", or "FISA".

Human Readable: Distribution statement A (Public release) is incompatible with "FOUO", "PR", "DCNI", "UCNI", "DSEN", or "FISA".

[ISM-ID-00161][Error] If ISM-CAPCO-RESOURCE and:

attribute **notice** of ISM-RESOURCE-ELEMENT contains one of "DoD-Dist-A".

AND

attribute **nonICmarkings** contains any of "SINFO", "XD", "ND", "SBU", "SBU-NF", "LES", or "LES-NF".

Human Readable: Distribution statement A (Public release) is incompatible with "SINFO", "XD", "ND", "SBU", "SBU-NF", "LES", or "LES-NF".

[ISM-ID-00162][Error] If ISM-CAPCO-RESOURCE and:

ISM-DoD5230.24Applies

AND

attribute **notice** of ISM-RESOURCE-ELEMENT contains more than 1 of of "DoD-Dist-A", "DoD-Dist-B", "DoD-Dist-C", "DoD-Dist-D", "DoD-Dist-E", "DoD-Dist-F", or "DoD-Dist-X".

Human Readable: All documents that claim compliance with DoD5230.24 must have only 1 DoD distribution statement for the entire document.

4.9 Obsolete rule numbers

[ISM-ID-00050][] Removed in V2

[ISM-ID-00101][] Removed in V2

[ISM-ID-00051][] Removed in V2

[ISM-ID-00052][] Removed in V2

[ISM-ID-00053][] Removed in V2

[ISM-ID-00054][] Removed in V2

[ISM-ID-00055][] Removed in V2

[ISM-ID-00022][] Removed in V3

[ISM-ID-00076][] Removed in V3

[ISM-ID-00023][] Removed in V4

[ISM-ID-00089][] Removed in V4

[ISM-ID-00120][] Removed in V4

[ISM-ID-00144][] Removed in V4

Appendix A IC CIO Approval Memo

An Office of the Intelligence Community Chief Information Officer (OCIO) Approval Memo should accompany this enterprise technical data specification bearing the signature of the Intelligence Community Chief Information Officer (IC CIO) or an IC CIO-designated official(s). If an OCIO 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 OCIO staffing and coordination process leading to signature of the OCIO Approval Memo. The signature date of the OCIO Approval Memo will be later than the last modified date shown on the specification artifacts by an indeterminable time period.

Upon signature of the OCIO 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 IC Enterprise Standards Baseline as defined in Intelligence Community Standard (ICS) 500-20.

Appendix B Acronyms

This appendix lists all the acronyms referenced in this DES and lists other acronyms that may have been used in other DES. This appendix is a shared resource across multiple documents so in any given DES there are likely acronyms that are not referenced in that particular DES.

CAPCO – Controlled Access Program Coordination Office

CVE – Controlled Vocabulary Enumeration

DCMI – Dublin Core Metadata Initiative

DC MES – Dublin Core Metadata Element Set

DES – Data Encoding Specification

DOI – Digital Object Identifier

DNI – Director National Intelligence

E.O. – Executive Order

GNS – Geographic Names Server

HTML – HyperText Markup Language

IC.ADD – Intelligence Community Abstract Data Definition

IC CIO – Intelligence Community Chief Information Officer

ICD – Intelligence Community Directive

ICEA – Intelligence Community Enterprise Architecture

ICS – Intelligence Community Standard

ISBN – International Standard Book Number

ISM – Information Security Marking Metadata

ISO – International Organization for Standardization

ISOO – Information Security Oversight Office

KA – Knowledge Assertion

KOS – Knowledge Organization System

MIME – Internet Media Types

NARA – National Archives and Records Administration

NGA – National Geospatial Intelligence Agency

NSI – National Security Intelligence

ODNI – Office of the Director of National Intelligence

SSC – Special Security Center

TGN – Thesaurus of Geographic Names

URI – Uniform Resource Identifier

URL – Uniform Resource Locator

W3CDTF – World Wide Web Consortium Date Time Format

XML – Extensible Markup Language

Appendix C Glossary

No pertinent glossary items requiring further definition.

