
XLIFF (XML Localisation interchange file format)

*XLIFF (Format de fichier XML pour l'échange de données de
localisation)*

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05 August 2014

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<http://docs.oasis-open.org/xliff/xliff-core/v2.0/xliff-core-v2.0.xml>

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Additional artifacts:

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XML schemas accessible from <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/>

Related Work:

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Declared XML Namespaces:

urn:oasis:names:tc:xliff:document:2.0

- urn:oasis:names:tc:xliff:matches:2.0
- urn:oasis:names:tc:xliff:glossary:2.0
- urn:oasis:names:tc:xliff:fs:2.0
- urn:oasis:names:tc:xliff:metadata:2.0
- urn:oasis:names:tc:xliff:resourcedata:2.0
- urn:oasis:names:tc:xliff:changetracking:2.0
- urn:oasis:names:tc:xliff:sizerestriction:2.0
- urn:oasis:names:tc:xliff:validation:2.0

Abstract:

This document defines version 2.0 of the XML Localisation Interchange File Format (XLIFF). The purpose of this vocabulary is to store localizable data and carry it from one step of the localization process to the other, while allowing interoperability between and among tools.

Status:

This document was last revised or approved by the membership of OASIS on the above date. The level of approval is also listed above. Check the "Latest version" location noted above for possible later revisions of this document.

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1 Introduction

XLIFF is the *XML Localisation Interchange File Format* designed by a group of multilingual content publishers, software providers, localization service providers, localization tools providers and researchers. It is intended to give any multilingual content owner a single interchange file format that can be understood by any localization provider, using any conformant localization tool. While the primary focus is on being a lossless interchange format, usage of XLIFF as a processing format is neither encouraged nor discouraged or prohibited.

All text is normative unless otherwise labeled. The following common methods are used for labeling portions of this specification as informative and hence non-normative:

Appendices and sections marked as "(Informative)" or "Non-Normative" in title,
 Notes (sections with the "Note" title),
 Warnings (sections with the "Warning" title),
 Examples (mainly example code listings but also any inline examples or illustrative, exemplary lists in otherwise normative text),
 Schema and other artifacts listings (the corresponding artifacts are normative, not their listings).

1.1 Terminology

1.1.1 Key words

The key words MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL are to be interpreted as described in [RFC 2119](#).

1.1.2 Definitions

Agent

any application or tool that generates (creates), reads, edits, writes, processes, stores, renders or otherwise handles *XLIFF Documents*.

Agent is the most general application conformance target that subsumes all other specialized user agents disregarding whether they are defined in this specification or not.

Enrich, Enriching

the process of associating module and extension based metadata and resources with the *Extracted* XLIFF payload

Processing Requirements

- *Enriching* MAY happen at the time of *Extraction*.

Note

Extractor knowledge of the native format is not assumed while *Enriching*.

Enricher, Enricher Agent

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any *Agent* that performs the *Enriching* process

Extract, Extraction

the process of encoding localizable content from a native content or User Interface format as XLIFF payload, so that localizable parts of the content in the source language are available for *Translation* into the target language along with the necessary context information

Extractor, Extractor Agent

any *Agent* that performs the *Extraction* process

Merge, Merging

the process of importing XLIFF payload back to the originating native format, based on the *full knowledge* of the *Extraction* mechanism, so that the localized content or User Interface strings replace the source language in the native format

Merger, Merger Agent

an *Agent* that performs the *Merge* process

Warning

Unless specified otherwise, any *Merger* is deemed to have the same knowledge of the native format as the *Extractor* throughout the specification.

Mergers independent of *Extractors* can succeed, but it is out of scope of this specification to specify interoperability for *Merging* back without the full *Extractor* knowledge of the native format.

Modify, Modification

the process of changing core and module XLIFF structural and inline elements that were previously created by other *Writers*

Processing Requirements

- XLIFF elements MAY be *Modified* and *Enriched* at the same time.

Note

Extractor or *Enricher* knowledge of the native format is not assumed while *Modifying*.

Modifier, Modifier Agent

an *Agent* that performs the *Modification* process

Translation, Translate

a rendering of the meaning of the source text, expressed in the target language

Writer, Writer Agent

an *Agent* that creates, generates, or otherwise writes an *XLIFF Document* for whatever purpose, including but not limited to *Extractor*, *Modifier*, and *Enricher Agents*.

Note

Since XLIFF is intended as an exchange format rather than a processing format, many applications will need to generate *XLIFF Documents* from their internal processing formats, even in cases when they are processing *XLIFF Documents* created by another *Extractor*.

1.1.3 Key concepts

XLIFF Core

The core of XLIFF 2.0 consists of the minimum set of XML elements and attributes required to (a) prepare a document that contains text extracted from one or more files for localization, (b) allow it to be completed with the translation of the extracted text, and (c) allow the generation of *Translated* versions of the original document.

The XML namespace that corresponds to the core subset of XLIFF 2.0 is "urn:oasis:names:tc:xliff:document:2.0".

XLIFF-defined (elements and attributes)

The following is the list of allowed schema URN prefixes for *XLIFF-defined* elements and attributes:

urn:oasis:names:tc:xliff:

However, the following namespaces are NOT considered *XLIFF-defined* for the purposes of the XLIFF 2.0 specification:

urn:oasis:names:tc:xliff:document:1.0
urn:oasis:names:tc:xliff:document:1.1
urn:oasis:names:tc:xliff:document:1.2

Elements and attributes from other namespaces are not *XLIFF-defined*.

XLIFF Document

Any XML document that declares the namespace "urn:oasis:names:tc:xliff:document:2.0" as its main namespace, has `<xliff>` as the root element and complies with the XML Schemas and the declared Constraints that are part of this specification.

XLIFF Module

A module is an OPTIONAL set of XML elements and attributes that stores information about a process applied to an *XLIFF Document* and the data incorporated into the document as result of that process.

Each official module defined for XLIFF 2.0 has its grammar defined in an independent XML Schema with a separate namespace.

1.2 Normative References

ISO 21720:2017(E)

[**BCP 47**] M. Davis, *Tags for Identifying Languages*, <http://tools.ietf.org/html/bcp47> IETF (Internet Engineering Task Force).

[**HTML5**] W3C, *HTML5. A vocabulary and associated APIs for HTML and XHTML*, <http://www.w3.org/TR/html5/> W3C Candidate Recommendation 17 December 2012.

[**NOTE-datetime**] M. Wolf, C. Wicksteed, *Date and Time Formats*, <http://www.w3.org/TR/NOTE-datetime> W3C Note, 15th September 1997.

[**RFC 2119**] S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*, <http://www.ietf.org/rfc/rfc2119.txt> IETF (Internet Engineering Task Force) RFC 2119, March 1997.

[**UAX #9**] M. Davis, *UNICODE BIDIRECTIONAL ALGORITHM*, <http://www.unicode.org/reports/tr9/> Unicode Bidirectional Algorithm.

[**UAX #15**] M. Davis, K. Whistler, *UNICODE NORMALIZATION FORMS*, <http://www.unicode.org/reports/tr15/> Unicode Normalization Forms.

[**Unicode**] The Unicode Consortium, *The Unicode Standard*, <http://www.unicode.org/versions/latest/> Mountain View, CA: The Unicode Consortium, 2012.

[**XML**] W3C, *Extensible Markup Language (XML) 1.0*, <http://www.w3.org/TR/xml/> (Fifth Edition) W3C Recommendation 26 November 2008.

[**XML namespace**] W3C, *Schema document for namespace* <http://www.w3.org/XML/1998/namespace> <http://www.w3.org/2001/xml.xsd> [<http://www.w3.org/2009/01/xml.xsd>] at <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/informativeCopiesOf3rdPartySchemas/w3c/xml.xsd> in this distribution

[**XML Schema Datatypes**] W3C, *XML Schema Part 2: Datatypes*, <http://www.w3.org/TR/xmlschema-2/> (Second Edition) W3C Recommendation 28 October 2004.

1.3 Non-Normative References

[**ITS**] MultilingualWeb-LT WG *Internationalization Tag Set (ITS) Version 2.0*, 29 October 2013, <http://www.w3.org/TR/its20/> W3C Recommendation.

[**LDML**] *Unicode Locale Data Markup Language* <http://unicode.org/reports/tr35/>

[**SRX**] *Segmentation Rules exchange* <http://www.gala-global.org/oscarStandards/srx/>

[**UAX #29**] M. Davis, *UNICODE TEXT SEGMENTATION*, <http://www.unicode.org/reports/tr29/> Unicode text Segmentation.

[**XML I18N BP**] *Best Practices for XML Internationalization*, 13 February 2008, <http://www.w3.org/TR/xml-i18n-bp/> W3C Working Group.

2 Conformance

1. *Document Conformance*
 - a. XLIFF is an XML vocabulary, therefore conformant *XLIFF Documents* MUST be well formed and valid [XML](#) documents.
 - b. Conformant *XLIFF Documents* MUST be valid instances of the official [Core XML Schema](#) that is part of this XLIFF specification.
 - c. As not all aspects of the XLIFF specification can be expressed in terms of XML Schemas, conformant *XLIFF Documents* MUST also comply with all relevant elements and attributes definitions, normative usage descriptions, and Constraints specified in this specification document.
 - d. *XLIFF Documents* MAY contain custom extensions, as defined in the [Extension Mechanisms](#) section.
2. *Application Conformance*
 - a. XLIFF Writers MUST create conformant *XLIFF Documents* to be considered XLIFF compliant.
 - b. Agents processing conformant *XLIFF Documents* that contain custom extensions are not REQUIRED to understand and process non-XLIFF elements or attributes. However, conformant applications SHOULD preserve existing custom extensions when processing conformant *XLIFF Documents*, provided that the elements that contain custom extensions are not removed according to XLIFF Processing Requirements or the extension's own processing requirements.
 - c. All Agents MUST comply with Processing Requirements for otherwise unspecified Agents or without a specifically set target Agent.
 - d. Specialized Agents defined in this specification - this is *Extractor*, *Merger*, *Writer*, *Modifier*, and *Enricher Agents* - MUST comply with the Processing Requirements targeting their specifically defined type of Agent on top of Processing Requirements targeting all Agents as per point c. above.
 - e. XLIFF is a format explicitly designed for exchanging data among various Agents. Thus, a conformant XLIFF application MUST be able to accept *XLIFF Documents* it had written after those *XLIFF Documents* were *Modified* or *Enriched* by a different application, provided that:
 - i. The processed files are conformant *XLIFF Documents*,
 - ii. in a state compliant with all relevant Processing Requirements.
3. *Backwards Compatibility*
 - a. Conformant applications are NOT REQUIRED to support XLIFF 1.2 or previous Versions.

Note

XLIFF Documents conformant to this specification are not and cannot be conformant to XLIFF 1.2 or earlier versions. If an application needs to support for whatever business reason both XLIFF 2.0 and XLIFF 1.2, these will need to be supported as separate functionalities.

3 Fragment Identification

Because *XLIFF Documents* do not follow the usual behavior of XML documents when it comes to element identifiers, this specification defines how *Agents* MUST interpret the fragment identifiers in IRIs pointing to *XLIFF Documents*.

Note

Note that some identifiers may change during the localization process. For example [<data>](#) elements may be re-grouped or not depending on how tools treat identical original data.

Constraints

- A fragment identifier MUST match the following format:

```
<expression>      ::= "#" ["/"] <selector> {<selectorSeparator> <selector>}
<selector>        ::= [<prefix> <prefixSeparator>] <id>
<prefix>          ::= NMTOKEN
<id>              ::= NMTOKEN
<prefixSeparator> ::= "="
<selectorSeparator> ::= "/"
```

- There MUST NOT be two identical prefixes in the expression.
- When used, the following selectors MUST be declared in this order: file selector, group selector and unit selector.
- The selectors for modules or extensions, [<note>](#), [<segment>](#) or [<ignorable>](#) or source inline elements, target inline elements and [<data>](#) have the following constraints:
 - Only one of them MAY be used in the expression.
 - The one used MUST be the last selector of the expression.

Warning

Please note that due to the above Constraints, referencing fragments using third party namespaces within *Modules* or extensions (including but not limited to *XLIFF Core* or the *Metadata Module*) is not possible. This is to restrict the complexity of the fragment identification mechanism, as it would otherwise have potentially unlimited depth.

3.1 Selectors for Core Elements

- The prefix *f* indicates a [<file>](#) id and the value of that id is unique among all [<file>](#) id attribute values within the enclosing [<xliff>](#) element.
- The prefix *g* indicates a [<group>](#) id and the value of that id is unique among all [<group>](#) id attribute values within the enclosing [<file>](#) element.
- The prefix *u* indicates a [<unit>](#) id and the value of that id is unique among all [<unit>](#) id attribute values within the enclosing [<file>](#) element.
- The prefix *n* indicates a [<note>](#) id and the value of that id is unique among all [<note>](#) id attribute values within the immediate enclosing [<file>](#), [<group>](#), or [<unit>](#) element.
- The prefix *d* indicates a [<data>](#) id and the value of that id is unique among all [<data>](#) id attribute values within the enclosing [<unit>](#) element.

- The prefix `t` indicates an id for an inline element in the `<target>` element and the value of that id is unique within the enclosing `<unit>` element (with the exception of the matching inline elements in the `<source>`).
- No prefix indicates an id for a `<segment>` or an `<ignorable>` or an inline element in the `<source>` element and the value of that id is unique within the enclosing `<unit>` element (with the exception of the matching inline elements in the `<target>`).

3.2 Selectors for Modules and Extensions

A selector for a module or an extension uses a registered prefix and the value of that id is unique within the immediate enclosing `<file>`, `<group>` or `<unit>` element.

Constraints

- The prefix of a module or an extension MUST be an NMToken longer than 1 character and MUST be defined in the module or extension specification.
- The prefix of a module or an extension MUST be registered with the XLIFF TC.
- A given module or extension namespace URI MUST be associated with a single prefix.
- A prefix MAY be associated with more than one namespace URI (to allow for example different versions of a given module or extension to use the same prefix).

See also the [constraints related to how IDs need to be specified in extensions](#) (which applies for modules as well).

3.3 Relative References

Fragment identifiers that do not start with a character `/` (U+002F) are relative to their location in the document, or to the document being processed.

Any unit, group or file selector missing to resolve the relative reference is obtained from the immediate enclosing unit, group or file elements.

3.4 Examples

Given the following XLIFF document:

```
<xliff xmlns="urn:oasis:names:tc:xliff:document:2.0" version="2.0"
srcLang="en" trgLang="fr">
<file id="f1">
<notes>
<note id="n1">note for file.</note>
</notes>
<unit id="u1">
<my:elem xmlns:my="myNamespaceURI" id="x1">data</my:elem>
<notes>
<note id="n1">note for unit</note>
</notes>
<segment id="s1">
<source><pc id="1">Hello <mrk id="m1" type="term">World</mrk>!</pc>
</source>
<target><pc id="1">Bonjour le <mrk id="m1" type="term">Monde</mrk> !
</pc></target>
</segment>
</unit>
</file>
</xliff>
```

You can have the following fragment identifiers:

- `#f=f1/u=u1/1` refers to the element `<pc id="1">` of the source content of the element `<unit id="u1">`.
- `#f=f1/u=u1/t=1` refers to the element `<pc id="1">` of the target content of the element `<unit id="u1">`.
- `#f=f1/n=n1` refers to the element `<note id="n1">` of the element `<file id="f1">`.
- `#f=f1/u=u1/n=n1` refers to the element `<note id="n1">` of the element `<unit id="u1">`.
- `#f=f1/u=u1/s1` refers to the element `<segment id="s1">` of the element `<unit id="u1">`.
- Assuming the extension defined by the namespace URI `myNamespaceURI` has registered the prefix `myprefix`, the expression `#f=f1/u=u1/myprefix=x1` refers to the element `<my:element id="x1">` of the element `<unit id="u1">`.

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4 The Core Specification

XLIFF is a bilingual document format designed for containing text that needs *Translation*, its corresponding translations and auxiliary data that makes the *Translation* process possible.

At creation time, an XLIFF file MAY contain only text in the source language. Translations expressed in the target language MAY be added at a later time.

The root element of an XLIFF document is `<xliff>`. It contains a collection of `<file>` elements. Typically, each `<file>` element contains a set of `<unit>` elements that contain the text to be translated in the `<source>` child of one or more `<segment>` elements. Translations are stored in the `<target>` child of each `<segment>` element.

4.1 General Processing Requirements

- An *Agent* processing a valid *XLIFF Document* that contains *XLIFF-defined* elements and attributes that it cannot handle MUST preserve those elements and attributes.
- An *Agent* processing a valid *XLIFF Document* that contains custom elements and attributes that it cannot handle SHOULD preserve those elements and attributes.

4.2 Elements

This section contains a description of all elements used in XLIFF 2.0.

4.2.1 Tree Structure

Legend:

1 = one

+ = one or more

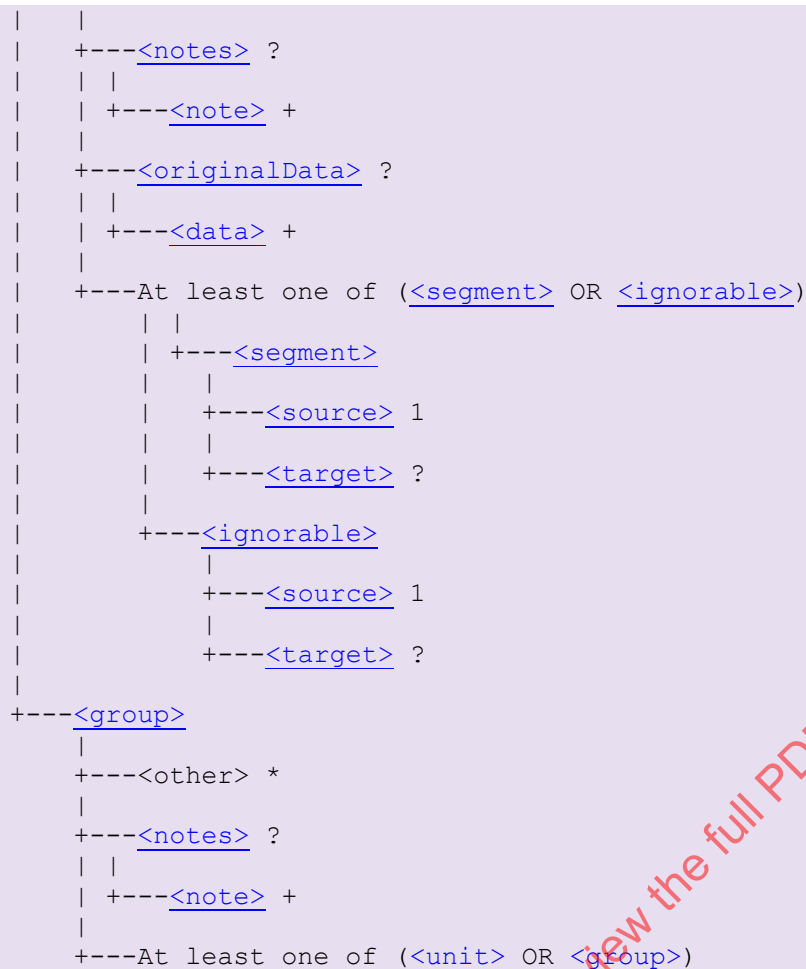
? = zero or one

* = zero or more

```

<xliff>
|
+---<file> +
|
|   +---<skeleton> ?
|   |
|   |   +---<other> *
|   |   |
|   |   +---<other> *
|   |   |
|   |   +---<notes> ?
|   |   |
|   |   |   +---<note> +
|   |   |   |
|   |   +---At least one of (<unit> OR <group>)
|   |   |
|   |   |   +---<unit>
|   |   |   |
|   |   |   +---<other> *

```



4.2.2 Structural Elements

The structural elements used in XLIFF 2.0 are: [<xliiff>](#), [<file>](#), [<skeleton>](#), [<group>](#), [<unit>](#), [<segment>](#), [<ignorable>](#), [<notes>](#), [<note>](#), [<originalData>](#), [<data>](#), [<source>](#) and [<target>](#).