Appendix D Bibliography

This appendix lists all the sources referenced in this DES and lists other sources that may have been used in other DES. This appendix is a shared resource across multiple documents so in any given DES there are likely sources that are not referenced in that particular DES.

(CAPCO Implementation Guide)

Intelligence Community Classification and Control Markings Implementation Manual. Unclassified FOUO version. Volume 3, Edition 1 (Version 3.1). 7 May 2010. Director of National Intelligence (DNI), Special Security Center (SSC), Controlled Access Program Coordination Office (CAPCO).

https://www.intelink.gov/sites/ssc/divisions/capco/CAPCO%20Resources/CAPCO_Implementation%20Manual_FOUO_v3%201_07%20May%2010%20.pdf

(CAPCO Register)

Authorized Classification and Control Markings Register. Unclassified FOUO version. Volume 3, Edition 1 (Version 3.1). 7 May 2010. Director of National Intelligence (DNI), Special Security Center (SSC), Controlled Access Program Coordination Office (CAPCO).

[https://www.intelink.gov/sites/ssc/divisions/capco/CAPCO%20Resources/CAPCO_Register_FOUO_v3%201_07%20May%2010%20\(2\).pdf](https://www.intelink.gov/sites/ssc/divisions/capco/CAPCO%20Resources/CAPCO_Register_FOUO_v3%201_07%20May%2010%20(2).pdf)

(DC MES)

Dublin Core Metadata Element Set. Version 1.1. 02 June 2003. Dublin Core Metadata Initiative. <http://dublincore.org/documents/dces/>.

(E.O. 12958, as amended)

Executive Order 12958 – Classified National Security Information, as Amended. Federal Register, Vol. 68, No. 60. 25 March 2003. The White House.

<http://www.archives.gov/isoo/policy-documents/eo-12958-amendment.html>.

(E.O. 12829, as amended)

Executive Order 12829 – National Industrial Security Program, as Amended. Federal Register, Vol. 58, No. 240. 16 December 1993. The White House.

<http://www.archives.gov/isoo/policy-documents/eo-12829.html>

(E.O. 13526)

Executive Order 13526 – Classified National Security Information 29 December 2009. The White House. <http://www.archives.gov/isoo/pdf/cnsi-eo.pdf>.

(ICD 206)

Sourcing Requirements for Disseminated Intelligence Products. Intelligence Community Directive Number 206. 17 October 2007. Office of the Director of National Intelligence. http://www.dni.gov/electronic_reading_room/ICD_206.pdf.

(ICD 500)

Director of National Intelligence Chief Information Officer. Intelligence Community Directive Number 500. 7 August 2008. Office of the Director of National Intelligence. http://www.dni.gov/electronic_reading_room/ICD_500.pdf.

(ICD 710)

Classification and Control Markings System. Intelligence Community Directive Number 710. 11 September 2009. Office of the Director of National Intelligence. http://www.dni.gov/electronic_reading_room/ICD_710.pdf

(ISO 639-2)

Codes for the representation of names of languages – Part 2: Alpha-3 code. ISO 639-2:1998. International Organization for Standardization (ISO). http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=4767.

(ISO 3166-1)

Codes for the representation of names of countries and their subdivisions – Part 1: Country codes. ISO 3166-1:2006. International Organization for Standardization (ISO). http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=39719.

(ISO 8601)

Data elements and interchange formats – Information interchange – Representation of dates and times. ISO 8601:2004. International Organization for Standardization (ISO). http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=40874.

(ISO 15836)

Information and documentation – The Dublin Core metadata element set. ISO 15836:2009. International Organization for Standardization (ISO). http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=52142.