4.2.2.1 xliiff

Root element for XLIFF documents.

Contains:

- One or more [<file>](#) elements

Attributes:

- [version](#), REQUIRED
- [srcLang](#), REQUIRED
- [trgLang](#), OPTIONAL
- [xml:space](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The [trgLang](#) attribute is REQUIRED if and only if the *XLIFF Document* contains [<target>](#) elements that are children of [<segment>](#) or [<ignorable>](#).

4.2.2.2 file

Container for localization material extracted from an entire single document, or another high level self contained logical node in a content structure that cannot be described in the terms of documents.

Note

Sub-document artifacts such as particular sheets, pages, chapters and similar are better mapped onto the [<group>](#) element. The [<file>](#) element is intended for the highest logical level. For instance a collection of papers would map to a single *XLIFF Document*, each paper will be represented with one [<file>](#) element, whereas chapters and subsections will map onto nested [<group>](#) elements.

Contains:

- Zero or one [<skeleton>](#) element followed by
- elements from other namespaces, OPTIONAL
- Zero or one [<notes>](#) element followed by
- One or more [<unit>](#) or [<group>](#) elements in any order.

Attributes:

- [id](#), REQUIRED
- [canResegment](#), OPTIONAL
- [original](#), OPTIONAL
- [translate](#), OPTIONAL
- [srcDir](#), OPTIONAL
- [trgDir](#), OPTIONAL
- [xml:space](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The following *XLIFF Module* elements are explicitly allowed by the wildcard `other`:
 - Zero or one [<ctr:changeTrack>](#) elements
 - Zero or one [<mda:metadata>](#) elements
 - Zero or one [<res:resourceData>](#) element
 - Zero or one [<slr:profiles>](#) elements
 - Zero or one [<slr:data>](#) elements
 - Zero or one [<val:validation>](#) elements
- *Module* and Extension elements MAY be used in any order.
- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:

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- [fs:fs](#), OPTIONAL
- [fs:subFs](#), OPTIONAL
- [slr:storageRestriction](#), OPTIONAL
- [slr:sizeRestriction](#), OPTIONAL
- [slr:sizeInfo](#), OPTIONAL
- [slr:sizeInfoRef](#), OPTIONAL

4.2.2.3 skeleton

Container for non-translatable material pertaining to the parent [<file>](#) element.

Contains:

Either

- Non-translatable text
- elements from other namespaces

or

- is empty.

Attributes:

- [href](#), OPTIONAL

Constraints

- The attribute [href](#) is REQUIRED if and only if the [<skeleton>](#) element is empty.

Processing Requirements

- *Modifiers* and *Enrichers* processing an *XLIFF Document* that contains a [<skeleton>](#) element MUST NOT change that element, its attributes, or its content.
- *Extractors* creating an *XLIFF Document* with a [<skeleton>](#) element MUST leave the [<skeleton>](#) element empty if and only if they specify the attribute [href](#).

4.2.2.4 group

Provides a way to organize units into a structured hierarchy.

Note that this is especially useful for mirroring a source format's hierarchical structure.

Contains:

- elements from other namespaces, OPTIONAL
- Zero or one [<notes>](#) element followed by
- Zero, one or more [<unit>](#) or [<group>](#) elements in any order.

Attributes:

- [id](#), REQUIRED
- [name](#), OPTIONAL
- [canResegment](#), OPTIONAL
- [translate](#), OPTIONAL
- [srcDir](#), OPTIONAL
- [trgDir](#), OPTIONAL
- [type](#), OPTIONAL
- [xml:space](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The following *XLIFF Module* elements are explicitly allowed by the wildcard `other`:
 - Zero or one [<ctr:changeTrack>](#) elements
 - Zero or one [<mda:metadata>](#) elements
 - Zero or one [<slr:data>](#) elements
 - Zero or one [<val:validation>](#) elements
- *Module* and *Extension* elements MAY be used in any order.
- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:
 - [fs:fs](#), OPTIONAL
 - [fs:subFs](#), OPTIONAL
 - [slr:storageRestriction](#), OPTIONAL
 - [slr:sizeRestriction](#), OPTIONAL
 - [slr:sizeInfo](#), OPTIONAL
 - [slr:sizeInfoRef](#), OPTIONAL

4.2.2.5 unit

Static container for a dynamic structure of elements holding the extracted translatable source text, aligned with the *Translated* text.

Contains:

- elements from other namespaces, OPTIONAL
- Zero or one [<notes>](#) elements followed by
- Zero or one [<originalData>](#) element followed by
- One or more [<segment>](#) or [<ignorable>](#) elements in any order.

Attributes:

- [id](#), REQUIRED
- [name](#), OPTIONAL
- [canResegment](#), OPTIONAL
- [translate](#), OPTIONAL

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- [srcDir](#), OPTIONAL
- [trgDir](#), OPTIONAL
- [xml:space](#), OPTIONAL
- [type](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- A [<unit>](#) MUST contain at least one [<segment>](#) element.
- The following XLIFF Module elements are explicitly allowed by the wildcard `other`:
 - Zero or one [<ctr:changeTrack>](#) elements
 - Zero or one [<mtc:matches>](#) elements
 - Zero or one [<qls:glossary>](#) elements
 - Zero or one [<mda:metadata>](#) elements
 - Zero or one [<res:resourceData>](#) elements
 - Zero or one [<slr:data>](#) elements
 - Zero or one [<val:validation>](#) elements
- Module and Extension elements MAY be used in any order.
- The following XLIFF Module attributes are explicitly allowed by the wildcard `other`:
 - [fs:fs](#), OPTIONAL
 - [fs:subFs](#), OPTIONAL
 - [slr:storageRestriction](#), OPTIONAL
 - [slr:sizeRestriction](#), OPTIONAL
 - [slr:sizeInfo](#), OPTIONAL
 - [slr:sizeInfoRef](#), OPTIONAL

4.2.2.6 segment

This element is a container to hold in its aligned pair of children elements the minimum portion of translatable source text and its *Translation* in the given [Segmentation](#).

Contains:

- One [<source>](#) element followed by
- Zero or one [<target>](#) element

Attributes:

- [id](#), OPTIONAL
- [canResegment](#), OPTIONAL
- [state](#), OPTIONAL
- [subState](#), OPTIONAL

4.2.2.7 ignorable

Part of the extracted content that is not included in a segment (and therefore not translatable). For example tools can use `<ignorable>` to store the white space and/or codes that are between two segments.

Contains:

- One `<source>` element followed by
- Zero or one `<target>` element

Attributes:

- `id`, OPTIONAL

4.2.2.8 notes

Collection of comments.

Contains:

- One or more `<note>` elements

4.2.2.9 note

This is an XLIFF specific way how to present end user readable comments and annotations. A note can contain information about `<source>`, `<target>`, `<unit>`, `<group>`, or `<file>` elements.

Contains:

- Text

Attributes:

- `id`, OPTIONAL
- `appliesTo`, OPTIONAL
- `category`, OPTIONAL
- `priority`, OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:
 - `fs:fs`, OPTIONAL
 - `fs:subFs`, OPTIONAL

4.2.2.10 originalData

Unit-level collection of original data for the inline codes.

Contains:

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- One or more [<data>](#) elements

4.2.2.11 data

Storage for the original data of an inline code.

Contains:

- Non-translatable text
- Zero, one or more [<cp>](#) elements.

Non-translatable text and [<cp>](#) elements MAY appear in any order.

Attributes:

- [id](#), REQUIRED
- [dir](#), OPTIONAL
- [xml:space](#), OPTIONAL, the value is restricted to `preserve` on this element

4.2.2.12 source

Portion of text to be translated.

Contains:

- Text
- Zero, one or more [<cp>](#) elements
- Zero, one or more [<ph>](#) elements
- Zero, one or more [<pc>](#) elements
- Zero, one or more [<sc>](#) elements
- Zero, one or more [<ec>](#) elements
- Zero, one or more [<mrk>](#) elements
- Zero, one or more [<sm>](#) elements
- Zero, one or more [](#) elements

Text and inline elements may appear in any order.

Attributes:

- [xml:lang](#), OPTIONAL
- [xml:space](#), OPTIONAL

4.2.2.13 target

The translation of the sibling [<source>](#) element.

Contains:

- Text

- Zero, one or more [<cp>](#) elements
- Zero, one or more [<ph>](#) elements
- Zero, one or more [<pc>](#) elements
- Zero, one or more [<sc>](#) elements
- Zero, one or more [<ec>](#) elements
- Zero, one or more [<mrk>](#) elements
- Zero, one or more [<sm>](#) elements
- Zero, one or more [](#) elements

Text and inline elements may appear in any order.

Attributes:

- [xml:lang](#), OPTIONAL
- [xml:space](#), OPTIONAL
- [order](#), OPTIONAL

Constraints

- When a [<target>](#) element is a child of [<segment>](#) or [<ignorable>](#), the explicit or inherited value of the OPTIONAL [xml:lang](#) MUST be equal to the value of the [trgLang](#) attribute of the enclosing [<xliff>](#) element.

4.2.3 Inline Elements

The inline elements at the [<source>](#) or [<target>](#) level are: [<cp>](#), [<ph>](#), [<pc>](#), [<sc>](#), [<ec>](#), [<mrk>](#), [<sm>](#) and [](#).

The elements at the [<unit>](#) level directly related to inline elements are: [<originalData>](#) and [<data>](#).

4.2.3.1 cp

Represents a Unicode character that is invalid in XML.

Contains:

This element is always empty.

Parents:

[<data>](#), [<mrk>](#), [<source>](#), [<target>](#) and [<pc>](#)

Attributes:

- [hex](#), REQUIRED

Example:

```
<unit id="1">
  <segment>
```

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```
<source>Ctrl+C=<cp hex="0003"/></source>
</segment>
</unit>
```

The example above shows a character U+0003 (Control C) as it has to be represented in XLIFF.

Processing Requirements

- Writers MUST encode all invalid XML characters of the content using [<cp>](#).
- Writers MUST NOT encode valid XML characters of the content using [<cp>](#).

4.2.3.2 ph

Represents a standalone code of the original format.

Contains:

This element is always empty.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [canCopy](#), OPTIONAL
- [canDelete](#), OPTIONAL
- [canReorder](#), OPTIONAL
- [copyOf](#), OPTIONAL
- [disp](#), OPTIONAL
- [equiv](#), OPTIONAL
- [id](#), REQUIRED.
- [dataRef](#), OPTIONAL
- [subFlows](#), OPTIONAL
- [subType](#), OPTIONAL
- [type](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">%d</data>
    <data id="d2">&lt;br/></data>
  </originalData>
  <segment>
    <source>Number of entries: <ph id="1" dataRef="d1" />
    <ph id="2" dataRef="d2"/>(These entries are only the ones matching the
    current filter settings)</source>
  </segment>
</unit>
```

Constraints

- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:
 - [fs:fs](#), OPTIONAL
 - [fs:subFs](#), OPTIONAL
 - [slr:equivStorage](#), OPTIONAL
 - [slr:sizeInfo](#), OPTIONAL
 - [slr:sizeInfoRef](#), OPTIONAL
- No other attributes MUST be used.

4.2.3.3 pc

Represents a well-formed spanning original code.

Contains:

- Text
- Zero, one or more [<cp>](#) elements
- Zero, one or more [<ph>](#) elements
- Zero, one or more [<pc>](#) elements
- Zero, one or more [<sc>](#) elements
- Zero, one or more [<ec>](#) elements
- Zero, one or more [<mrk>](#) elements
- Zero, one or more [<sm>](#) elements
- Zero, one or more [](#) elements

Text and inline elements may appear in any order.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [canCopy](#), OPTIONAL
- [canDelete](#), OPTIONAL
- [canOverlap](#), OPTIONAL
- [canReorder](#), OPTIONAL
- [copyOf](#), OPTIONAL
- [dispEnd](#), OPTIONAL
- [dispStart](#), OPTIONAL
- [equivEnd](#), OPTIONAL
- [equivStart](#), OPTIONAL
- [id](#), REQUIRED
- [dataRefEnd](#), OPTIONAL

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- [dataRefStart](#), OPTIONAL
- [subFlowsEnd](#), OPTIONAL
- [subFlowsStart](#), OPTIONAL
- [subType](#), OPTIONAL
- [type](#), OPTIONAL
- [dir](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Example:

```
<unit id="1">
  <originalData>
    <data id="1">&lt;B&gt;</data>
    <data id="2">&lt;/B&gt;</data>
  </originalData>
  <segment><pc id="1" dataRefStart="1" dataRefEnd="2">Important</pc>
text</source>
  </segment>
</unit>
```

Constraints

- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:

- [fs:fs](#), OPTIONAL
- [fs:subFs](#), OPTIONAL
- [slr:storageRestriction](#), OPTIONAL
- [slr:sizeRestriction](#), OPTIONAL
- [slr:equivStorage](#), OPTIONAL
- [slr:sizeInfo](#), OPTIONAL
- [slr:sizeInfoRef](#), OPTIONAL

- No other attributes MUST be used.

Processing Requirements

- *Extractors* MUST NOT use the [<pc>](#) element to represent standalone codes.

Rationale: Using a spanning code for a standalone code can easily result in having text inside a span where the original format does not allow it.

4.2.3.4 sc

Start of a spanning original code.

Contains:

This element is always empty.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [canCopy](#), OPTIONAL
- [canDelete](#), OPTIONAL
- [canOverlap](#), OPTIONAL
- [canReorder](#), OPTIONAL
- [copyOf](#), OPTIONAL
- [dataRef](#), OPTIONAL
- [dir](#), OPTIONAL
- [disp](#), OPTIONAL
- [equiv](#), OPTIONAL
- [id](#), REQUIRED
- [isolated](#), OPTIONAL
- [subFlows](#), OPTIONAL
- [subType](#), OPTIONAL
- [type](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Example:

```
<unit id="1">
  <segment>
    <source><sc id="1" type="fmt" subType="xlf:b"/>First sentence. </source>
  </segment>
  <segment>
    <source>Second sentence.<ec startRef="1" type="fmt" subType="xlf:b"/>
  </source>
  </segment>
</unit>
```

Constraints

- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:
 - [fs:fs](#), OPTIONAL
 - [fs:subFs](#), OPTIONAL
 - [slr:storageRestriction](#), OPTIONAL
 - [slr:sizeRestriction](#), OPTIONAL
 - [slr:equivStorage](#), OPTIONAL
 - [slr:sizeInfo](#), OPTIONAL
 - [slr:sizeInfoRef](#), OPTIONAL
- No other attributes MUST be used.
- The values of the attributes [canCopy](#), [canDelete](#), [canReorder](#) and [canOverlap](#) MUST be the same as the values the ones in the [<ec>](#) element corresponding to this start code.

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- The attribute `isolated` MUST be set to `yes` if and only if the `<ec>` element corresponding to this start marker is not in the same `<unit>`, and set to `no` otherwise.

Processing Requirements

- Extractors MUST NOT use the `<sc>` / `<ec>` pair to represent standalone codes.

Rationale: Using a spanning code for a standalone code can easily result in having text inside a span where the original format does not allow it.

4.2.3.5 ec

End of a spanning original code.

Contains:

This element is always empty.

Parents:

`<source>`, `<target>`, `<pc>` and `<mrk>`

Attributes:

- `canCopy`, OPTIONAL
- `canDelete`, OPTIONAL
- `canOverlap`, OPTIONAL
- `canReorder`, OPTIONAL
- `copyOf`, OPTIONAL
- `dataRef`, OPTIONAL
- `dir`, OPTIONAL
- `disp`, OPTIONAL
- `equiv`, OPTIONAL
- `id`, OPTIONAL
- `isolated`, OPTIONAL
- `startRef`, OPTIONAL
- `subFlows`, OPTIONAL
- `subType`, OPTIONAL
- `type`, OPTIONAL
- attributes from other namespaces, OPTIONAL

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">\b </data>
    <data id="d2">\i </data>
    <data id="d3">\b0 </data>
    <data id="d4">\i0 </data>
  </originalData>
```