(ISOO Directive 1)

Classified National Security Information (Directive No. 1); Final Rule. 32 CFR Parts 2001 and 2004. Federal Register, Vol. 68, No. 183. 22 September 2003. Information Security Oversight Office (ISOO), National Archives and Records Administration (NARA). <http://www.archives.gov/isoo/policy-documents/eo-12958-implementing-directive.pdf>.

(RFC 3066)

Tags for the Identification of Languages. January 2001. H. Alvestrand. Cisco Systems. <http://www.rfc-editor.org/rfc/rfc3066.txt>.

Appendix E Points of Contact

This technical specification is managed by the Office of the Intelligence Community Chief Information Officer (IC CIO). As of this writing, the IC CIO/IC Enterprise Architecture (ICEA) Directorate facilitates the IC data collaboration and coordination forums responsible for the selection or development of common IC technical data specifications. Direct all inquiries about this IC technical specification to IC CIO/ICEA, the IC's data collaboration and coordination forum, or IC element representatives involved in those forums.

Appendix F Change History

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

Table 4. DES Version Identifier History

Version	Identifier	Date	Purpose
1.0		August 2008	Initial Release
2	ICTechSpec 500.D.2-V2	24 December 2009	Routine revision to technical specification. For details of changes, see appendix F.2
3	ICTechSpec 500.D.2-V3	4 June 2010	Routine revision to technical specification. For details of changes, see appendix F.1
4	ICTechSpec 500.D.2-V4	13 August 2010	Routine revision to technical specification. For details of changes, see section 1.3

F.1 V3 Change Summary

The following table summarizes the changes made to V2 in developing V3.

Change	Artifacts changed	Compatibility Notes
Allow use of KDK	Controlled Value Enumerations Constraint Rules ISM-ID-00122 ISM-ID-00123	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules.
Require appropriate foreign disclosure or release marking on classified national intelligence per ICD 710.	Constraint Rules ISM-ID-00119 ISM-ID-00120 ISM-ID-00089	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Update references to E.O. 12958 to refer to NSI-EO	Documentation Constraint Rules ISM-ID-00013 ISM-ID-00014 ISM-ID-00017 ISM-ID-00018 ISM-ID-00019 ISM-ID-00020 ISM-ID-00021 ISM-ID-00023	Should not impact data. Will impact constraint checking systems since it changes the name of a condition.

Change	Artifacts changed	Compatibility Notes
Force ordering of SAR	Constraint Rules ISM-ID-00121	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Update rules to exclude the resource element from being considered in rollup constraints.	Constraint Rules ISM-CONTRIBUTES	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Update to use ISM-CONTRIBUTES instead of ISM-CONTRIBUTES-USA	ISM-ID-00108 ISM-ID-00109 ISM-ID-00110 ISM-ID-00111 ISM-ID-00112 ISM-ID-00113 ISM-ID-00116	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Update ISM-ID-00040 to allow for R portions in a USA document	ISM-ID-00040	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to no longer generate some errors as per the new rules. Note: Data could have been created that was <i>invalid</i> under previous releases that may be valid under this release
Update ISM-ID-00028 to allow use of NF with any classification type (i.e., US, non-US, and JOINT).	ISM-ID-00028	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to no longer generate some errors as per the new rules. Note: Data could have been created that was <i>invalid</i> under previous releases that may be valid under this release
Update rules to prevent RELIDO on portions that do not have USA as one of the ownerProducers .	ISM-ID-00124	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.

Change	Artifacts changed	Compatibility Notes
Remove ISM-ID-00022	ISM-ID-00022	No impact rule was effectively a duplicate of ISM-ID-00011 due to CVE change in V1.
Reduce risk of using ISM in a schema with xsd:anyAttribute	ISM-ID-00125 ISM-ID-00126	Data could have been created that was valid under previous releases that may not be valid under this release.
Notices	ISM-ID-00127 ISM-ID-00128 ISM-ID-00129 ISM-ID-00130 ISM-ID-00131 ISM-ID-00134 ISM-ID-00135 ISM-ID-00136 ISM-ID-00137 ISM-ID-00138 ISM-ID-00139 ISM-ID-00150 ISM-ID-00151 ISM-ID-00152 ISM-ID-00153	FISA, RD, FRD, IMCON, LIMDIS, LES, and LES-NF Data created under previous releases WILL not be valid under this release without adding the appropriate notice.
Clarify use of 25X1-human	ISM-ID-00133	25X1-human data created under previous releases may not be valid under this release.
Add check that RELIDO is required on all portions to appear in banner	ISM-ID-00132	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Add check that NF is not allowed on U portions.	ISM-ID-00140	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Enforce E.O. 13526 requirements for Authority block	ISM-ID-00141 ISM-ID-00017 ISM-ID-00142 ISM-ID-00143	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.

Change	Artifacts changed	Compatibility Notes
Incorporate LES and LES-NF markings	ISM-ID-00066 ISM-ID-00145 ISM-ID-00146 ISM-ID-00147 ISM-ID-00148 ISM-ID-00149 ISM-ID-00150 ISM-ID-00151 ISM-ID-00152 ISM-ID-00153	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to no longer generate some errors as per the new rules. Note: Data could have been created that was <i>invalid</i> under previous releases that may be valid under this release
Add rule for FOUO compilation reason	ISM-ID-00154	Data generation systems that correctly implement CAPCO guidance and follow E.O. 13526 should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.

F.2 V2 Change Summary

The following table summarizes the changes made to V1 in developing V2.

Table 5. Data Encoding Specification V2 Change Summary

Change	Artifacts changed	Compatibility Notes
Updated ISM XSL rendering stylesheet to include new CAPCO changes such as removal of declass dates from banner.	Stylesheet	Data rendered using provided stylesheets will render differently
Removed version number from file names.	Schema	Systems need to be updated to use the new file names.
Added ability for instance documents to specify DES versions used.	Constraint Rules Schema	Data generation systems need to be updated to include DES version(s) in output. Ingestion systems need to be updated to properly handle the new data. Schemas and/or DESs using

Change	Artifacts changed	Compatibility Notes
		ISM.XML need to implement the attribute appropriately.
Added @compilationReason to indicate compilation and provide a reason that the element has an aggregate classification higher than its parts or a control marking has been applied that is not in the individual parts.	Schema	Data generation systems should be updated to use the attribute if they need the feature. Ingestion systems need to use the new specification, including schema.
Expanded constraint rules to identify previously unrecognized data errors in accordance with the IC Classification and Control Markings system	Constraint Rules	Data generation systems that correctly implement CAPCO guidance and follow E.O. 12958, as amended should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Changed ISM vocab warnings to errors, based on identification of specific CVE.	Constraint Rules Controlled Value Enumerations	Data generation systems that correctly implement CAPCO guidance and follow E.O. 12958, as amended should not be impacted. Ingestion systems need to be updated to generate errors as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Updated constraint rules and schema documentation to specify data values for: @ownerProducer, @SCIcontrols, @SARIdentifier, @disseminationControls,	Constraint Rules Controlled Value Enumerations	Data generation systems that correctly implement CAPCO guidance and follow E.O. 12958, as amended should not be impacted. Ingestion systems need to be updated to generate errors