```

<segment>
  <source>Text in <sc id="1" dataRef="d1"/>bold <sc id="2" dataRef="d2"/>
and<ec startRef="1" dataRef="d3"/> italics<ec startRef="2" dataRef="d4"/>.
</source>
</segment>
</unit>

```

Constraints

- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:
 - [fs:fs](#), OPTIONAL
 - [fs:subFs](#), OPTIONAL
 - [slr:equivStorage](#), OPTIONAL
 - [slr:sizeInfo](#), OPTIONAL
 - [slr:sizeInfoRef](#), OPTIONAL
- No other attributes MUST be used.
- The values of the attributes [canCopy](#), [canDelete](#) and [canOverlap](#) MUST be the same as the values the ones in the [<sc>](#) element corresponding to this end code.
- The value of the attribute [canReorder](#) MUST be `no` if the value of [canReorder](#) is `firstNo` in the [<sc>](#) element corresponding to this end code.
- The attribute [isolated](#) MUST be set to `yes` if and only if the [<sc>](#) element corresponding to this end code is not in the same [<unit>](#) and set to `no` otherwise.
- If and only if the attribute [isolated](#) is set to `yes`, the attribute [id](#) MUST be used instead of the attribute [startRef](#) that MUST be used otherwise.
- If and only if the attribute [isolated](#) is set to `yes`, the attribute [dir](#) MAY be used, otherwise the attribute [dir](#) MUST NOT be used on the [<ec>](#) element.

Processing Requirements

- *Extractors* MUST NOT use the [<sc>](#) / [<ec>](#) pair to represent standalone codes.

Rationale: Using a spanning code for a standalone code can easily result in having text inside a span where the original format does not allow it.

4.2.3.6 mrk

Represents an annotation pertaining to the marked span.

Contains:

- Text
- Zero, one or more [<cp>](#) elements
- Zero, one or more [<ph>](#) elements
- Zero, one or more [<pc>](#) elements
- Zero, one or more [<sc>](#) elements
- Zero, one or more [<ec>](#) elements
- Zero, one or more [<mrk>](#) elements
- Zero, one or more [<sm>](#) elements
- Zero, one or more [](#) elements

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Text and inline elements may appear in any order.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [id](#), REQUIRED
- [translate](#), OPTIONAL
- [type](#), OPTIONAL
- [ref](#), OPTIONAL
- [value](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The [\[XML namespace\]](#) MUST NOT be used at this extension point.
- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:

- [fs:fs](#), OPTIONAL
- [fs:subFs](#), OPTIONAL
- [slr:storageRestriction](#), OPTIONAL
- [slr:sizeRestriction](#), OPTIONAL

See the [Annotations section](#) for more details and examples on how to use the [<mrk>](#) element.

4.2.3.7 sm

Start marker of an annotation where the spanning marker cannot be used for wellformedness reasons.

Contains:

This element is always empty.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [id](#), REQUIRED
- [translate](#), OPTIONAL
- [type](#), OPTIONAL
- [ref](#), OPTIONAL
- [value](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The [XML namespace](#) MUST NOT be used at this extension point.
- The following *XLIFF Module* attributes are explicitly allowed by the wildcard `other`:

- [fs:fs](#), OPTIONAL
- [fs:subFs](#), OPTIONAL
- [slr:storageRestriction](#), OPTIONAL
- [slr:sizeRestriction](#), OPTIONAL

See the [Annotations section](#) for more details and examples on how to use the `<sm>` element.

4.2.3.8 em

End marker of an annotation where the spanning marker cannot be used for wellformedness reasons.

Contains:

This element is always empty.

Parents:

[<source>](#), [<target>](#), [<pc>](#) and [<mrk>](#)

Attributes:

- [startRef](#), REQUIRED

See the [Annotations section](#) for more details and examples on how to use the `<em>` element.

4.3 Attributes

This section lists all the various attributes used in XLIFF core elements.

4.3.1 XLIFF Attributes

The attributes defined in XLIFF 2.0 are: [appliesTo](#), [canCopy](#), [canDelete](#), [canOverlap](#), [canReorder](#), [canResegment](#), [category](#), [copyOf](#), [dataRef](#), [dataRefEnd](#), [dataRefStart](#), [dir](#), [disp](#), [dispEnd](#), [dispStart](#), [equiv](#), [equivEnd](#), [equivStart](#), [hex](#), [href](#), [id](#), [isolated](#), [name](#), [order](#), [original](#), [priority](#), [refSrcDir](#), [srcLang](#), [startRef](#), [state](#), [subFlows](#), [subFlowsEnd](#), [subFlowsStart](#), [subState](#), [subType](#), [trgLang](#), [translate](#), [trgDir](#), [type](#), [value](#) and [version](#).

4.3.1.1 appliesTo

Comment target - indicates the element to what the content of the note applies.

Value description: source or target.

Default value: undefined.

Used in: [<note>](#).

4.3.1.2 canCopy

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Replication editing hint - indicates whether or not the inline code can be copied.

Value description: `yes` if the code can be copied, `no` if the code is not intended to be copied.

Default value: `yes`.

Used in: [<pc>](#), [<sc>](#), [<ec>](#), [<ph>](#).

4.3.1.3 canDelete

Deletion editing hint - indicates whether or not the inline code can be deleted.

Value description: `yes` if the code can be deleted, `no` if the code is not allowed to be deleted.

Default value: `yes`.

Used in: [<pc>](#), [<sc>](#), [<ec>](#), [<ph>](#).

4.3.1.4 canOverlap

Code can overlap - indicates whether or not the spanning code where this attribute is used can enclose partial spanning codes (i.e. a start code without its corresponding end code, or an end code without its corresponding start code).

Value description: `yes` or `no`.

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<pc>](#): `no`.
- When used in [<sc>](#) or [<ec>](#): `yes`.

Used in: [<pc>](#), [<sc>](#) and [<ec>](#)

Example:

```
<unit id="1">
  <originalData>
    <data id="1">\i1 </data>
    <data id="2">\i0 </data>
    <data id="3">{\b </data>
    <data id="4">}\</data>
  </originalData>
  <segment>
    <source><pc id="1" dataRefStart="3" dataRefEnd="4" canOverlap="no"/>Bold,
    <sc id="2" dataRef="1" canOverlap="yes"/>both</pc>,
    italics<ec startRef="2" dataRef="2"/></source>
  </segment>
</unit>
```

4.3.1.5 canReorder

Re-ordering editing hint - indicates whether or not the inline code can be re-ordered. See [Editing Hints section](#) for more details.

Value description: `yes` in case the code can be re-ordered, `firstNo` when the code is the first element of a sequence that cannot be re-ordered, `no` when it is another element of such a sequence.

Default value: `yes`.

Used in: [<pc>](#), [<sc>](#), [<ec>](#), [<ph>](#).

4.3.1.6 canResegment

Can resegment - indicates whether or not the source text in the scope of the given `canResegment` flag can be reorganized into a different structure of [<segment>](#) elements within the same parent [<unit>](#).

Value description: `yes` or `no`.

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<file>](#):

The value `yes`.

- When used in any other element:

The value of the [canResegment](#) attribute of its parent element.

Used in: [<file>](#) [<group>](#) [<unit>](#), and [<segment>](#).

4.3.1.7 category

Category - provides a way to categorize notes.

Value description: Text.

Default value: undefined

Used in: [<note>](#).

4.3.1.8 copyOf

Reference to base code - holds the [id](#) of the base code of a copied code.

Value description: NMTOKEN. The [id](#) value of the base code of which this code is a copy.

Default value: undefined

Used in: [<ph>](#), [<pc>](#), [<sc>](#), [<ec>](#).

Example:

```
unit id="1">
  <segment>
    <source>Äter <pc id="1">katter möss</pc>?</source>
    <target>Do <pc id="1">cats</pc> eat <pc id="2" copyOf="1">mice</pc>?
    </target>
  </segment>
```

</unit>

4.3.1.9 dataRef

Original data reference - holds the identifier of the [data](#) element that contains the original data for a given inline code.

Value description: An [XML Schema Datatypes](#) NMTOKEN that MUST be the value of the [id](#) attribute of one of the [data](#) element listed in the same [unit](#) element.

Default value: undefined.

Used in: [ph](#), [sc](#), [ec](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">{0}</data>
  </originalData>
  <segment>
    <source>Error in '<ph id="1" dataRef="d1"/>'.</source>
    <target>Erreur dans '<ph id="1" dataRef="d1"/>'.</target>
  </segment>
</unit>
```

The example above shows a [ph](#) element that has its original data stored outside the content, in a [data](#) element.

4.3.1.10 dataRefEnd

Original data reference - holds the identifier of the [data](#) element that contains the original data for the end marker of a given inline code.

Value description: An [XML Schema Datatypes](#) NMTOKEN that MUST be the value of the [id](#) attribute of one of the [data](#) element listed in the same [unit](#) element.

Default value: undefined.

Used in: [pc](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;EM></data>
    <data id="d2">&lt;/EM></data>
  </originalData>
  <segment>
    <source><pc id="1" dataRefStart="d1" dataRefEnd="d2">Efficiency<pc>
is the operative word here.</source>
    <target><pc id="1" dataRefStart="d1" dataRefEnd="d2">Efficacité<pc>
est le mot clé ici.</target>
  </segment>
</unit>
```

The example above shows two [<pc>](#) elements with their original data stored outside the content, in two [<data>](#) elements.

4.3.1.11 dataRefStart

Original data reference - holds the identifier of the [<data>](#) element that contains the original data for the start marker of a given inline code.

Value description: An [\[XML Schema Datatypes\]](#) NMTOKEN that MUST be the value of the [id](#) attribute of one of the [<data>](#) element listed in the same [<unit>](#) element.

Default value: undefined.

Used in: [<pc>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;EM></data>
    <data id="d2">&lt;/EM></data>
  </originalData>
  <segment>
    <source><pc id="1" dataRefStart="d1" dataRefEnd="d2">Efficiency</pc>
is the operative word here.</source>
    <target><pc id="1" dataRefStart="d1" dataRefEnd="d2">Efficacité</pc>
est le mot clé ici.</target>
  </segment>
</unit>
```

The example above shows two [<pc>](#) elements with their original data stored outside the content, in two [<data>](#) elements.

4.3.1.12 dir

Directionality - indicates the directionality of content.

Value description: `ltr` (Left-To-Right), `rtl` (Right-To-Left), or `auto` (determined heuristically, based on the first strong directional character in scope, see [\[UAX #9\]](#)).

Default value: default values for this attribute depend on the element in which it is used:

- When used in a [<pc>](#), [<sc>](#), or [<ec>](#) element that has a [<source>](#) element as its parent:
The value of the [srcDir](#) attribute of the [<unit>](#) element, in which the elements are located.
- When used in a [<pc>](#), [<sc>](#), or [<ec>](#) element that has a [<target>](#) element as its parent:
The value of the [trgDir](#) attribute of the [<unit>](#) element, in which the elements are located.
- When used in a [<pc>](#), [<sc>](#), or [<ec>](#) element that has a [<pc>](#) element as its parent:

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The value of the [dir](#) attribute of the parent [<pc>](#) element.

- When used in [<data>](#):

The value `auto`.

Used in: [<data>](#), [<pc>](#), [<sc>](#), and [<ec>](#).

4.3.1.13 disp

Display text - holds an alternative user-friendly display representation of the original data of the inline code.

Value description: Text.

Default value: undefined

Used in: [<ph>](#), [<sc>](#), [<ec>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">{1}</data>
  </originalData>
  <segment>
    <source>Welcome back <ph id="1" disp="[UserName]" dataRef="d1"/>!/</source>
  </segment>
</unit>
```

Note

To provide a plain text equivalent of the code, use the [equiv](#) attribute.

4.3.1.14 dispEnd

Display text - holds an alternative user-friendly display representation of the original data of the end marker of an inline code.

Value description: Text.

Default value: undefined

Used in: [<pc>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">\cf1\ul\b\f1\fs24 </data>
    <data id="d2">\cf0\ulnone\b0\f0\fs22 </data>
  </originalData>
  <segment>
    <source>Example of <pc id="1" dataRefStart="d1" dataRefEnd="d2"
    dispStart="&lt;span>" dispEnd="&lt;/span>">formatted
  </source>
  </segment>
</unit>
```

```
text</pc>.</source>
</segment>
</unit>
```

In the example above, the [dispStart](#) and [dispEnd](#) attributes provide a more user-friendly representation of the original formatting codes.

Note

To provide a plain text equivalent of the code, use the [equivEnd](#) attribute.

4.3.1.15 dispStart

Display text - holds an alternative user-friendly display representation of the original data of the start marker of an inline code.

Value description: Text.

Default value: undefined

Used in: [<pc>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">\cf1\ul\b\f1\fs24 </data>
    <data id="d2">\cf0\ulnone\b0\f0\fs22 </data>
  </originalData>
  <segment>
    <source>Example of <pc id="1" dataRefStart="d1" dataRefEnd="d2"
dispStart="&lt;span>" dispEnd="&lt;/span>">formatted
text</pc>.</source>
  </segment>
</unit>
```

In the example above, the [dispStart](#) and [dispEnd](#) attributes provide a more user-friendly representation of the original formatting codes.

Note

To provide a plain text equivalent of the code, use the [equivStart](#) attribute.

4.3.1.16 equiv

Equivalent text - holds a plain text representation of the original data of the inline code that can be used when generating a plain text representation of the content.

Value description: Text.

Default value: an empty string.

Used in: [<ph>](#), [<sc>](#), [<ec>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">&amp;</data>
  </originalData>
  <segment>
    <source>Open <ph id="1" equiv="" dataRef="d1"/>File</source>
  </segment>
</unit>
```

In this example the [equiv](#) attribute of the [<ph>](#) element is used to indicate that the original data of the code can be ignored in the text representation of the string. This could, for instance, help a spell-checker tool to process the content as "Open File".

Note

To provide a user-friendly representation, use the [disp](#) attribute.

4.3.1.17 equivEnd

Equivalent text - holds a plain text representation of the original data of the end marker of an inline code that can be used when generating a plain text representation of the content.

Value description: Text.

Default value: an empty string

Used in: [<pc>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;span class="link" onclick="linkTo('dbId5345')"></data>
    <data id="d2">&lt;/span></data>
  </originalData>
  <segment>
    <source>The jam made of <pc id="1" dataRefStart="d1" equivStart=""
dataRefEnd="d2" equivEnd="">lingonberries</pc> is quite tasty.</source>
  </segment>
</unit>
```

Note

To provide a user-friendly representation, use the [dispEnd](#) attribute.

4.3.1.18 equivStart

Equivalent text - holds a plain text representation of the original data of the start marker of an inline code that can be used when generating a plain text representation of the content.

Value description: Text.

Default value: an empty string

Used in: [<pc>](#).

Example:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;span class="link" onclick="linkTo('dbId5345') "></data>
    <data id="d2">&lt;/span></data>
  </originalData>
  <segment>
    <source>The jam made of <pc id="1" dataRefStart="d1" equivStart=""
dataRefEnd="d2" equivEnd="">lingonberries</pc> is quite tasty.</source>
  </segment>
</unit>
```

Note

To provide a user-friendly representation, use the [dispStart](#) attribute.

4.3.1.19 hex

Hexadecimal code point - holds the value of a Unicode code point that is invalid in XML.

Value description: A canonical representation of the hexBinary [\[XML Schema Datatypes\]](#) data type: Two hexadecimal digits to represent each octet of the Unicode code point. The allowed values are any of the values representing code points invalid in XML, between hexadecimal 0000 and 10FFFF (both included).

Default value: undefined

Used in: [<cp>](#).

Example:

```
<cp hex="001A"/><cp hex="0003"/>
```

The example above shows a character U+001A and a character U+0003 as they have to be represented in XLIFF.

4.3.1.20 href

href - a pointer to the location of an external skeleton file pertaining to the enclosing [<file>](#) element..

Value description: IRI.

Default value: undefined

Used in: [<skeleton>](#).

4.3.1.21 id

Identifier - a character string used to identify an element.

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Value description: NMOKEN. The scope of the values for this attribute depends on the element, in which it is used.

- When used in a [<file>](#) element:

The value MUST be unique among all [<file>](#) id attribute values within the enclosing [<xliff>](#) element.

- When used in [<group>](#) elements:

The value MUST be unique among all [<group>](#) id attribute values within the enclosing [<file>](#) element.

- When used in [<unit>](#) elements:

The value MUST be unique among all [<unit>](#) id attribute values within the enclosing [<file>](#) element.

- When used in [<note>](#) elements:

The value MUST be unique among all [<note>](#) id attribute values within the immediate enclosing [<file>](#), [<group>](#), or [<unit>](#) element.

- When used in [<data>](#) elements:

The value MUST be unique among all [<data>](#) id attribute values within the enclosing [<unit>](#) element.

- When used in [<segment>](#), [<ignorable>](#), [<mrk>](#), [<sm>](#), [<pc>](#), [<sc>](#), [<ec>](#), or [<ph>](#) elements:
 - The inline elements enclosed by a [<target>](#) element MUST use the duplicate id values of their corresponding inline elements enclosed within the sibling [<source>](#) element if and only if those corresponding elements exist.
 - Except for the above exception, the value MUST be unique among all of the above within the enclosing [<unit>](#) element.

Default value: undefined

Used in: [<file>](#), [<group>](#), [<unit>](#), [<note>](#), [<segment>](#), [<ignorable>](#), [<data>](#), [<sc>](#), [<ec>](#), [<ph>](#), [<pc>](#), [<mrk>](#) and [<sm>](#).

4.3.1.22 isolated

Orphan code flag - indicates if the start or end marker of a spanning inline code is not in the same [<unit>](#) as its corresponding end or start code.

Value description: yes if this start or end code is not in the same [<unit>](#) as its corresponding end or start code, no if both codes are in the same [<unit>](#).

Default value: no.

Used in: [<sc>](#), [<ec>](#).

Example:

```

<file id="f2" xmlns:abc="urn:abc">
  <unit id="1">
    <mtc:matches>
      <mtc:match id="tc01" ref="seg2">
        <source><sc id="1" isolated="yes"/>Warning:</source>
        <target><sc id="1" isolated="yes"/>Attention :</target>
      </mtc:match>
    </mtc:matches>
    <segment id="seg2">
      <source><pc id="1">Warning: File not found.</pc></source>
    </segment>
  </unit>
</file>

```

In the example above the [<sc>](#) elements have their [isolated](#) attribute set to `yes` because they do not have their corresponding [<ec>](#) elements.

4.3.1.23 name

Resource name - the original identifier of the resource corresponding to the *Extracted* [<unit>](#) or [<group>](#).

For example: the key in the key/value pair in a Java properties file, the ID of a string in a Windows string table, the index value of an entry in a database table, etc.

Value description: Text.

Default value: undefined.

Used in: [<unit>](#) and [<group>](#).

4.3.1.24 order

target order - indicates the order, in which to compose the target content parts.

Value description: A positive integer.

Default value: implicit, see below

When order is not explicitly set, the [<target> order](#) corresponds to its sibling [<source>](#), i.e. it is not being moved anywhere when composing target content of the enclosing [<unit>](#) and the implicit [order](#) value is of that position within the [<unit>](#).

Used in: [<target>](#).

Constraints

- The value of the [order](#) attribute MUST be unique within the enclosing [<unit>](#) element.

See the [Segments Order](#) section for the normative usage description.

4.3.1.25 original

Original file - a pointer to the location of the original document from which the content of the enclosing [<file>](#) element is extracted.

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Value description: IRI.

Default value: undefined

Used in: [<file>](#).

4.3.1.26 priority

Priority - provides a way to prioritize notes.

Value description: Integer 1-10.

Default value: 1

Used in: [<note>](#).

Note

Please note that 1 is the highest priority that can be interpreted as an alert, e.g. an [ITS Localization Note](#) of the type alert. The best practice is to use only one alert per an annotated element, and the full scale of 2-10 can be used for prioritizing notes of lesser importance than the alert.

4.3.1.27 ref

Reference - holds a reference for the associated annotation.

Value description: A value of the [XML Schema Datatypes](#) type anyURI. The semantics of the value depends on the type of annotation:

- When used in a [term annotation](#), the URI value is referring to a resource providing information about the term.
- When used in a [translation candidates annotation](#), the URI value is referring to an external resource providing information about the translation candidate.
- When used in a [comment annotation](#), the value is referring to a [<note>](#) element within the same enclosing [<unit>](#).
- When used in a [custom annotation](#), the value is defined by each custom annotation.

Default value: undefined

Used in: [<mrk>](#) or [<sm>](#).

Example:

```
<unit id="1">
  <segment>
    <source>The <pc id="1">ref</pc> attribute of a term
    annotation holds a <mrk id="m1" type="term"
    ref="http://dbpedia.org/page/Uniform_Resource_Identifier">URI</mrk>
    pointing to more information about the given term.</source>
  </segment>
</unit>
```

4.3.1.28 srcDir

Source directionality - indicates the directionality of the source content.

Value description: `ltr` (Left-To-Right), `rtl` (Right-To-Left), `auto` (determined heuristically, based on the first strong directional character in scope, see [\[UAX #9\]](#)).

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<file>](#):
The value `auto`.
- When used in any other element:
The value of the [srcDir](#) attribute of its parent element.

Used in: [<file>](#), [<group>](#), and [<unit>](#).

4.3.1.29 srcLang

Source language - the code of the language, in which the text to be *Translated* is expressed.

Value description: A language code as described in [\[BCP 47\]](#).

Default value: undefined

Used in: [<xliif>](#).

4.3.1.30 startRef

Start code or marker reference - The [id](#) of the [<sc>](#) element or the [<sm>](#) element a given [<ec>](#) element or [](#) element corresponds.

Value description: NMTOKEN.