Change	Artifacts changed	Compatibility Notes
@FGISourceOpen, @FGISourceProtected, @releasableTo, @nonICmarkings, @declassException, @typeOfExemptedSource.		as per the new rules. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Removed @declassManualReview	Constraint Rules ADD Mapping Table	Data generation systems should be updated to prohibit @declassManualReview on new data. Ingestion systems need to be updated to reject @declassManualReview on new data, or else they will accept invalid data. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Changed definition of @declassException and @typeOfExemptedSource from NMTOKENS to NMTOKEN – single value instead of multiple values.	Schema	No changes to authoring/generation or ingestion systems that correctly limit the attributes to single values. Note: Data could have been created that was valid under previous releases that may not be valid under this release.
Added attributes to enable defining of the roles that ISM attributes play in a document. @resourceElement, @excludeFromRollup	Schema Constraint Rules	Data generation systems need to be updated to include these attributes in output. Ingestion systems need to be updated to properly handle the new data. Schemas and/or DESs using ISM.XML need to implement these attributes appropriately.
Added attribute to enable ISM date based rules. @createDate	Schema Constraint Rules	Data generation systems need to be updated to include this attribute in output. Ingestion systems need to be updated to properly handle the new data. Schemas and/or DESs using ISM.XML need to implement this

Change	Artifacts changed	Compatibility Notes
		attribute appropriately.

Appendix G Configuration Management

The selection or development of technical data specifications of common interest to the IC are collaborated and coordinated currently within governance forums managed by the IC CIO. Change requests for this technical data specification should be directed to the office identified in **Appendix E – Points of Contact**.

Appendix H Reading the Schematics

The physical XML structures documented in this guide are illustrated with schematics created with the commercially available product named *XML Spy*[®], produced by Altova. The symbology used by *XML Spy*[®] is described in this appendix.

H.1 Element Models

In *XML Spy*, XML elements are represented by rectangles like that shown for an element named **PublicationMetadata** in **Figure 1**. XML elements may have one of three types of content model:

- Element content: A model in which the content consists entirely of child elements; in other words, there is no *direct* data content (although the child elements may have data content).
- Mixed content: A model in which the content consists of text, possibly intermixed with child elements; child elements in mixed content are said to float in the text in that their use is not constrained to a hierarchy.
- Empty: A model in which the element has no content; the element's function is performed by its attribute(s), if any, or the element is simply a placeholder for data that will be generated when the element is rendered for presentation.
-

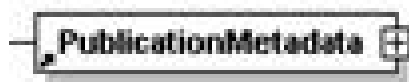


Figure 1. Symbol for an XML Element having Element Content

An element whose model is element content is illustrated by the preceding figure. The "+" symbol in the small box at the right edge denotes that **PublicationMetadata** has content.

In the *XML Spy* graphical user interface (GUI), a schematic may be expanded and contracted to expose more or less of the model. In the GUI, clicking with the mouse on the "+" symbol causes the content of the element (in this case **PublicationMetadata**) to be revealed and the "+" is replaced by a "-" symbol. The purpose for pointing this out is that, in the remainder of this appendix, some of the illustrations show the "-" rather than the "+".

An element whose model is *mixed content* is represented by the symbol shown in **Figure 2**. As above, the “+” signifies that the element has content, and the lines in the upper left corner denote that text is allowed. Mixed content is the normal model for elements like paragraphs, list items, titles, *et al.*, in which the text “contains” semantic objects like footnote references, superscripts and subscripts, italicized and bolded passages, quoted strings, words or phrases that have been tagged for indexing or searching, *etc.* These types of semantic objects that appear in the running text are represented in XML as elements.



Figure 2. Symbol of an Element with Mixed Content

An *empty* element is illustrated by **Figure 3**. Note that the element symbol lacks a “+” symbol, meaning that content is not allowed. Empty elements do not have textual content. They are used for one or more of three possible purposes:

- They are pointers to text or non-text objects that are located in external files. In this capacity, they can be used as placeholders for illustrations. They mark the position where a graphic is to be placed and, using attributes, identify the file that contains the graphic image.
- They are placeholders for application-generated content that will be created as part of the rendering process. Examples include tables of contents, indexes, glossaries, and bibliographies. Empty elements are used to specify the positioning of such constructs.
- They mark locations that are acted upon by formatting engines. A common example is to use an empty element called **br** or **break** to tell a formatter to insert a newline sequence at the point where the empty element is encountered.