Default value: undefined

Used in: [<ec>](#), [](#).

Example:

```
<unit id="1">
  <segment>
    <source><sc id="1"/>Bold, <sc id="2"/>both<ec startRef="1"/>,
    italics<ec startRef="2"/></source>
  </segment>
</unit>
```

4.3.1.31 state

State - indicates the state of the translation of a segment.

Value description: The value MUST be set to one of the following values:

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initial - indicates the segment is in its initial state.

translated - indicates the segment has been translated.

reviewed - indicates the segment has been reviewed.

final - indicates the segment is finalized and ready to be used.

One can further specify the state of the *Translation* using the [subState](#) attribute.

Default value: initial

Used in: [<segment>](#)

Processing Requirements

- Writers updating the attribute [state](#) MUST also update or delete [subState](#).

4.3.1.32 subFlows

Sub-flows list - holds a list of [id](#) attributes corresponding to the [<unit>](#) elements that contain the sub-flows for a given inline code.

Value description: A list of NMTOKEN values separated by spaces. Each value corresponds to the [id](#) attribute of a [<unit>](#) element.

Default value: undefined

Used in: [<ph>](#), [<sc>](#), [<ec>](#).

Example:

See the example in the [Sub-Flows section](#).

4.3.1.33 subFlowsEnd

Sub-flows list - holds a list of [id](#) attributes corresponding to the [<unit>](#) elements that contain the sub-flows for the end marker of a given inline code.

Value description: A list of NMTOKEN values separated by spaces. Each value corresponds to the [id](#) attribute of a [<unit>](#) element.

Default value: undefined

Used in: [<pcz>](#)

Example:

See the example in the [Sub-Flows section](#).

4.3.1.34 subFlowsStart

Sub-flows list - holds a list of [id](#) attributes corresponding to the [<unit>](#) elements that contain the sub-flows for the start marker of a given inline code.

Value description: A list of NMTOKEN values separated by spaces. Each value corresponds to the [id](#) attribute of a [<unit>](#) element.

Default value: undefined

Used in: [<pc>](#).

Example:

See the example in the [Sub-Flows section](#).

4.3.1.35 subState

subState - indicates a user-defined status for the [<segment>](#) element.

Value description:

The value is composed of a prefix and a sub-value separated by a character : (U+003A).

The prefix is a string uniquely identifying a collection of values for a specific authority. The sub-value is any string value defined by an authority.

The prefix xlf is reserved for this specification.

Other prefixes and sub-values MAY be defined by the users.

Default value: undefined

Used in: [<segment>](#)

Constraints

- If the attribute [subState](#) is used, the attribute [state](#) MUST be explicitly set.

Processing Requirements

- Writers updating the attribute [state](#) MUST also update or delete [subState](#).

4.3.1.36 subType

subType - indicates the secondary level type of an inline code.

Value description:

The value is composed of a prefix and a sub-value separated by a character : (U+003A).

The prefix is a string uniquely identifying a collection of sub-values for a specific authority. The sub-value is any string value defined by the authority.

The prefix xlf is reserved for this specification, and the following sub-values are defined:

xlf:lb - Line break

xlf:pb - Page break

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xlf:b - Bold
xlf:i - Italics
xlf:u - Underlined
xlf:var - Variable

Other prefixes and sub-values MAY be defined by the users.

Default value: undefined

Used in: [<pc>](#), [<sc>](#), [<ec>](#) and [<ph>](#)

Constraints

- If the attribute [subType](#) is used, the attribute [type](#) MUST be specified as well.
- The reserved xlf: prefixed values map onto the [type](#) attribute values as follows:

For xlf:b, xlf:i, xlf:u, xlf:lb, and xlf:pb, the REQUIRED value of the [type](#) attribute is `fmt`.

For xlf:var, the REQUIRED value of the [type](#) attribute is `ui`.

Processing Requirements

- *Modifiers* updating the attribute [type](#) MUST also update or delete [subType](#).

4.3.1.37 trgLang

Target language - the code of the language, in which the *Translated* text is expressed.

Value description: A language code as described in [\[BOP 47\]](#).

Default value: undefined

Used in: [<xliff>](#).

4.3.1.38 translate

Translate - indicates whether or not the source text in the scope of the given `translate` flag is intended for *Translation*.

Value description: `yes` or `no`.

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<file>](#):
The value `yes`.
- When used in any other admissible structural element:
The value of the [translate](#) attribute of its parent element.
- When used in annotations markers [<mrk>](#) or [<sm>](#):

The value of the [translate](#) attribute of the innermost [<mrk>](#) or [<unit>](#) element, in which the marker in question is located.

Used in: [<file>](#) [<group>](#) [<unit>](#), [<mrk>](#) and [<sm>](#).

4.3.1.39 trgDir

Target directionality - indicates the directionality of the target content.

Value description: `ltr` (Left-To-Right), `rtl` (Right-To-Left), or `auto` (determined heuristically, based on the first strong directional character in scope, see [\[UAX #9\]](#)).

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<file>](#):
The value `auto`.
- When used in any other element:
The value of the [trgDir](#) attribute of its parent element.

Used in: [<file>](#), [<group>](#), and [<unit>](#).

4.3.1.40 type

Type - indicates the type of an element.

Value description: allowed values for this attribute depend on the element in which it is used.

- When used in [<pc>](#), [<sc>](#), [<ec>](#) or [<ph>](#):

The value MUST be set to one of the following values:

`fmt` - Formatting (e.g. a `<b>` element in HTML)

`ui` - User interface element

`quote` - Inline quotation (as opposed to a block citation)

`link` - Link (e.g. an `<a>` element in HTML)

`image` - Image or graphic

`other` - Type of element not covered by any of the other top-level types.

Example:

```
<segment>
<source xml:lang="cs" <pc type="quote">Blázen, chce dobýt točnu v takovém
počasí</pc>, dodal slovy svého oblíbeného imaginárního autora.</source>
<target xml:lang="en"><pc type="quote">Madman, he wants to conquer the
pole in this weather</pc>, offered he the words of his favourite
imaginary playwright.</source>
</segment>
```

One can further specify the type of a code using the [subType](#) attribute.

Default value: Undefined

- When used in [<mrk>](#) or [<sm>](#):

One of the following values: `generic`, `comment`, `term`, or a user-defined value that is composed of a prefix and a sub-value separated by a character : (U+003A).

The prefix is a string uniquely identifying a collection of sub-values for a specific authority. The sub-value is any string value defined by the authority.

Default value: `generic`

- When used in [<group>](#) or [<unit>](#):

A value that is composed of a prefix and a sub-value separated by a character : (U+003A).

The prefix is a string uniquely identifying a collection of sub-values for a specific authority. The sub-value is any string value defined by the authority. The prefix `xliff` is reserved.

Default value: Undefined

Used in: [<group>](#), [<unit>](#), [<pc>](#), [<sc>](#), [<ec>](#), [<mrk>](#), [<ph>](#) and [<sm>](#).

Processing Requirements

- *Modifiers* updating the attribute [type](#) on [<pc>](#), [<sc>](#), [<ec>](#), or [<ph>](#) MUST also update or delete [subType](#).

4.3.1.41 value

Value - holds a value for the associated annotation.

Value description: Text.

- When used in a [term annotation](#), the value is a definition of the term.
- When used in a [comment annotation](#), the value is the text of the comment.
- When used in a [custom annotation](#), the value is defined by each custom annotation.

Default value: undefined

Used in: [<mrk>](#) and [<sm>](#).

4.3.1.42 version

XLIFF Version - is used to specify the Version of the *XLIFF Document*. This corresponds to the Version number of the XLIFF specification that the *XLIFF Document* adheres to.

Value description: Text.

Default value: undefined

Used in: [<xliff>](#).

4.3.2 XML namespace

The attributes from XML namespace used in XLIFF 2.0 are: [xml:lang](#) and [xml:space](#).

4.3.2.1 xml:lang

Language - the `xml:lang` attribute specifies the language variant of the text of a given element. For example: `xml:lang="fr-FR"` indicates the French language as spoken in France.

Value description: A language code as described in [\[BCP 47\]](#).

Default value: default values for this attribute depend on the element in which it is used:

- When used in a [<source>](#) element:

The value set in the [srcLang](#) attribute of the enclosing [<xliff>](#) element.

- When used in a [<target>](#) element:

The value set in the [trgLang](#) attribute of the enclosing [<xliff>](#) element.

- When used in any other element:

The value of the `xml:lang` attribute of its parent element.

Used in: [<source>](#), [<target>](#) and where extension attributes are allowed.

4.3.2.2 xml:space

White spaces - the `xml:space` attribute specifies how white spaces (ASCII spaces, tabs and line-breaks) are to be treated.

Value description: `default` or `preserve`. The value `default` signals that an application's default white-space processing modes are acceptable for this element; the value `preserve` indicates the intent that applications preserve all the white space. This declared intent is considered to apply to all elements within the content of the element where it is specified, unless overridden with another instance of the `xml:space` attribute. For more information see [the section on xml:space](#) in the [\[XML\]](#) specification.

Default value: default values for this attribute depend on the element in which it is used:

- When used in [<data>](#):

The value `preserve`.

- When used in [<xliff>](#):

The value `default`.

- When used in any other element:

The value of the `xml:space` attribute of its parent element.

Used in: [<xliff>](#), [<file>](#), [<group>](#), [<unit>](#) and [<data>](#).

4.4 CDATA sections

CDATA sections (`<![CDATA[ . . . ]>`) are allowed in XLIFF content, but on output they MAY be changed into normal escaped content.

Note that avoiding CDATA sections is considered a best practice from the internationalization viewpoint [\[XML 18N BP\]](#).

Processing Requirements

- *Agents* MUST process CDATA sections.
- *Writers* MAY preserve the original CDATA sections.

4.5 XML Comments

XML comments (`<!-- . . . --!>`) are allowed in XLIFF content, but they are ignored in the parsed content.

For example:

```
<source>Text content <!--IMPORTANT-->that is important</source>
```

and

```
<source>Text content that is important</source>
```

are identical after parsing and correspond to the same following parsed content:

```
Text content that is important
```

To annotate a section of the content with a comment that is recognized and preserved by XLIFF user agents, use the [<note>](#) element, or the [<mrk>](#) element.

Processing Requirements

- *Agents* MUST ignore XML comments. That is the XLIFF parsed content is the same whether or not there is an XML comment in the document.
- *Writers* MAY preserve XML comments on output.

4.6 XML Processing Instructions

XML Processing Instructions [\[XML\]](#) (see specifically <http://www.w3.org/TR/REC-xml/#sec-pi>) are an XML mechanism to "allow documents to contain instructions for applications." XML Processing Instructions are allowed in XLIFF content but they are ignored in the parsed content in the same sense as XML Comments.

Processing Requirements

- *Agents* MUST NOT use Processing Instructions as a means to implement a feature already specified in *XLIFF Core* or *Modules*.
- *Writers* SHOULD preserve XML Processing Instructions in an *XLIFF Document*.

Warning

Please note that *Agents* using Processing Instructions to implement *XLIFF Core* or *Module* features are not compliant XLIFF applications disregarding whether they are otherwise conformant.

Warning

Although this specification encourages XLIFF *Agents* to preserve XML Processing Instructions, it is not and cannot be, for valid processing reasons, an absolute protection and it is for instance highly unlikely that Processing Instructions could survive an XLIFF roundtrip at the [<segment>](#) level or lower. Hence implementers are discouraged from using XML Processing Instructions at the [<segment>](#) and lower levels.

4.7 Inline Content

The XLIFF inline content defines how to encode the content *Extracted* from the original source. The content includes the following types of data:

- [Text](#) -- Textual content.
- [Inline codes](#) -- Sequences of content that are not linguistic text, such as formatting codes, variable placeholders, etc.

For example: the element `<b>` in HTML, or the placeholder `{0}` in a Java string.

- [Annotations](#) -- Markers that delimit a span of the content and carry or point to information about the specified content.

For example: a flag indicating that a given section of text is not intended for translation, or an element indicating that a given expression in the text is a term associated with a definition.

There are two elements that contain inline markup in XLIFF: [<source>](#) and [<target>](#).

In some cases, data directly associated with inline elements MAY also be stored at the [<unit>](#) level in an [<originalData>](#) element.

4.7.1 Text

The XLIFF inline markup does not prescribe how to represent normal text, besides that it MUST be valid XML.

4.7.1.1 Characters invalid in XML

Because the content represented in XLIFF can be extracted from anywhere, including software resources and other material that can contain control characters, XLIFF needs to be able to represent all Unicode code points [\[Unicode\]](#).

However, XML does not have the capability to represent all Unicode code points [\[Unicode\]](#), and does not provide any official mechanism to escape the forbidden code points.

To remedy this, the inline markup provides the [<cp>](#) element.

The syntax and semantic of [<cp>](#) in XLIFF are similar to the ones of `<cp>` in the Unicode Locale Data Markup Language [\[LDML\]](#).

4.7.2 Inline Codes

ISO 21720:2017(E)

The specification takes into account two types of codes:

Original code

An *original code* is a code that exists in the original document being extracted into XLIFF.

Added code

An *added code* is a code that does not exist in the original document, but has been added to the content at some point after extraction.

Any code (original or added) belongs to one of the two following categories:

Standalone

A *standalone* code is a code that corresponds to a single position in the content. An example of such code is the `<br/>` element in HTML.

Spanning

A *spanning* code is a code that encloses a section of the content using a start and an end marker. There are two kinds of spanning codes:

- Codes that can overlap, that is: they can enclose a non-closing or a non-opening spanning code. Such codes do not have an XML-like behavior. For example the RTF code `\b1... \b0` is a spanning code that is allowed to overlap.
- Codes that cannot overlap, that is: they cannot enclose a partial spanning code and have an XML-like behavior at the same time. An example of such code is the `<emphasis>...</emphasis>` element in DocBook.

When the opening or closing marker of a spanning code does not have its corresponding closing or opening marker in the same unit, it is an *orphan code*.

4.7.2.1 Representation of the codes

Spanning codes present a set of challenges in XLIFF:

First, because the code format of the original data extracted to XLIFF does not need to be XML, spanning codes can overlap.

For example, in the following RTF content, the format markers are in a sequence: start bold, start italics, end bold, end italics. This does not translate into a well-formed mapping.

```
Text in \b bold \i and\b0 italics\i0
```

Another challenge is the possible effect of segmentation: A spanning code can start in one segment and end in another.

For example, in the following HTML content, the segmentation splits the text independently of the codes so the starting and ending tags of the `<B>...</B>` element end up in different parts of the `<unit>` element:

```
[Sentence <B>one. ][Sentence two.][ ][Sentence</B> three.]
```

Finally, a third potential cause of complication is that the start or the end markers of a spanning code can become orphans if their segment is used outside of its original `<unit>`.

For example, an entry with bold text can be broken down into two segments:

```
Segment 1 = "<b>Warning found: "
```

```
Segment 2 = "The file is read-only</b>"
```

And later, one of the segments can be re-used outside its original [<unit>](#), for instance as a translation candidate:

```
New segment = "<b>Warning found - see log</b>"
```

```
Fuzzy match = "<b>Warning found: "
```

Because of these use cases, the representation of a spanning code cannot always be mapped to a similar spanning element in XLIFF.

When taking into account these issues, the possible use cases and their corresponding XLIFF representations are as follow:

Table 1. Inline code use cases

Use Case	Example of Representation
Standalone code	<ph id='1' />
Well-formed spanning code	<pc id='1'>text</pc>
Start marker of spanning code	<sc id='1' />
End marker of spanning code	<ec startRef='1' />
Orphan start marker of spanning code	<sc id='1' isolated='yes' />
Orphan end marker of spanning code	<ec id='1' isolated='yes' />

4.7.2.2 Usage of [<pc>](#) and [<sc>/<ec>](#)

A spanning code MUST be represented using a [<sc>](#) element and a [<ec>](#) element if the code is not well-formed or orphan.

For example, the following RTF content has two spans of formatting:

```
Text in \b bold \i and\b0 italics\i0
```

They can only be represented using two pairs of [<sc>](#) and [<ec>](#) elements:

```
Text in <sc id="1">\b </sc>bold
<sc id="2">\i </sc>and<ec startRef="1">\b0 </ec> italics
<ec startRef="2">\i0</ec>
```

If the spanning code is well-formed it MAY be represented using either a single [<pc>](#) element or using a pair of [<sc>](#) and a [<ec>](#) elements.

For example, the following RTF content has a single span of formatting:

```
Text in \b bold\b0 .
```

It can be represented using either notations:

```
Text in <pc id="1" canOverlap="yes" dataRefStart="c1" dataRefEnd="c2">
bold</pc>.
```

Text in `<sc id="1" dataRef="c1"/>bold<ec startRef="1" dataRef="c2"/>`.

Processing Requirements

Processing Requirements

- When both the `<pc>` and the `<sc>/<ec>` representations are possible, *Extractors* and *Modifiers* MAY use either one as long as all the information of the inline code (e.g. original data, sub-flow indicators, etc.) are preserved.
- When converting representation between a pair of `<sc>` and `<ec>` elements and a `<pc>` element or vice-versa, *Modifiers* MUST map their attributes as shown in the following table:

Table 2. Mapping between attributes

<code><pc></code> attributes	<code><sc></code> attributes	<code><ec></code> attributes
id	id	startRef / id (see <code><ec></code>)
type	type	type
subType	subType	subType
dispStart	disp	
dispEnd		disp
equivStart	equiv	
equivEnd		equiv
subFlowsStart	subFlows	
subFlowsEnd		subFlows
dataRefStart	dataRef	
dataRefEnd		dataRef
	isolated	isolated
canCopy	canCopy	canCopy
canDelete	canDelete	canDelete
canReorder	canReorder	canReorder
copyOf	copyOf	copyOf
canOverlap	canOverlap	canOverlap
dir	dir	dir

- Agents* MUST be able to handle any of the above two types of inline code representation.

4.7.2.3 Storage of the original data

Most of the time, inline codes correspond to an original construct in the format from which the content was extracted. This is the *original data*.

XLIFF tries to abstract and normalize as much as possible the extracted content because this allows a better re-use of the material across projects. Some tools require access to the original data in order to create the translated document back into its original format. Others do not.

4.7.2.3.1 No storage of the original data

In this option, the original data of the inline code is not preserved inside the XLIFF document.

The tool that created the initial XLIFF document is responsible for providing a way to re-create the original format properly when merging back the content.

For example, for the following HTML content:

```
This <B>naked mole rat</B> is <B>pretty ugly</B>.
```

one possible XLIFF representation is the following:

```
<unit id="1">
  <segment>
    <source>This <pc id="1">naked mole rat</pc>
    is <pc id="2">pretty ugly</pc>.</source>
    <target>Cet <pc id="1">hétérocéphale</pc>
    est <pc id="2">plutôt laid</pc>.</target>
  </segment>
</unit>
```

4.7.2.3.2 Storage of the original data

In this option, the original data of the inline code is stored in a structure that resides outside the content (i.e. outside [<source>](#) or [<target>](#)) but still inside the [<unit>](#) element.

The structure is an element [<originalData>](#) that contains a list of [<data>](#) entries uniquely identified within the [<unit>](#) by an [id](#) attribute. In the content, each inline code using this mechanism includes a [dataRef](#) attribute that points to a [<data>](#) element where its corresponding original data is stored.