Figure 3. Symbol of an Empty Element

H.2 Groupings of Elements

XML Spy represents an XML schema element group that has been used in a content model with a rounded box. In **Figure 4**, **ComplexContentGroup** is the name of an element group.



Figure 4. Element Group Symbol

Note the use of the “+” symbol. In the GUI, clicking on this symbol reveals the composition of the element group. This is illustrated later on in this appendix.

H.3 Occurrence indicators

Some elements must be used, they are designated as required. Other elements are designated as optional. Both required and optional elements may be repeatable. These in combination make four classes of occurrence indicators: a required element that can be used once and only once, a required element that may repeat, an optional and repeatable element, and an optional element that may not repeat.

Figure 5 illustrates several elements the use of which is optional. The dotted border of the element symbols for **UUID**, **DocumentID**, and **InternalID** denote optionality. This means that the producer may use these elements to tag document identifiers, but their use is not required. The XML document will be deemed *syntactically* correct with or without them.

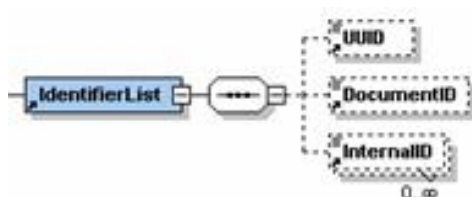


Figure 5. Optional elements, one repeatable, graphical representation

It is important to emphasize, in conjunction with **Figure 5**, that syntactic correctness and semantic completeness are distinct requirements. While an automated XML processing software application will accept element **IdentifierList** with or without the child elements, a production organization will need to apply local business rules to require at least one of the child elements to be present. This is done in order to allow the model to be used throughout the life cycle of the data. For example, the model can be used both at the time of authoring when the values for the child elements may not be known and later on when the values are required during the exchange with a partner.

The next two figure's illustrate the symbols for repeatable elements. In **Figure 6**, element **InternalID** may be used zero or more times, as indicated by the “0..∞” string

beneath the symbol. Note also that a repeatable element is denoted by a stack of element symbols.

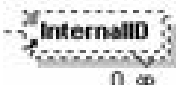


Figure 6. Optional and repeatable element, graphical representation

By contrast, in **Figure 7**, the element named **Section** must be used at least once, and may be used multiple times in succession. The fact that the section element symbol has solid borders means that its use is required. The "1..∞" beneath the symbol means it can be used one or more times.



Figure 7. Required and repeatable element, graphical representation

An element symbol that has solid borders and neither "0..∞" nor "1..∞" beneath must be used one and only one time. In **Figure 5**, the element named **IdentifierList** must be used once and only once.

H.4 Order of Elements

In many cases, XML schemas require that elements be used in a prescribed sequence. As shown in **Figure 8** this constraint is denoted by an ellipsis in a rounded box in the schematics:

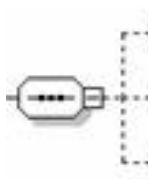


Figure 8. Sequence Symbol

The connecting lines leading from the right edge lead to three elements, which, if used, must be used in top-to-bottom order. **Figure 5** shows this symbol in a larger context. It says that the subelements of **IdentifierList** are all optional but, if used, must be in the order shown.

Figure 9 shows the symbol that signifies that a choice must be made between the child components. The symbol is a three-pole switch inside of a rounded box. The switch signifies that an author can choose either of the branches leading from the right edge. Because the borders of the box are dashed, the choice itself is optional. The "0..∞" symbol beneath the box means that the choice can be made multiple times.



Figure 9. Choice Symbol

Figure 10 shows the use of this symbol in context:

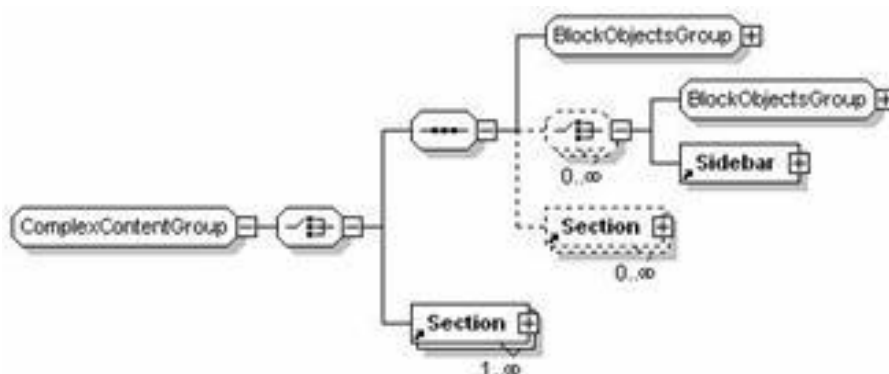


Figure 10. Sequence and Choice Combined

This schematic says that the grouping named **ComplexContentGroup** consists of a required choice between the top branch on the one hand and the bottom branch on the other. The top branch is a sequence of one element from the **BlockObjectsGroup**, optionally followed by a *repeatable* choice between **BlockObjectsGroup** elements and a **Sidebar** element, optionally followed by zero or more **Section** elements. The bottom branch leads to one or more **Section** elements.

H.5 Attributes

Elements may have properties. For example, the element **List** has the property called **listStyle**. In XML, such properties of an element are called *attributes* of the element. In the schematic diagrams used in this document, the attributes are displayed separately from the elements.

Appendix I Controlled Vocabulary Enumerations

The Controlled Vocabulary Enumerations (CVEs) used in this DES are as follows:

Table 6. CVE Definitions

CVE File name	Definition	Attribute and Rules Cross reference
CVEnumISMSourceMarked	All currently authorized Source Marked values	@typeOfExemptedSource ISM-ID-00011
CVEnumISMSCIControls	All currently valid SCI controls from the published register	@SCIcontrols ISM-ID-00010 ISM-ID-00042
CVEnumISMSAR	All currently valid SAR controls from the published register	@SARIdentifier ISM-ID-00114
CVEnumISMRelTo	USA followed by all currently valid ISO Trigraphs except USA in alphabetical order by Trigraph, followed by all currently valid CAPCO Coalition tetragraphs in alphabetical order by tetragraph	@releasableTo ISM-ID-00009 ISM-ID-00041
CVEnumISMOwnerProducer	FGI followed by all currently valid ISO Trigraphs in alphabetical order by Trigraph, followed by all currently valid CAPCO Coalition tetragraphs in alphabetical order by tetragraph	@ownerProducer ISM-ID-00039 ISM-ID-00100
CVEnumISMNonIC	All currently valid Non-IC markings from the published register	@nonICmarkings ISM-ID-00007 ISM-ID-00035
CVEnumISMN25X	All currently authorized 25X values	@declassException ISM-ID-00003
CVEnumISMFGIProtected	FGI followed by all currently valid ISO Trigraphs except USA in alphabetical order by Trigraph, followed by all currently valid CAPCO Coalition tetragraphs in alphabetical order by tetragraph	@FGISourceProtected ISM-ID-00025 ISM-ID-00096
CVEnumISMFGIOpen	UNKNOWN followed by all currently valid ISO Trigraphs except USA in alphabetical order by Trigraph, followed by all currently valid CAPCO Coalition tetragraphs in alphabetical order by tetragraph	@FGISourceOpen ISM-ID-00024 ISM-ID-00095
CVEnumISMDissem	All currently valid Dissemination controls from the published register	@disseminationControls ISM-ID-00004 ISM-ID-00026
CVEnumISMClassificationUS	All currently valid US classification marks	@classification ISM-ID-00040

CVE File name	Definition	Attribute and Rules Cross reference
CVEnumISMClassificationAll	All currently valid classification marks	@classification ISM-ID-00115