For example, for the following HTML content:

```
This <B>naked mole rat</B> is <B>pretty ugly</B>.
```

The following XLIFF representation stores the original data:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;B></data>
    <data id="d2">&lt;/B></data>
  </originalData>
  <segment>
    <source>This <pc id="1" dataRefStart="d1" dataRefEnd="d2">
      naked mole rat</pc> is <pc id="2" dataRefStart="d1" dataRefEnd="d2">
      pretty ugly</pc>.</source>
    <target>Cet <pc id="1" dataRefStart="d1" dataRefEnd="d2">
      hétérocéphale</pc> est <pc id="2" dataRefStart="d1" dataRefEnd="d2">
      plutôt laid</pc>.</target>
  </segment>
</unit>
```

Note

This mechanism allows to re-use identical original data by pointing to the same [<data>](#) element.

4.7.2.4 Adding Codes

ISO 21720:2017(E)

When processing content, there are possible cases when new inline codes need to be added.

For example, in the following HTML help content, the text has the name of a button in bold:

```
Press the <b>Emergency Stop</b> button  
to interrupt the count-down sequence.
```

In the translated version, the original label needs to remain in English because the user interface, unlike the help, is not translated. However, for convenience, a translation is also provided and emphasized using another style. That new formatting needs to be added:

```
Appuyez sur le bouton <b>Emergency Stop</b> (<i>Arrêt d'urgence</i>)  
pour interrompre le compte à rebours.
```

Having to split a single formatted span of text into several separate parts during translation, can serve as another example. For instance, the following sentence in Swedish uses bold on the names of two animals:

```
Äter <b>katter möss</b>?
```

But the English translation separates the two names and therefore needs to duplicate the bold codes.

```
Do <b>cats</b> eat <b>mice</b>?
```

Processing Requirements

- *Modifiers* MAY add inline codes.
- The [id](#) value of the added code MUST be different from all [id](#) values in both source and target content of the unit where the new code is added.
- *Mergers* MAY ignore added inline codes when *Merging* the *Translated* content back into the original format.

There are several ways to add codes:

4.7.2.4.1 Duplicating an existing code

One way to create a new code is to duplicate an existing one (called the *base code*).

If the base code is associated with some original data: the new code simply use these data.

For example, the translation in the following unit, the second inline code is a duplicate of the first one:

```
<unit id="1">  
  <originalData>  
    <data id="d1">&lt;b></b></data>  
    <data id="d2">&lt;/b></data>  
  </originalData>  
  <segment>  
    <source>Äter <pc id="1" dataRefStart="d1" dataRefEnd="d2">katter  
möss</pc>?</source>  
    <target>Do <pc id="1" dataRefStart="d1" dataRefEnd="d2">cats</pc>  
eat <pc id="2" dataRefStart="d1" dataRefEnd="d2">mice</pc>?</target>  
  </segment>  
</unit>
```

If the base code has no associated data, the new code MUST use the [copyOf](#) attribute to indicate the `id` of the base code. This allows the merging tool to know what original data to re-use.

For example, the translation in the following unit, the second inline code is a duplicate of the first one:

```
<unit id="1">
  <segment>
    <source>Esznek <pc id="1">a magyarok svéd húsgombócot</pc>?</source>
    <target>Do <pc id="1">Hungarians</pc> eat
  <pc id="2" copyOf="1">Swedish meatballs</pc>?</target>
  </segment>
</unit>
```

Processing Requirements

- **Modifiers** MUST NOT clone a code that has its [canCopy](#) attribute is set to `no`.
- The [copyOf](#) attribute MUST be used when, and only when, the base code has no associated original data.

4.7.2.4.2 Creating a brand-new code

Another way to add a code is to create it from scratch. For example, this can happen when the translated text requires additional formatting.

For example, in the following unit, the UI text needs to stay in English, and is also translated into French as a hint for the French user. The French translation for the UI text is formatted in italics:

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;b></data>
    <data id="d2">&lt;/b></data>
    <data id="n1">&lt;i></data>
    <data id="n2">&lt;/i></data>
  </originalData>
  <segment>
    <source>Press the <pc id="1" dataRefStart="d1" dataRefEnd="d2">
      Emergency Stop</pc> button to interrupt the count-down sequence.
    </source>
    <target>Appuyez sur le bouton
      <pc id="1" dataRefStart="d1" dataRefEnd="d2">Emergency Stop</pc>
      (<pc id="2" dataRefStart="n1" dataRefEnd="n2">Arrêt d'urgence</pc>)
      pour interrompre le compte à rebours.
    </target>
  </segment>
</unit>
```

4.7.2.4.3 Converting text into a code

Another way to add a code is to convert part of the extracted text into code. In some cases the inline code can be created after extraction, using part of the text content. This can be done, for instance, to get better matches from an existing TM, or better candidates from an MT system.

For example, it can happen that a tool extracting a Java properties file to XLIFF is not sophisticated enough to treat HTML or XML snippets inside the extracted text as inline code:

```
# text property for the widget 'next'
nextText: Click <ui>Next</ui>
```

Resulting XLIFF content:

```
<unit id="1">
  <segment>
    <source>Click &lt;ui>Next&lt;/ui></source>
  </segment>
</unit>
```

But another tool, later in the process, can be used to process the initial XLIFF document and detect additional inline codes. For instance here the XML elements such as `<ui>`.

The original data of the new code is the part of the text content that is converted as inline code.

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;ui></data>
    <data id="d2">&lt;/ui></data>
  </originalData>
  <segment>
    <source>Click <pc id="1" dataRefStart="d1" dataRefEnd="d2">Next</pc>
  </source>
</segment>
</unit>
```

Warning

Converting XLIFF text content into original data for inline code might need a tool-specific process as the tool which did the initial extraction could have applied some conversion to the original content to create the XLIFF content (e.g. un-escape special characters).

4.7.2.5 Removing Codes

When processing content, there are some possible cases when existing inline codes need to be removed.

For an example the translation of a sentence can result in grouping of several formatted parts into a single one. For instance, the following sentence in English uses bold on the names of two animals:

```
Do <b>cats</b> eat <b>mice</b>?
```

But the Swedish translation group the two names and therefore needs only a single bolded part.

```
Äter <b>katter moss</b>?
```

Processing Requirements

- User agents MAY remove a given inline code only if its [canDelete](#) attribute is set to `yes`.
- When removing a given inline code, the user agents MUST remove its associated original data, except if the original data is shared with another inline code that remains in the unit.

Note that having to delete the original data is unlikely because such original data is likely to be associated to an inline code in the source content.

There are several ways to remove codes:

4.7.2.5.1 Deleting a code

One way to remove a code is to delete it from the extracted content. For example, in the following unit, the translated text does not use the italics formatting. It is removed from the target content, but the original data are preserved because they are still used in the source content.

```
<unit id="1">
  <originalData>
    <data id="d1">&lt;i></data>
    <data id="d2">&lt;/i></data>
  </originalData>
  <segment>
    <source>I read <pc id="1" dataRefStart="d1" dataRefEnd="d2">Little
House on the Prairie</pc> to my children.</source>
    <target>子供に「大草原の小さな家」を読みました。</target>
  </segment>
</unit>
```

4.7.2.5.2 Converting a code into text

Another way to remove an inline code is to convert it into text content. This is likely to be a rare use case. It is equivalent to deleting the code, with the addition to place the original data for the given code into the content, as text. This can be done, for example, to get better matches from an existing TM, or better candidates from an MT system.

For instance, the following unit has an inline code corresponding to a variable place-holder. A tool can temporarily treat this variable as text to get better matches from an existing TM.

```
<unit id="1">
  <originalData>
    <data id="d1">%s</data>
  </originalData>
  <segment>
    <source>Cannot find '<ph id="1" dataRef="d1"/>'.</source>
  </segment>
</unit>
```

The modified unit would end up like as shown below. Note that because the original data was not associated with other inline code it has been removed from the unit:

```
<unit id="1">
  <segment>
    <source>Cannot find '%s'.</source>
  </segment>
</unit>
```

Warning

Converting the original data of an inline code into text content might need a tool-specific process as the tool which did the initial extraction could have applied some conversion to the original content.

4.7.2.6 Editing Hints

XLIFF provides some information about what editing operations are applicable to inline codes:

- A code can be deleted: That is, the code element as well as its original data (if any are attached) are removed from the document. This hint is represented with the [canDelete](#) attribute. The default value is *yes*: deletion is allowed.

For example, the following extracted C string has the code `<ph id='1' />` set to be not deletable because removing the original data (the variable placeholder `%s`) from the string would result in an error when running the application:

- A code can be copied: That is, the code is used as a *base code* for adding another inline code. See [Section 4.7.2.4.1, "Duplicating an existing code"](#) for more details. This hint is represented with the [canCopy](#) attribute. The default value is *yes*: copy is allowed.
- A code can be re-ordered: That is, a given code can be moved before or after another inline code. This hint is represented with the [canReorder](#) attribute. The default value is *yes*: re-ordering is allowed.

Note

Please note that often those properties are related and appear together. For example, the code in the first unit shown below is a variable placeholder that has to be preserved and cannot be duplicated, and when several of such variables are present, as in the second unit, they cannot be re-ordered:

```
<unit id="1">
  <originalData>
    <data id="d1">%s</data>
  </originalData>
  <segment>
    <source>Can't open '<ph id="1" dataRef="d1" canCopy="no"
      canDelete="no"/>'.</source>
  </segment>
</unit>
<unit id="2">
  <originalData>
    <data id="d1">%s</data>
    <data id="d2">%d</data>
  </originalData>
  <segment>
    <source>Number of <ph id="1" dataRef="d1" canCopy="no" canDelete="no"
      canReorder="firstNo"/>.
      <ph id="2" dataRef="d2" canCopy="no" canDelete="no" canReorder="no"/>.
    </source>
  </segment>
</unit>
```

See the [Target Content Modification section](#) for additional details on editing.

Constraints

- When the attribute [canReorder](#) is set to *no* or *firstNo*, the attributes [canCopy](#) and [canDelete](#) MUST also be set to *no*.
- Inline codes re-ordering within a source or target content MAY be limited by defining non-reorderable sequences. Such sequence is made of a first inline code with the attribute [canReorder](#) set to *firstNo* and zero or more following codes with [canReorder](#) set to *no*.

Note

A non-reorderable sequence made of a single code with [canReorder](#) set to `firstNo` are allowed just for *Extraction* convenience and are equivalent to a code with the attribute [canReorder](#) set to `yes`.

Processing Requirements

- *Extractors* SHOULD set the [canDelete](#), [canCopy](#) and [canReorder](#) attributes for the codes that need to be treated differently than with the default settings.
- The number and order of the inline codes making up a non-reorderable sequence MUST NOT be changed.
- A whole non-reorderable sequence MAY be moved before or after another non-reorderable sequence.
- When a non-reorderable sequence is made of a single non-reorderable code, *Modifiers* MAY remove the [canReorder](#) attribute of that code or change its value to `yes`.
- *Modifiers* MUST NOT delete inline codes that have their attribute [canDelete](#) set to `no`.
- *Modifiers* MUST NOT replicate inline codes that have their attribute [canCopy](#) set to `no`.

4.7.3 Annotations

An annotation is an element that associates a section of the content with some metadata information.

Annotations MAY be created by an *Extractor* that generated the initial *XLIFF Document*, or by any other *Modifier* or *Enricher* later in the process. For example, after an *Extractor* creates the document, an *Enricher* can annotate the source content with terminological information.

Annotations are represented using either the [<mrk>](#) element, or the pair of [<sm>](#) and [](#) elements.

4.7.3.1 Type of Annotations

There are several pre-defined types of annotation and definition of [custom types](#) is also allowed.

4.7.3.1.1 Translate Annotation

This annotation is used to indicate whether a span of content is translatable or not.

Usage:

The [id](#) attribute is REQUIRED

- The [translate](#) attribute is REQUIRED and set to `yes` or `no`
- The [type](#) attribute is OPTIONAL and set to `generic` (this is the default value)

For example:

```
He saw his <mrk id="m1" translate="no">doppelgänger</mrk>.
```

Note

This annotation overrides the [translate](#) attribute set or inherited at the [<unit>](#) level.

Note

The [translate](#) attribute can also be used at the same time as another type of annotation. For example:

```
He saw his <mrk id="m1" translate="no" type="term">doppelgänger</mrk>.
```

4.7.3.1.2 Term Annotation

This annotation is used to mark up a term in the content, and possibly associate information to it.

Usage:

The [id](#) attribute is REQUIRED

- The [type](#) attribute is REQUIRED and set to `term`
- The [value](#) attribute is OPTIONAL and contains a short definition of the term
- The [ref](#) attribute is OPTIONAL and contains a URI pointing to information on the term
- The [translate](#) attribute is OPTIONAL and set to `yes` or `no`

For example:

```
<file id="f-t_a">
  <unit id="1">
    <segment>
      <source>He is my <mrk id="m1" type="term"
        ref="http://dbpedia.org/page/Doppelgänger">doppelgänger</mrk>.
      </source>
    </segment>
  </unit>
</file>
```

4.7.3.1.3 Comment Annotation

This annotation is used to associate a span of content with a comment.

Usage:

The [id](#) attribute is REQUIRED

- The [type](#) attribute is REQUIRED and set to `comment`
- If the [value](#) attribute is present it contains the text of the comment. If and only if the [value](#) attribute is not present, the [ref](#) attribute MUST be present and contain the URI of a [note](#) element within the same enclosing [unit](#) element that holds the comment.
- The [translate](#) attribute is OPTIONAL and set to `yes` or `no`

For example, here with the [value](#) attribute:

```
The <mrk id="m1" type="comment"
  value="Possible values: Printer or Stacker"><ph id="1" dataRef="d1"/>
</mrk>
has been enabled.
```

And here using the [ref](#) attribute:

```
<unit id="1">
  <notes>
    <note id="n1" appliesTo="target">Please check the
```

```
translation for 'namespace'. One also can use 'espace de nom',
but I think most technical manuals use the English
term.</note>
</notes>
<segment>
  <source>You use your own namespace.</source>
  <target>Vous pouvez utiliser votre propre <mrk id="m1"
type="comment" ref="#n1">namespace</mrk>.</target>
</segment>
</unit>
```

4.7.3.1.4 Custom Annotation

The [<mrk>](#) element can be used to implement custom annotations.

A custom annotation MUST NOT provide the same functionality as a pre-defined annotation.

Usage:

The [id](#) attribute is REQUIRED

- The [type](#) attribute is REQUIRED and set to a unique user-defined value.
- The [translate](#) attribute is OPTIONAL and set to `yes` or `no`.
- The use and semantics of the [value](#) and [ref](#) attributes are user-defined.

For example:

```
One of the earliest surviving works of literature is
<mrk id="m1" type="myCorp:isbn" value="978-0-14-44919-8">The
Epic of Gilgamesh</mrk>.
```

4.7.3.2 Splitting Annotations

Annotations can overlap spanning inline codes or other annotations. They also can be split by segmentation. Because of this, a single annotation span can be represented using a pair of [<sm>](#) and [](#) elements instead of a single [<mrk>](#) element.

For example, one can have the following content:

```
<unit id="1">
  <segment>
    <source>Sentence A. <mrk id="m1" type="comment"
value="Comment for B and C">Sentence B. Sentence C.</mrk></source>
  </segment>
</unit>
```

After a user agent performs segmentation, the annotation element [<mrk>](#) is changed to a pair of [<sm>](#) and [](#) elements:

```
<unit id="1">
  <segment>
    <source>Sentence A. </source>
  </segment>
  <segment>
    <source><sm id="m1" type="comment"
value="Comment for B and C"/>Sentence B. </source>
```

```
</segment>
<segment>
  <source>Sentence C.<em startRef="m1"/></source>
</segment>
</unit>
```

4.7.4 Sub-Flows

A sub-flow is a section of text embedded inside an inline code, or inside another section of text.

For example, the following HTML content includes two sub-flows: The first one is the value of the `title` attribute ("Start button"), and the second one is the value of the `alt` attribute ("Click here to start!"):

```
Click to start: 
```

Another example is the following DITA content where the footnote "A Palouse horse is the same as an Appaloosa." is defined at the middle of a sentence:

```
Palouse horses<fn>A Palouse horse is the same as
an Appaloosa.</fn> have spotted coats.
```

In XLIFF, each sub-flow is stored in its own `<unit>` element, and the `subFlows` attribute is used to indicate the location of the embedded content.

Therefore the HTML content of the example above can be represented like below:

```
<unit id="1">
  <segment>
    <source>Start button</source>
  </segment>
</unit>
<unit id="2">
  <segment>
    <source>Click here to start!</source>
  </segment>
</unit>
<unit id="3">
  <segment>
    <source>Click to start: <ph id="1" subFlows="1 2"/></source>
  </segment>
</unit>
```

Constraints

- An inline code containing or delimiting one or more sub-flows MUST have an attribute `subFlows` that holds a list of the identifiers of the `<unit>` elements where the sub-flows are stored.
- Sub-flows MUST be in the same `<file>` element as the `<unit>` element from which they are referenced.

Processing Requirements

- Extractors SHOULD store each sub-flow in its own `<unit>` element.

- *Extractors* MAY order the [<unit>](#) elements of the sub-flows and the [<unit>](#) element, from where the sub-flows are referenced, as they see fit.

Note

Please note that the static structure encoded by [<file>](#), [<group>](#), and [<unit>](#) elements is principally immutable in *XLIFF Documents* and hence the unit order initially set by the *Extractor* will be preserved throughout the roundtrip even in the special case of sub-flows.

4.7.5 White Spaces

While white spaces can be significant or insignificant in the original format, they are always treated as significant when stored as original data in XLIFF. See the definition of the [<data>](#) element.

Processing Requirements

- For the inline content and all non empty inline elements: The white spaces MUST be preserved if the value for `xml:space` set or inherited at the enclosing [<unit>](#) level is `preserve`, and they MAY be preserved if the value is `default`.

4.7.6 Bidirectional Text

Text directionality in XLIFF content is defined by inheritance. Source and target content can have different directionality.

The initial directionality for both the source and the target content is defined in the [<file>](#) element, using the OPTIONAL attributes [srcDir](#) for the source and [trgDir](#) for the target. The default value for both attributes is `auto`.

The [<group>](#) and [<unit>](#) elements also have the two OPTIONAL attributes [srcDir](#) and [trgDir](#). The default value of the [srcDir](#) is inherited from the value of the [srcDir](#) attribute of the respective parent element. The default value of the [trgDir](#) attribute is inherited from the value of the [trgDir](#) attribute of the respective parent element.

The [<pc>](#), [<sc>](#), and isolated [<ec>](#) elements have an OPTIONAL attribute [dir](#) with a value `ltr`, `rtl`, or `auto`. The default value is inherited from the parent [<pc>](#) element. In case the inline element is a child of a [<source>](#) element, the default value is inherited from the [srcDir](#) value of the enclosing [<unit>](#) element. In case the inline element is a child of a [<target>](#) element, the default value is inherited from the [trgDir](#) value of the enclosing [<unit>](#) element.

Warning

While processing isolated [<ec>](#) elements with explicitly set directionality, please beware that unlike directionality set on the [<pc>](#) and [<sc>](#), this method decreases the stack level as per [UAX #9].

In addition, the [<data>](#) element has an OPTIONAL attribute [dir](#) with a value `ltr`, `rtl`, or `auto` that is not inherited. The default value is `auto`.

Directionality of source and target text contained in the [<source>](#) and [<target>](#) elements is fully governed by [UAX #9], whereas explicit *XLIFF-defined* structural and directionality markup is a higher-level protocol in the sense of [UAX #9]. The *XLIFF-defined* value `auto` determines the directionality based on the first strong directional character in its scope and *XLIFF-defined* inline directionality markup behaves exactly as Explicit

Directional Isolate Characters, see [UAX #9],
http://www.unicode.org/reports/tr9/#Directional_Formatting_Characters.

Note

Please note that this specification does not define explicit markup for inline directional Overrides or Embeddings; in case those are needed. *Extractors* and *Modifiers* will need to use [UAX #9] defined Directional Formatting Characters.

4.7.7 Target Content Modification

This section defines the rules *Writers* need to follow when working with the target content of a given segment in order to provide interoperability throughout the whole process.

The *Extractor* MAY create the initial target content as it sees fit.

The *Merger* is assumed to have the same level of processing and native format knowledge as the *Extractor*. Providing an interoperable way to convert native documents into XLIFF with one tool and back to the native format with another tool without the same level of knowledge is outside the scope of this specification.

The *Writers* *Modifying* the target content of an *XLIFF Document* between the *Extractor* and the *Merger* ensure interoperability by applying specific rules. These rules are separated into two cases: When there is an existing target and when there is no existing target.

4.7.7.1 Without an Existing Target

When there is no existing target, the processing requirements for a given segment are the following:

Processing Requirements

- *Writers* MAY leave the segment without a target.
- *Modifiers* MAY create a new target as follows:
 - *Modifiers* MAY add translation of the source text.
 - *Modifiers* MUST put all [non-removable](#) inline codes in the target.
 - *Modifiers* MUST preserve the order of all the [non-reorderable](#) inline codes.
 - *Modifiers* MAY put any [removable](#) inline code in the target.
 - *Modifiers* MAY add inline codes.
 - *Modifiers* MAY add or remove annotations.
 - *Modifiers* MAY convert any [<pc>](#) element into a pair of [<sc>](#) and [<ec>](#) elements.
 - *Modifiers* MAY convert, if it is possible, any pair of [<sc>](#) and [<ec>](#) elements into a [<pc>](#) element.

4.7.7.2 With an Existing Target

When working with a segment with content already in the target, *Writers* MUST choose one of the three behaviors described below:

Processing Requirements

- *Writers* MAY leave the existing target unchanged.
- *Modifiers* MAY modify the existing target as follow:
 - *Modifiers* MAY add or *Modify* translatable text.
 - *Writers* MUST preserve all [non-removable](#) inline codes, regardless whether or not they exist in the source.
 - *Writers* MUST preserve any [non-reorderable](#) inline codes in the existing target.

- *Writers* MUST NOT add any [non-reorderable](#) inline codes to the target.
- *Modifiers* MAY remove any [removable](#) inline codes in the target.
- *Modifiers* MAY add inline codes (including copying any [cloneable](#) inline codes of the existing target).
- *Modifiers* MAY add or remove annotations.
- *Modifiers* MAY convert any [<pc>](#) element into a pair of [<sc>](#) and [<ec>](#) elements.
- *Modifiers* MAY convert, if it is possible, any pair of [<sc>](#) and [<ec>](#) elements into a [<pc>](#) element.
- *Modifiers* MAY delete the existing target and start over as if working without an existing target.

4.7.8 Content Comparison

This specification defines two types of content equality:

- Equality type A: Two contents are equal if their normalized forms are equal.
- Equality type B: Two contents are equal if, in their normalized forms and with all inline code markers replaced by the value of their [equiv](#) attributes, the resulting strings are equal.

A content is normalized when:

- The text nodes are in Unicode Normalized Form C defined in the Unicode Annex #15: Unicode Normalization Forms [\[UAX #15\]](#).
- All annotation markers are removed.
- All pairs of [<sc>](#) and [<ec>](#) elements that can be converted into a [<pc>](#) element, are converted.
- All adjacent text nodes are merged into a single text node.
- For all the text nodes with the white space property set to `default`, all adjacent white spaces are collapsed into a single space.

4.8 Segmentation

In the context of XLIFF, a segment is content which is either a unit of extracted text, or has been created from a unit of extracted text by means of a segmentation mechanism such as sentence boundary detection. For example, a segment can be a title, the text of a menu item, a paragraph or a sentence in a paragraph.

In the context of XLIFF, other types representations sometimes called "segmentation" can be represented using annotations. For example: the terms in a segment can be identified and marked up using the [term annotation](#).

XLIFF does not specify how segmentation is carried out, only how to represent its result. Material provisions regarding segmentation can be found for instance in the Segmentation Rules eXchange standard [\[SRX\]](#) or [\[UAX #29\]](#).

4.8.1 Segments Representation

In XLIFF each segment of processed content is represented by a [<segment>](#) element.

A [<unit>](#) can comprise a single [<segment>](#).

Each [<segment>](#) element has one [<source>](#) element that contains the source content and one OPTIONAL [<target>](#) element that can be empty or contain the translation of the source content at a given state.

Content parts between segments are represented with the [<ignorable>](#) element, which has the same content model as [<segment>](#).

For example:

```
<unit id="1">
  <segment>
    <source>First sentence.</source>
    <target>Première phrase.</target>
  </segment>
  <ignorable>
    <source> </source>
  </ignorable>
  <segment>
    <source>Second sentence.</source>
  </segment>
</unit>
```

4.8.2 Segments Order

Some *Agents* (e.g. aligner tools) can segment content, so that the target segments are not in the same order as the source segments.

To be able to map order differences, the `<target>` element has an OPTIONAL `order` attribute that indicates its position in the sequence of segments (and inter-segments). Its value is an integer from 1 to N, where N is the sum of the numbers of the `<segment>` and `<ignorable>` elements within the given enclosing `<unit>` element.

Warning

When *Writers* set explicit `order` on `<target>` elements, they have to check for conflicts with implicit `order`, as `<target>` elements without explicit `order` correspond to their sibling `<source>` elements. Beware that moving one `<target>` element is likely to cause a renumbering domino effect throughout the enclosing `<unit>` element.

For example, the following HTML documents have the same paragraph with three sentences in different order:

```
<p lang='en'>Sentence A. Sentence B. Sentence C.</p>
<p lang='fr'>Phrase B. Phrase C. Phrase A.</p>
```

The XLIFF representation of the content, after segmentation and alignment, would be:

```
<unit id="1">
  <segment id="1">
    <source>Sentence A.</source>
    <target order="5">Phrase A.</target>
  </segment>
  <ignorable>
    <source> </source>
  </ignorable>
  <segment id="2">
    <source>Sentence B.</source>
    <target order="1">Phrase B.</target>
  </segment>
  <ignorable>
    <source> </source>
  </ignorable>
  <segment id="3">
    <source>Sentence C.</source>
```

```

<target order="3">Phrase C.</target>
</segment>
</unit>

```

4.8.3 Segmentation Modification

When *Modifying* segmentation of a [<unit>](#), *Modifiers* MUST meet the Constraints and follow the Processing Requirements defined below:

Constraints

- Integrity of the inline codes MUST be preserved. See the section on [Inline Codes](#) and on [Annotations](#) for details.
- The entire source content of any one [<unit>](#) element MUST remain logically unchanged: [<segment>](#) elements or their data MUST NOT be moved or joined across units.

Warning

Note that when splitting or joining segments that have both source and target content it is advisable to keep the resulting segments linguistically aligned, which is likely to require human linguistic expertise and hence manual re-segmentation. If the linguistically correct alignment cannot be guaranteed, discarding the target content and retranslating the resulting source segments is worth considering.

Processing Requirements

- When the *Modifiers* perform a split operation:
 - Only [<segment>](#) or [<ignorable>](#) elements that have their [canResegment](#) value resolved to *yes* MAY be split.
 - All new [<segment>](#) or [<ignorable>](#) elements created and their [<source>](#) and [<target>](#) children MUST have the same attribute values as the original elements they were created from, as applicable, except for the [id](#) attributes and, possibly, for the [order](#), [state](#) and [subState](#) attributes.
 - Any new [id](#) attributes MUST follow the [<segment>](#) or [<ignorable>](#) [id](#) constraints.
 - If there was a target content in the original segment and if the [state](#) attribute of the original segment was not *initial*, the [state](#) attributes of the segments resulting from the split (and possibly their corresponding [subState](#) attributes) MAY be changed to reflect the fact that the target content MAY need to be verified as the new segmentation MAY have desynchronized the alignment between the source and target contents.
- When the *Modifiers* perform a join operation:
 - Only [<segment>](#) or [<ignorable>](#) elements that have their [canResegment](#) value resolved to *yes* MAY be join with other elements.
- When the *Modifiers* or *Mergers* perform a join operation:
 - Two elements ([<segment>](#) or [<ignorable>](#)) MUST NOT be joined if their [<target>](#) have resolved [order](#) values that are not consecutive.
 - The attributes of the elements to be joined ([<segment>](#) or [<ignorable>](#)) and the attributes of their [<source>](#) and [<target>](#) MUST be carried over in the resulting joined elements.
 - If attributes of elements to be joined ([<segment>](#) or [<ignorable>](#)) differ, or if the attributes of their [<source>](#) or [<target>](#) differ, the resulting joined elements MUST comply with following rules:
 - If the [state](#) attributes of the [<segment>](#) elements differ: the [state](#) attribute of the joined [<segment>](#) MUST be set to the "earliest" of the values specified in the original [<segment>](#) elements. The sequence of [state](#) values are defined in the following order: 1: *initial*, 2: *translated*, 3: *reviewed*, and 4: *final*.

- The [subState](#) attribute MUST be the one associated with the [state](#) attribute selected to be used in the joined [<segment>](#). If no [subState](#) attribute is associated with that [state](#), the joined [<segment>](#) MUST NOT have a [subState](#).
- If the [xml:space](#) attributes differ: The [<source>](#) and [<target>](#) of the joined element MUST be set to `xml:space="preserve"`.
- When the *Modifiers* or *Mergers* perform a join or a split operation:
 - If any [<segment>](#) or [<ignorable>](#) element of the [<unit>](#) had a [<target>](#) child with an [order](#) attribute prior to the segmentation modification, the [<target>](#) child of all [<segment>](#) and [<ignorable>](#) elements in the [<unit>](#) MUST be examined and if necessary their [order](#) attributes updated to preserve the ordering of the target content prior the segmentation modification.

4.9 Extension Mechanisms

XLIFF 2.0 offers two mechanisms for storing custom data in an XLIFF document:

1. Using the [Metadata module](#) for storing custom data in elements defined by the official XLIFF specification.
2. Using the standard XML namespace mechanism for storing data in elements or attributes defined in a custom XML Schema.

Both mechanisms can be used simultaneously.

4.9.1 Extension Points

The following *XLIFF Core* elements allow storing custom data in [<xm:metadata>](#) elements or in elements from a custom XML namespace:

- [<file>](#)
- [<group>](#)
- [<unit>](#)

The following *XLIFF Core* elements accept custom attributes:

- [<xliiff>](#)
- [<file>](#)
- [<group>](#)
- [<unit>](#)
- [<note>](#)
- [<mrk>](#)
- [<sm>](#)

4.9.1.1 Extensibility of XLIFF Modules

For extensibility of *XLIFF Modules* please refer to the relevant Module Sections.

4.9.2 Constraints

- When using identifiers, an extension MUST use either an attribute named `id` or the attribute `xml:id` to specify them.

- Extensions identifiers MUST be unique within their immediate [<file>](#), [<group>](#) or [<unit>](#) enclosing element.
- Identifier values used in extensions MUST be of type `xs:NMTOKEN` or compatible with `xs:NMTOKEN` (e.g. `xs:NAME` and `xs:ID` are compatible).

These constraints are needed for the [fragment identification mechanism](#).

4.9.3 Processing Requirements

- A user extension, whether implemented using [<mda:metadata>](#) or using a custom namespace, MUST NOT provide the same functionality as an existing XLIFF core or module feature, however it MAY complement an extensible XLIFF core feature or module feature or provide a new functionality at the provided extension points.
- *Mergers* MUST NOT rely on custom namespace extensions, other than the ones possibly defined in [<skeleton>](#), to create the *Translated* version of the original document.
- *Writers* that do not support a given custom namespace based user extension SHOULD preserve that extension without *Modification*.

5 The Modules Specifications

This section specifies the OPTIONAL *Modules* that MAY be used along with *Core* for advanced functionality.

5.1 Translation Candidates Module

5.1.1 Introduction

The source text of a document can be pre-processed against various translation resources (TM, MT, etc.) to provide translation candidates. This module provides an XLIFF capability to store lists of possible translations along with information about the similarity of the match, the quality of the translation, its provenance, etc.

5.1.2 Module Namespace

The namespace for the Translation Candidates module is: `urn:oasis:names:tc:xliiff:matches:2.0`

5.1.3 Module Fragment Identification Prefix

The fragment identification prefix for the Translation Candidates module is: `mtc`

5.1.4 Translation Candidate Annotation

This annotation can be used to mark up the scope of a translation candidate within the content of a unit. This module can reference any source or even target spans of content that are referencable via the XLIFF [Fragment Identification](#) mechanism, however in case the corresponding fragment is not suitably delimited, the best way how to mark the relevant span is to use the following annotation.

Usage:

The [id](#) attribute is REQUIRED

- The [type](#) attribute is REQUIRED and set to `mtc:match`
- The [ref](#) attribute is not used.
- The [translate](#) attribute is OPTIONAL

For example:

```
<unit id="1">
  <mtc:matches>
    <mtc:match ref="#m1">
      <source>He is my friend.</source>
      <target>Il est mon ami.</target>
    </mtc:match>
    <mtc:match ref="#m1">
      <source>He is my best friend.</source>
      <target>Il est mon meilleur ami.</target>
    </mtc:match>
  </mtc:matches>
  <segment>
    <source><mrk id="m1" type="mtc:match">He is my friend.</mrk></source>
  </segment>
```

```

<segment>
  <source>Yet, I barely see him.</source>
</segment>

```

5.1.5 Module Elements

The elements defined in the Translation Candidates module are: [<matches>](#) and [<match>](#).

5.1.5.1 Tree Structure

Legend:

1 = one

+ = one or more

? = zero or one

* = zero or more

```

<matches>
|
+---<match> +
|
|   +---<mda:metadata> ?
|   |
|   +---<xlf:originalData> ?
|   |
|   +---<xlf:source> 1
|   |
|   +---<xlf:target> 1
|   |
|   +---<other> *

```

5.1.5.2 matches

Collection of matches retrieved from any leveraging system (MT, TM, etc.)

Contains:

- One or more [<match>](#) elements

5.1.5.3 match

A potential translation suggested for a part of the source content of the enclosing [<unit>](#) element.

Contains:

- Zero or one [<mda:metadata>](#) element followed by.
- Zero or one [<originalData>](#) element followed by
- One [<source>](#) element followed by
- One [<target>](#) element followed by
- elements from other namespaces, OPTIONAL

Attributes:

ISO 21720:2017(E)

- [id](#), OPTIONAL
- [matchQuality](#), OPTIONAL
- [matchSuitability](#), OPTIONAL
- [origin](#), OPTIONAL
- [ref](#), REQUIRED
- [reference](#), OPTIONAL
- [similarity](#), OPTIONAL
- [subType](#), OPTIONAL
- [type](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- When a [<target>](#) element is a child of [<match>](#) and the [reference](#) attribute is set to yes, the OPTIONAL [xml:lang](#) attribute's value is not REQUIRED to be equal to the value of the [trqLang](#) attribute of the enclosing [<xliff>](#) element.

5.1.6 Module Attributes

The attributes defined in the Translation Candidates module are: [id](#), [matchQuality](#), [matchSuitability](#), [origin](#), [ref](#), [reference](#), [similarity](#), [subType](#), and [type](#).

5.1.6.1 id

Identifier - a character string used to identify a [<match>](#) element.

Value description: NMToken.

Default value: undefined

Used in: [<match>](#).

Constraints

- The [id](#) value MUST be unique within the enclosing [<matches>](#) element.

5.1.6.2 matchQuality

Match quality - indicates the quality of the [<target>](#) child of a [<match>](#) element based on an external benchmark or metric.

Value description: a decimal number between 0.0 and 100.0.

Default value: undefined

Used in: [<match>](#).

Note

This attribute can carry a human review based metrics score, a Machine Translation self-reported confidence score etc.

5.1.6.3 matchSuitability

Match suitability - indicates the general suitability and relevance of its [<match>](#) element based on various external benchmarks or metrics pertaining to both the [<source>](#) and the [<target>](#) children of the [<match>](#).

This attribute is intended to carry a value that can be combined from values provided in [similarity](#) and [matchQuality](#) attributes based on an externally provided algorithm.

Value description: a decimal number between 0.0 and 100.0.

Default value: undefined

Used in: [<match>](#).

Note

This attribute is also useful for mapping match-quality as specified in XLIFF 1.2 because 1.2 is not capable of discerning between the source similarity and the target quality.

Processing Requirements

- Agents processing this module MUST make use of [matchSuitability](#) for match ordering purposes if the attribute is specified.

5.1.6.4 origin

Match origin - indicates the tool, system or repository that generated a [<match>](#) element. This is a free text short informative description. For example, 'Microsoft Translator Hub' or 'tm-client123-v456', or 'MSTH (52217d25-d9e7-54a2-af44-3d4e4341d112_healthc).'

Value description: Text.

Default value: undefined

Used in: [<match>](#).

5.1.6.5 ref

Reference - points to a span of source text within the same unit, to which the translation candidate is relevant.

Value description: IRI

Default value: undefined

Used in: [<match>](#).

Constraints

- The value of the [ref](#) attribute MUST point to a span of text within the same [<unit>](#) element where the [<match>](#) is located.

5.1.6.6 reference

ISO 21720:2017(E)

Reference - indicates that the [<target>](#) child of the [<match>](#) element contains a *Translation* into a reference language rather than into the target language. For example, a German translation can be used as reference by a Luxembourgish translator.

Value description: yes or no.

Default value: no.

Used in: [<match>](#)

5.1.6.7 similarity

Similarity - indicates the similarity level between the content of the [<source>](#) child of a [<match>](#) element and the translatable text being matched.

Value description: a decimal number between 0.0 and 100.0.

Default value: undefined

Used in: [<match>](#).

5.1.6.8 subType

Sub-type - indicates the sub-type, i.e. a secondary level type, of a [<match>](#) element.

Value description:

The value is composed of a prefix and a sub-value separated by a character : (U+003A). The prefix is a string uniquely identifying a collection of values for a specific authority. The sub-value is any string value defined by an authority.

The prefix `xlif` is reserved for this specification, but no sub-values are defined for it at this time. Other prefixes and sub-values MAY be defined by the users.

- *Default value:* undefined

Used in: [<match>](#)

Constraints

- If the attribute [subType](#) is used, the attribute [type](#) MUST be explicitly set.

Processing Requirements

- Writers updating the attribute [type](#) MUST also update or delete [subType](#) .

5.1.6.9 type

Type - indicates the type of a [<match>](#) element, it gives the value providing additional information on how the match was generated or qualifying further the relevance of the match. The list of pre-defined values is general and user-specific information can be added using the [subType](#) attribute.

Value description:

Table 3. Values

Value	Description
am	Assembled Match: candidate generated by assembling parts of different translations. For example: constructing a candidate by using the known translations of various spans of content of the source.
mt	Machine Translation: candidate generated by a machine translation system.
icm	In Context Match: candidate for which the content context of the translation was the same as the one of the current source. For example: the source text for both contents is also preceded and/or followed by an identical source segment, or both appear as e.g. level 2 headings.
idm	Identifier-based Match: candidate that has an identifier identical to the one of the source content. For example: the previous translation of a given UI component with the same ID. match that has an identifier identical to the source content.
tb	Term Base: candidate obtained from a terminological database, i.e. the whole source segment matches with a source term base entry.
tm	Translation Memory: candidate based on a simple match of the source content.
other	Candidate of a top level type not covered by any of the above definitions.

- *Default value:* tm

Used in: [<match>](#)

Processing Requirements

- Writers updating the attribute [type](#) MUST also update or delete [subType](#).

5.1.7 Example:

```
<mtc:matches>
  <mtc:match id="[NMTOKEN]">
    <xlf:source>
      <!-- text data -->
    </xlf:source>
    <xlf:target>
      <!-- text data -->
    </xlf:target>
    <xlf:originalData>
      <xlf:data id="[NMTOKEN]">
        <xlf:cp hex="[required]">
          <!-- text data -->
        </xlf:cp>
      </xlf:data>
    </xlf:originalData>
    <mda:metadata>
      <mda:metagroup>
        <!-- One or more of mda:metagroup or mda:meta -->
      </mda:metagroup>
    </mda:metadata>
    <!-- Zero, one or more elements from any namespace -->
  </mtc:match>
</mtc:matches>
```

5.1.8 XML Schema

The schema listed below for reading convenience is accessible at <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/matches.xsd>.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:mtc="urn:oasis:names:tc:xliff:matches:2.0"
  xmlns:xliff="urn:oasis:names:tc:xliff:document:2.0"
  xmlns:mda="urn:oasis:names:tc:xliff:metadata:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:matches:2.0">
  <!-- Import -->
  <xs:import namespace="urn:oasis:names:tc:xliff:document:2.0"
    schemaLocation="../../xliff_core_2.0.xsd"/>
  <xs:import namespace="urn:oasis:names:tc:xliff:metadata:2.0"
    schemaLocation="metadata.xsd"/>
  <!-- Attribute Types -->
  <xs:simpleType name="similarity">
    <xs:restriction base="xs:decimal">
      <xs:minInclusive value="0.0"/>
      <xs:maxInclusive value="100.0"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="typeValues">
    <xs:restriction base="xs:string">
      <xs:enumeration value="am"/>
      <xs:enumeration value="mt"/>
      <xs:enumeration value="icm"/>
      <xs:enumeration value="idm"/>
      <xs:enumeration value="tb"/>
      <xs:enumeration value="tm"/>
      <xs:enumeration value="other"/>
    </xs:restriction>
  </xs:simpleType>
  <!-- Elements -->
  <xs:element name="matches">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded" ref="mtc:match"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="match">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" ref="mda:metadata"/>
        <xs:element minOccurs="0" maxOccurs="1" ref="xliff:originalData"/>
        <xs:element minOccurs="1" maxOccurs="1" ref="xliff:source"/>
        <xs:element minOccurs="1" maxOccurs="1" ref="xliff:target"/>
        <xs:any minOccurs="0" maxOccurs="unbounded" namespace="##other"
          processContents="lax"/>
      </xs:sequence>
      <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
      <xs:attribute name="matchQuality" use="optional"
        type="mtc:similarity"/>
      <xs:attribute name="matchSuitability" use="optional"
        type="mtc:similarity"/>
      <xs:attribute name="origin" use="optional"/>
      <xs:attribute name="ref" use="required" type="xs:anyURI"/>
      <xs:attribute name="reference" use="optional" type="xliff:yesNo"
        default="no"/>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

```

<xs:attribute name="similarity" use="optional"
  type="mtc:similarity"/>
<xs:attribute name="subType" use="optional"
  type="xlf:userDefinedValue"/>
<xs:attribute name="type" use="optional" type="mtc:typeValues"/>
<xs:anyAttribute namespace="##other" processContents="lax"/>
</xs:complexType>
</xs:element>
</xs:schema>

```

5.2 Glossary Module

5.2.1 Introduction

Simple glossaries, consisting of a list of terms with a definition or translation, can be optionally embedded in an XLIFF document using the namespace mechanism to include elements from the Glossary module.

5.2.2 Module Namespace

The namespace for the Glossary module is: urn:oasis:names:tc:xliff:glossary:2.0

5.2.3 Module Fragment Identification Prefix

The fragment identification prefix for the Glossary module is: gls

5.2.4 Module Elements

The elements defined in the Glossary module are: [<glossary>](#), [<glossEntry>](#), [<term>](#), [<translation>](#) and [<definition>](#).

5.2.4.1 Tree Structure

Legend:

1 = one

+ = one or more

? = zero or one

* = zero, one or more

```

<glossary>
|
+---<glossEntry> +
|
|   +---<term> 1
|   |
|   +---<translation> *
|   |
|   +---<definition> ?
|   |
|   +---<other> *

```

5.2.4.2 glossary

ISO 21720:2017(E)

Container for a list of glossary terms.

Contains:

- One or more [<glossEntry>](#) elements.

5.2.4.3 glossEntry

Glossary entry.

Contains:

- One [<term>](#) element followed by
Zero, one or more [<translation>](#) elements followed by
- Zero or one [<definition>](#) element followed by
- elements from other namespaces, OPTIONAL

Attributes:

- [id](#), OPTIONAL
- [ref](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- A [<glossEntry>](#) element MUST contain a [<translation>](#) or a [<definition>](#) element to be valid.

5.2.4.4 term

A term in the glossary, expressed in the source language of the enclosing [<xliff>](#) element.

Contains:

- Text

Attributes:

- [source](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

5.2.4.5 translation

A translation of the sibling [<term>](#) element expressed in the target language of the enclosing [<xliff>](#) element. Multiple translations can be specified as synonyms.

Contains:

- Text

Attributes:

- [id](#), OPTIONAL
- [ref](#), OPTIONAL
- [source](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

5.2.4.6 definition

Optional definition in plain text for the term stored in the sibling [<term>](#) element.

Contains:

- Text

Attributes:

- [source](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

5.2.5 Module Attributes

The attributes defined in the Glossary module are: [id](#), [ref](#), and [source](#)

5.2.5.1 id

Identifier - a character string used to identify a [<glossEntry>](#) or [<translation>](#) element.

Value description: NMTOKEN

Default value: undefined

Used in: [<glossEntry>](#) and [<translation>](#)

Constraints

- The values of [id](#) attributes MUST be unique among all [<glossEntry>](#) and [<translation>](#) elements within the given enclosing [<glossary>](#) element.

5.2.5.2 ref

Reference - points to a span of source or target text within the same unit, to which the glossary entry is relevant.

Value description: IRI

Default value: undefined

Used in: [<glossEntry>](#) and [<translation>](#).

Constraints

ISO 21720:2017(E)

- The value of the [ref](#) attribute MUST point to a span of text within the same [<unit>](#) element, where the enclosing [<glossary>](#) element is located.

5.2.5.3 source

Source - indicates the origin of the content of the element where the attribute is defined.

Value description: Text.

Default value: undefined

Used in: [<term>](#), [<translation>](#), and [<definition>](#).

5.2.6 Example:

```
<unit id="1">
  <gls:glossary>
    <gls:glossEntry ref="#m1">
      <gls:term source="publicTermbase">TAB key</gls:term>
      <gls:translation id="1" source="myTermbase">Tabstopptaste
    </gls:translation>
      <gls:translation ref="#m2" source="myTermbase">TAB-TASTE
    </gls:translation>
      <gls:definition source="publicTermbase">A keyboard key that is
        traditionally used to insert tab characters into a document.
      </gls:definition>
    </gls:glossEntry>
  </gls:glossary>
  <segment>
    <source>Press the <mrk id="m1" type="term">TAB key</mrk>.</source>
    <target>Drücken Sie die <mrk id="m2" type="term">TAB-TASTE</mrk>.
    </target>
  </segment>
</unit>
```

5.2.7 XML Schema

The schema listed below for reading convenience is accessible at <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/glossary.xsd>.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:gls="urn:oasis:names:tc:xliff:glossary:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:glossary:2.0">
  <!-- Elements -->
  <xs:element name="glossary">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded"
          ref="gls:glossEntry"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="glossEntry">
    <xs:complexType mixed="false">
```

```

<xs:sequence>
  <xs:element minOccurs="1" maxOccurs="1" ref="gls:term"/>
  <xs:element minOccurs="0" maxOccurs="unbounded"
    ref="gls:translation"/>
  <xs:element minOccurs="0" maxOccurs="1" ref="gls:definition"/>
  <xs:any minOccurs="0" maxOccurs="unbounded" namespace="##other"
    processContents="lax"/>
</xs:sequence>
<xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
<xs:attribute name="ref" use="optional" type="xs:anyURI"/>
<xs:anyAttribute namespace="##other" processContents="lax"/>
</xs:complexType>
</xs:element>
<xs:element name="term">
  <xs:complexType mixed="true">
    <xs:attribute name="source" use="optional"/>
    <xs:anyAttribute namespace="##other" processContents="lax"/>
  </xs:complexType>
</xs:element>
<xs:element name="translation">
  <xs:complexType mixed="true">
    <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
    <xs:attribute name="ref" use="optional" type="xs:anyURI"/>
    <xs:attribute name="source" use="optional"/>
    <xs:anyAttribute namespace="##other" processContents="lax"/>
  </xs:complexType>
</xs:element>
<xs:element name="definition">
  <xs:complexType mixed="true">
    <xs:attribute name="source" use="optional"/>
    <xs:anyAttribute namespace="##other" processContents="lax"/>
  </xs:complexType>
</xs:element>
</xs:schema>

```

5.3 Format Style Module

5.3.1 Introduction

This is intended as a namespace mechanism to carry inside an XLIFF document information needed for generating a quick at a glance HTML preview of XLIFF content using a predefined set of simple HTML formatting elements.

5.3.2 Module Namespace

The namespace for the Format style module is: `urn:oasis:names:tc:xliff:fs:2.0`

5.3.3 Module Fragment Identification Prefix

Format Style module does not have a fragment identification prefix. Prefix `fs` is reserved in case it became needed in the future developments of this module.

5.3.4 Module Specification

Format Style module consists of just two attributes: `fs` and `subFs`. It does not specify any elements.

ISO 21720:2017(E)

Format Style allows most structural and inline XLIFF core elements to convey basic formatting information using a predefined subset of HTML formatting elements. It primarily enables the generation of HTML pages or snippets for preview and review purposes. It MUST NOT be used to prescribe a roundtrip to a source document format.

The `fs` attribute holds the name of an HTML formatting element. If additional style information is needed, the OPTIONAL `subFs` attribute is provided.

Constraints

- The Format Style attributes MUST be configured in such a way that the HTML [HTML5] snippet resulting at the `<file>` level is valid.

Processing Requirements

- *Extractors* and *Enrichers* SHOULD use the following method to validate their HTML snippets:
 1. Parse the snippet with the [HTML5] fragment parsing algorithm, see <http://www.w3.org/TR/html5/syntax.html#parsing-html-fragments>.
 2. the result MUST be a valid DOM tree as per [HTML5], see <http://www.w3.org/TR/html5/infrastructure.html#tree-order>.

Note

The above constraint and validation method will make sure that the snippets are renderable by standard HTML browsers.

5.3.5 Module Attributes

The attributes defined in the [Format Style](#) module are: `fs`, `subFs`.

5.3.5.1 fs

Format style attribute, `fs` - allows most structural and inline XLIFF core elements to convey basic formatting information using a predefined subset of HTML formatting elements (for example, HTML elements names like `<script>` are not included). It enables the generation of HTML pages or snippets for preview and review purposes. If additional style information is needed, the OPTIONAL `subFs` attribute is provided.

Value description:

Table 4. Values

a	anchor
b	bold text style
bdo	l18N BiDi over-ride
big	large text style
blockquote	long quotation
body	document body
br	forced line break
button	push button
caption	table caption
center	shorthand for DIV align=center

cite	citation
code	computer code fragment
col	table column
colgroup	table column group
dd	definition description
del	deleted text
div	generic language/style container
dl	definition list
dt	definition term
em	emphasis
h1	heading
h2	heading
h3	heading
h4	heading
h5	heading
h6	heading
head	document head
hr	horizontal rule
html	document root element
i	italic text style
img	image
label	form field label text
legend	fieldset legend
li	list item
ol	ordered list
p	paragraph
pre	preformatted text
q	short inline quotation
s	strike-through text style
samp	sample program output, scripts, etc.
select	option selector
small	small text style
span	generic language/style container
strike	strike-through text
strong	strong emphasis
sub	subscript
sup	superscript
table	
tbody	table body
td	table data cell
tfoot	table footer
th	table header cell
thead	table header

title	document title
tr	table row
tt	teletype or monospaced text style
u	underlined text style
ul	unordered list

Default value: undefined.

Used in: [<file>](#), [<unit>](#), [<note>](#), [<sc>](#), [<ec>](#), [<ph>](#), [<pc>](#), [<mrk>](#), and [<sm>](#).

Warning

The [fs](#) attribute is not intended to facilitate *Merging* back into the original format.

Constraints

- The [fs](#) MUST only be used with [<ec>](#) in cases where the `isolated` attribute is set to 'yes'.

Processing Requirements

- Writers updating the attribute [fs](#) MUST also update or delete [subFs](#).

Example: To facilitate HTML preview, [fs](#) can be applied to XLIFF like this like:

```
<xliff xmlns:fs="urn:oasis:names:tc:xliff:fs:2.0">
  <file fs:fs="html">
    <unit id="1" fs:fs="p">
      <segment>
        <source>Mick Jones renewed his interest in the Vintage
          <pc id="1" fs:fs="strong">'72 Telecaster Thinline </pc> guitar.
          <ph id="ph2" fs:fs="br" />He says <pc fs:fs="q">I love 'em</pc>
          <ph id="ph1" fs:fs="img" fs:subFs="src,smileface.png" /></source>
        </segment>
      </unit>
    </file>
  </xliff>
```

With an XSL stylesheet like this:

```
<xsl:template match="*" priority="2"
  xmlns:fs="urn:oasis:names:tc:xliff:fs:2.0">
  <xsl:choose>
    <xsl:when test="@fs:fs">
      <xsl:element name="{@fs:fs}">
        <xsl:if test="@fs:subFs">
          <xsl:variable name="att_name" select="substring-before(@fs:subFs,',') ">
        />
          <xsl:variable name="att_val" select="substring-after(@fs:subFs,',') ">
          <xsl:attribute name="{ $att_name }">
            <xsl:value-of select="$att_val" />
          </xsl:attribute>
        </xsl:if>
      </xsl:element>
    <xsl:apply-templates />
  </xsl:template>
```

```

</xsl:when>
<xsl:otherwise>
  <xsl:apply-templates />
</xsl:otherwise>
</xsl:choose>
</xsl:template>

```

You can generate a an HTML page like this:

```

<html>
  <p>Mick Jones renewed his interest in the Vintage
    <strong>'72 Telecaster Thinline </strong> guitar.
    <br/>He says <q>I love 'em</q>
    
  </p>
</html>

```

5.3.5.2 subFs

Sub-format style, subFs - allows extra metadata, like URL for example, to be added in concert with the [fs](#) attribute.

Value description: The subFs attribute is used to specify the HTML attributes to use along with the HTML element declared in the [fs](#) attribute. It is a list of name/value pairs. Each pair is separated from the next with a backslash (\). The name and the value of a pair are separated with a comma (,). Both literal backslash and comma characters are escaped with a backslash prefix.

Default value: undefined.

Used in: [<file>](#), [<unit>](#), [<note>](#), [<source>](#), [<target>](#), [<sc>](#), [<ec>](#), [<ph>](#), [<pc>](#), [<mrk>](#), and [<sm>](#).

Warning

The [subFs](#) attribute is not intended to facilitate *Merging* back into the original format.

Constraints

- Commas (,) and backslashes (\) in the value parts of the [subFs](#) MUST be escaped with a backslash (\).
- If the attribute [subFs](#) is used, the attribute [fs](#) MUST be specified as well.
- The [subFs](#) MUST only be used with [<ec>](#) in cases where the `isolated` attribute is set to 'yes'.

Processing Requirements

- Writers updating the attribute [fs](#) MUST also update or delete [subFs](#).

Example: For complex HTML previews that require more than one attribute on an HTML preview element, attribute pairs are separated by backslashes (\). Any literal comma or backslash in an attribute value MUST be escaped with a backslash.

For example, we would use this convention:

```

<ph id="p1" fs="img" subFs="src,c:\\docs\\images\\smile.png\\alt,
  My Happy Smile\\title,Smiling faces\\, are nice" />

```

To produce this HTML preview:

```

```

5.3.6 XML Schema

The schema listed below for reading convenience is accessible at <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/fs.xsd>.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:fs="urn:oasis:names:tc:xliff:fs:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:fs:2.0">
  <!-- Attribute Types -->
  <xs:simpleType name="fs_type">
    <xs:restriction base="xs:string">
      <xs:enumeration value="a"/>
      <xs:enumeration value="b"/>
      <xs:enumeration value="bdo"/>
      <xs:enumeration value="big"/>
      <xs:enumeration value="blockquote"/>
      <xs:enumeration value="body"/>
      <xs:enumeration value="br"/>
      <xs:enumeration value="button"/>
      <xs:enumeration value="caption"/>
      <xs:enumeration value="center"/>
      <xs:enumeration value="cite"/>
      <xs:enumeration value="code"/>
      <xs:enumeration value="col"/>
      <xs:enumeration value="colgroup"/>
      <xs:enumeration value="dd"/>
      <xs:enumeration value="del"/>
      <xs:enumeration value="div"/>
      <xs:enumeration value="dl"/>
      <xs:enumeration value="dt"/>
      <xs:enumeration value="em"/>
      <xs:enumeration value="h1"/>
      <xs:enumeration value="h2"/>
      <xs:enumeration value="h3"/>
      <xs:enumeration value="h4"/>
      <xs:enumeration value="h5"/>
      <xs:enumeration value="h6"/>
      <xs:enumeration value="head"/>
      <xs:enumeration value="hr"/>
      <xs:enumeration value="html"/>
      <xs:enumeration value="i"/>
      <xs:enumeration value="img"/>
      <xs:enumeration value="label"/>
      <xs:enumeration value="legend"/>
      <xs:enumeration value="li"/>
      <xs:enumeration value="ol"/>
      <xs:enumeration value="p"/>
      <xs:enumeration value="pre"/>
      <xs:enumeration value="q"/>
      <xs:enumeration value="s"/>
      <xs:enumeration value="samp"/>
      <xs:enumeration value="select"/>
```

```

<xs:enumeration value="small"/>
<xs:enumeration value="span"/>
<xs:enumeration value="strike"/>
<xs:enumeration value="strong"/>
<xs:enumeration value="sub"/>
<xs:enumeration value="sup"/>
<xs:enumeration value="table"/>
<xs:enumeration value="tbody"/>
<xs:enumeration value="td"/>
<xs:enumeration value="tfoot"/>
<xs:enumeration value="th"/>
<xs:enumeration value="thead"/>
<xs:enumeration value="title"/>
<xs:enumeration value="tr"/>
<xs:enumeration value="tt"/>
<xs:enumeration value="u"/>
<xs:enumeration value="ul"/>
</xs:restriction>
</xs:simpleType>
<!-- Attributes -->
<xs:attribute name="fs" type="fs:fs_type"/>
<xs:attribute name="subFs" type="xs:string"/>
</xs:schema>

```

5.4 Metadata Module

5.4.1 Introduction

The Metadata module provides a mechanism for storing custom metadata using elements that are part of the official XLIFF specification.

5.4.2 Module Namespace

The namespace for the Metadata module is: `urn:oasis:names:tc:xliff:metadata:2.0`

5.4.3 Module Fragment Identification Prefix

The fragment identification prefix for the Metadata module is: `mda`

5.4.4 Module Elements

The elements defined in the Metadata module are: [<metadata>](#), [<metaGroup>](#), and [<meta>](#).

5.4.4.1 Tree Structure

Legend:

+ = one or more

```

<metadata>
|
+---<metaGroup> +
|
+---At least one of (<metaGroup> OR <meta>)
|
+---<meta>

```

5.4.4.2 metadata

Container for metadata associated with the enclosing element.

Contains:

- One or more [<metaGroup>](#) elements

Attributes:

- [id](#), OPTIONAL

Example: Metadata can be used to store XML attribute names and values for *XLIFF Documents* that do not use a skeleton. The following XML sample contains attributes on the `<document>` and `<row>` elements.

```
<document version="3" phase="draft">
  <table>
    <row style="head"><cell>Name</cell><cell>Position</cell></row>
    <row><cell>Patrick K.</cell><cell>Right Wing</cell></row>
    <row><cell>Bryan B.</cell><cell>Left Wing</cell></row>
  </table>
</document>
```

The Metadata module can be used to preserve these attributes for a round trip without using a skeleton:

```
<?xml version="1.0" encoding="utf-8"?>
<xliiff xmlns="urn:oasis:names:tc:xliiff:document:2.0"
  xmlns:fs="urn:oasis:names:tc:xliiff:fs:2.0"
  xmlns:mda="urn:oasis:names:tc:xliiff:metadata:2.0"
  version="2.0" srcLang="en">
  <file id="f1">
    <group id="g1" name="document">
      <mda:metadata>
        <mda:metaGroup category="document_xml_attribute">
          <mda:meta type="version">3</mda:meta>
          <mda:meta type="phase">draft</mda:meta>
        </mda:metaGroup>
      </mda:metadata>
      <group id="g2" name="table">
        <group id="g3" name="row">
          <mda:metadata>
            <mda:metaGroup category="row_xml_attribute">
              <mda:meta type="style">head</mda:meta>
            </mda:metaGroup>
          </mda:metadata>
          <unit id="u1" name="cell">
            <segment>
              <source>Name</source>
            </segment>
          </unit>
          <unit id="u2" name="cell">
            <segment>
              <source>Position</source>
            </segment>
          </unit>
        </group>
      </group>
    </group>
  </file>
</xliiff>
```

```

        </unit>
      </group>
      <group id="g4" name="row">
        <unit id="u3" name="cell">
          <segment>
            <source>Patrick K.</source>
          </segment>
        </unit>
        <unit id="u4" name="cell">
          <segment>
            <source>Right Wing</source>
          </segment>
        </unit>
      </group>
      <group id="g5" name="row">
        <unit id="u5" name="cell">
          <segment>
            <source>Bryan B.</source>
          </segment>
        </unit>
        <unit id="u6" name="cell">
          <segment>
            <source>Left Wing</source>
          </segment>
        </unit>
      </group>
    </group>
  </group>
</file>
</xliff>

```

5.4.4.3 metaGroup

Provides a way to organize metadata into a structured hierarchy.

Contains:

- One or more [<metaGroup>](#) or [<meta>](#) elements in any order.

Attributes:

- [id](#), OPTIONAL
- [category](#), OPTIONAL
- [appliesTo](#), OPTIONAL

5.4.4.4 meta

Container for a single metadata component.

Contains:

- Non-translatable text

Attributes:

- [type](#), REQUIRED

5.4.5 Module Attributes

The attributes defined in the Metadata module are: [appliesTo](#), [category](#), [id](#), and [type](#).

5.4.5.1 appliesTo

Indicates the element to which the content of the metagroup applies.

Value description: source, target, or ignorable.

Default value: undefined.

Used in: [<metaGroup>](#).

5.4.5.2 category

category - indicates a category for metadata contained in the enclosing [<metaGroup>](#) element.

Value description: Text.

Default value: undefined.

Used in: [<metaGroup>](#).

5.4.5.3 id

Identifier - a character string used to identify a [<metadata>](#) or [<metaGroup>](#) element.

Value description: NMTOKEN

Default value: undefined

Used in: [<metadata>](#) and [<metaGroup>](#)

Constraints

- The values of [id](#) attributes MUST be unique among all [<metaGroup>](#) and [<metadata>](#) elements within the given enclosing [<metadata>](#) element.

5.4.5.4 type

type - indicates the type of metadata contained by the enclosing element.

Value description: Text.

Default value: undefined.

Used in: [<meta>](#).

5.4.6 XML Schema

The schema listed below for reading convenience is accessible at <http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/metadata.xsd>.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:mda="urn:oasis:names:tc:xliff:metadata:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:metadata:2.0">
  <!-- Attribute Types -->
  <xs:simpleType name="appliesTo">
    <xs:restriction base="xs:string">
      <xs:enumeration value="source"/>
      <xs:enumeration value="target"/>
      <xs:enumeration value="ignorable"/>
    </xs:restriction>
  </xs:simpleType>
  <!-- Elements -->
  <xs:element name="metadata">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded"
          ref="mda:metaGroup"/>
      </xs:sequence>
      <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="metaGroup">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:choice minOccurs="1" maxOccurs="unbounded">
          <xs:element ref="mda:metaGroup"/>
          <xs:element ref="mda:meta"/>
        </xs:choice>
      </xs:sequence>
      <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
      <xs:attribute name="category" use="optional"/>
      <xs:attribute name="appliesTo" use="optional" type="mda:appliesTo"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="meta">
    <xs:complexType mixed="true">
      <xs:attribute name="type" use="required" type="xs:string"/>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

5.5 Resource Data Module

5.5.1 Introduction

The Resource Data module provides a mechanism for referencing external resource data that MAY need to be modified or used as contextual reference during translation.

5.5.2 Module Namespace

The namespace for the Resource Data module is: `urn:oasis:names:tc:xliff:resourcedata:2.0`

5.5.3 Module Fragment Identification Prefix

The fragment identification prefix for the Resource Data module is: `res`

5.5.4 Module Elements

The elements defined in the Resource Data module are: [<resourceData>](#), [<resourceItemRef>](#), [<resourceItem>](#), [<source>](#), [<target>](#), and [<reference>](#).

5.5.4.1 Tree Structure

Legend:

? = zero or one

* = zero, one or more

```
<resourceData>
|
+---<resourceItemRef> *
|
+---<resourceItem> *
|
|   +---<source> ?
|   |
|   |   +---<other> *
|   |
|   +---<target> ?
|   |
|   |   +---<other> *
|   |
|   +---<reference> *
```

5.5.4.2 resourceData

Parent container for resource data associated with the enclosing element.

Contains:

At least one of the following

- Zero, one or more [<resourceItemRef>](#) elements.
- Zero, one or more [<resourceItem>](#) elements.

5.5.4.3 resourceItemRef

Specifies a reference to an associated [<resourceItem>](#) element located at the [<file>](#) level.

Contains:

This element is always empty.

Attributes:

- [id](#), OPTIONAL
- [ref](#), REQUIRED
- attributes from other namespaces, OPTIONAL

Constraints

- The value of the OPTIONAL [id](#) attribute MUST be unique among all [<resourceItem>](#) and [<resourceItemRef>](#) elements of the enclosing [<resourceData>](#) element.

Processing Requirements

- *Modifiers* MUST remove [<resourceItemRef>](#) when removing the referenced [<resourceItem>](#).

5.5.4.4 resourceItem

Container for specific resource data that is either intended for *Modification*, or to be used as contextual reference during *Translation*.

Contains:

At least one of the following

- Zero or one [<source>](#) element followed by
- Zero or one [<target>](#) element followed by
- Zero, one or more [<reference>](#) elements

Attributes:

- [mimeType](#), OPTIONAL
- [id](#), OPTIONAL
- [context](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The [mimeType](#) attribute is REQUIRED if [<target>](#) and [<source>](#) child elements are empty, otherwise it is OPTIONAL.
- The value of the OPTIONAL [id](#) attribute MUST be unique among all [<resourceItem>](#) and [<resourceItemRef>](#) elements of the enclosing [<resourceData>](#) element.

Processing Requirements

- If a *Modifier* does not understand how to process the [mimeType](#) attribute, or the file it references, the [<resourceItem>](#) element MAY be ignored, but still MUST be preserved.
- The [mimeType](#) attribute SHOULD only be modified or removed if the referenced files are modified or removed.
- For each instance of [<resourceItem>](#) containing only [<source>](#):
 - *Modifiers* MAY leave [<resourceItem>](#) unchanged, i.e. they are not REQUIRED to create [<target>](#) or [<reference>](#).
 - *Modifiers* MAY create [<target>](#) or [<reference>](#) as a siblings of [<source>](#).

5.5.4.5 source

References the actual resource data that is either intended for *Modification*, or to be used as contextual reference during *Translation*.

Contains:

Either

- elements from other namespaces

or

- is empty.

Attributes:

- [href](#), OPTIONAL
- [xml:lang](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The attribute [href](#) is REQUIRED if and only if [<source>](#) is empty.
- When the OPTIONAL [xml:lang](#) attribute is present, its value MUST be equal to the value of the [srcLang](#) attribute of the enclosing [<xliff>](#) element.

Processing Requirements

- When the [context](#) attribute of [<resourceItem>](#) is set to yes:
 - *Modifiers* MAY create [<source>](#) if not already present.
 - *Modifiers* SHOULD NOT change [<source>](#).
 - *Modifiers* MAY remove [<source>](#).
- When the [context](#) attribute of [<resourceItem>](#) is set to no:
 - [<source>](#) MUST be present.
 - *Modifiers* MUST NOT change [<source>](#).
 - *Modifiers* MUST NOT remove [<source>](#).

5.5.4.6 target

References the localized counterpart of the sibling [<source>](#) element.

Contains:

Either

- elements from other namespaces

or

- is empty.

Attributes:

- [href](#), OPTIONAL
- [xml:lang](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- The attribute [href](#) is REQUIRED if and only if [<target>](#) is empty.
- When the OPTIONAL [xml:lang](#) attribute is present, its value MUST be equal to the value of the [trgLang](#) attribute of the enclosing [<xliff>](#) element.

Processing Requirements

- When the [context](#) attribute of [<resourceItem>](#) is set to `yes`:
 - Modifiers MAY create [<target>](#) if not already present.
 - Modifiers SHOULD NOT change [<target>](#).
 - Modifiers MAY remove [<target>](#).
- When the [context](#) attribute of [<resourceItem>](#) is set to `no`:
 - Modifiers MAY create [<target>](#) if not already present.
 - Modifiers MAY leave [<target>](#) unchanged.
 - Modifiers MAY change [<target>](#).
 - Modifiers MAY replace an existing [<target>](#), i.e. the previously populated [<target>](#) MUST NOT be left blank.

5.5.4.7 reference

References contextual data relating to the sibling [<source>](#) and [<target>](#) elements, such as a German screenshot for a Luxembourgish translator.

Contains:

- This element is always empty.

Attributes:

- [href](#), REQUIRED
- [xml:lang](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Constraints

- When the OPTIONAL [xml:lang](#) attribute is present, its value does not need to be equal to the value of the [srcLang](#) or [trgLang](#) attribute of the enclosing [<xliff>](#) element.

Processing Requirements

- Writers MAY create [<reference>](#) if not already present.
- Modifiers SHOULD NOT change [<reference>](#).
- Modifiers MAY remove [<reference>](#).

5.5.5 Module Attributes

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The attributes defined in the Resource Data module are: [id](#), [xml:lang](#), [mimeType](#), [context](#), [href](#), and [ref](#).

5.5.5.1 id

Identifier - A character string used to identify a [<resourceData>](#) element.

Value description: NMToken

Default value: undefined

Used in: [<resourceItem>](#) and [<resourceItemRef>](#)

5.5.5.2 xml:lang

Language - The xml:lang attribute specifies the language variant of the text of a given element. For example: `xml:lang="fr-FR"` indicates the French language as spoken in France.

Value description: A language code as described in [\[BCP 47\]](#).

Default value: undefined

Used in: [<source>](#), [<target>](#), and [<reference>](#).

5.5.5.3 mimeType

MIME type, mimeType - indicates the type of a resource object. This generally corresponds to the content type of [\[RFC 2045\]](#), the MIME specification; e.g. mimeType="text/xml" indicates the resource data is a text file of XML format.

Value description: A MIME type. An existing MIME type MUST be used from a [list of standard values](#).

Default value: undefined

Used in: [<resourceItem>](#)

Note

If you cannot use any of the standard MIME type values as specified above, a new MIME type can be registered according to [\[RFC 2048\]](#).

5.5.5.4 context

Contextual Information - Indicates whether an external resource is to be used for context only and not modified.

Value description: yes or no

Default value: yes

Used in: [<resourceItem>](#)

5.5.5.5 href

Hypertext Reference, href - IRI referencing an external resource.

Value description: IRI.

Default value: undefined

Used in: [<source>](#), [<target>](#), and [<reference>](#)

5.5.5.6 ref

Resource Item Reference - holds a reference to an associated [<resourceItem>](#) element located at the [<file>](#) level.

Value description: An [\[XML Schema Datatypes\]](#) NMTOKEN

Default value: undefined

Used in: [<resourceItemRef>](#)

Constraints

- The [ref](#) attribute value MUST be the value of the [id](#) attribute of the [<resourceItem>](#) element being referenced.

5.5.6 Examples:

In this example, the [<resourceData>](#) module at [<file>](#) level references external XML that contains resource data for a user interface control. The control is the container for the text “Load Registry Config” and needs to be resized to accommodate the increased length of the string due to translation. The [<resourceItemRef>](#) element contained in the [<resourceData>](#) module at [<unit>](#) level provides the reference between them. The name attribute of the [<unit>](#) element could serve as the key for an editor to associate [<source>](#) and [<target>](#) text with the resource data contained in the referenced XML and display it for modification.

```
<file id="f1">
  <res:resourceData>
    <res:resourceItem id="r1" mimeType="text/xml" context="no">
      <res:source href="resources\en\registryconfig.resources.xml" />
      <res:target href="resources\de\registryconfig.resources.xml" />
    </res:resourceItem>
  </res:resourceData>
  <unit id="1" name="130;WIN_DLG_CTRL_">
    <res:resourceData>
      <res:resourceItemRef ref="r1" />
    </res:resourceData>
    <segment id="1" state="translated">
      <source>Load Registry Config</source>
      <target>Registrierungskonfiguration laden</target>
    </segment>
  </unit>
</file>
```

In this example, the [<resourceData>](#) module at the [<unit>](#) level contains elements from another namespace (abc), which could be displayed for modification in an editor that understands how to process the namespace.

```

<file id="f2" xmlns:abc="urn:abc">
  <unit id="1">
    <res:resourceData>
      <res:resourceItem id="r1" context="no">
        <res:source>
          <abc:resourceType>button</abc:resourceType>
          <abc:resourceHeight>40</abc:resourceHeight>
          <abc:resourceWidth>75</abc:resourceWidth>
        </res:source>
        <res:target>
          <abc:resourceType>button</abc:resourceType>
          <abc:resourceHeight>40</abc:resourceHeight>
          <abc:resourceWidth>150</abc:resourceWidth>
        </res:target>
      </res:resourceItem>
    </res:resourceData>
    <segment id="1" state="translated">
      <source>Load Registry Config</source>
      <target>Registrierungskonfiguration laden</target>
    </segment>
  </unit>
</file>

```

In this example, the [<resourceData>](#) module references multiple static images that an editor can make use of as context while translating or reviewing.

```

<file id="f3">
  <res:resourceData>
    <res:resourceItem id="r1" mimeType="image/jpeg" context="yes">
      <res:source xml:lang="en-us"
        href="resources\en\registryconfig1.resources.jpg" />
      <res:target xml:lang="lb-lu"
        href="resources\lb\registryconfig1.resources.jpg" />
      <res:reference xml:lang="de-de"
        href="resources\de\registryconfig1.resources.jpg" />
    </res:resourceItem>
    <res:resourceItem id="r2" mimeType="image/jpeg" context="yes">
      <res:source xml:lang="en-us"
        href="resources\en\registryconfig2.resources.jpg" />
      <res:target xml:lang="lb-lu"
        href="resources\lb\registryconfig2.resources.jpg" />
    </res:resourceItem>
  </res:resourceData>
  <unit id="1">
    <res:resourceData>
      <res:resourceItemRef ref="r1" />
      <res:resourceItemRef ref="r2" />
    </res:resourceData>
    <segment id="1" state="translated">
      <source>Remove Registry Config</source>
      <target>Registrierungskonfiguration entfernen</target>
    </segment>
  </unit>
</file>

```

5.5.7 XML Schema

The schema listed below for reading convenience is accessible at http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/resource_data.xsd.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:res="urn:oasis:names:tc:xliff:resourcedata:2.0"
  xmlns:xliff="urn:oasis:names:tc:xliff:document:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:resourcedata:2.0">
  <!-- Import -->
  <xs:import namespace="urn:oasis:names:tc:xliff:document:2.0"
    schemaLocation="../../xliff_core_2.0.xsd"/>
  <xs:import namespace="http://www.w3.org/XML/1998/namespace"
    schemaLocation="informativeCopiesOf3rdPartySchemas/w3c/xml.xsd"/>
  <!-- Elements -->
  <xs:element name="resourceData">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded"
          ref="res:resourceItemRef"/>
        <xs:element minOccurs="0" maxOccurs="unbounded"
          ref="res:resourceItem"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="resourceItemRef">
    <xs:complexType mixed="false">
      <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
      <xs:attribute name="ref" use="required" type="xs:NMTOKEN"/>
      <xs:anyAttribute namespace="##other" processContents="lax"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="resourceItem">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" ref="res:source"/>
        <xs:element minOccurs="0" maxOccurs="1" ref="res:target"/>
        <xs:element minOccurs="0" maxOccurs="unbounded"
          ref="res:reference"/>
      </xs:sequence>
      <xs:attribute name="mimeType" use="optional"/>
      <xs:attribute name="id" use="optional" type="xs:NMTOKEN"/>
      <xs:attribute name="context" use="optional" type="xliff:yesNo"
        default="yes"/>
      <xs:anyAttribute namespace="##other" processContents="lax"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="source">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:any minOccurs="0" maxOccurs="unbounded" namespace="##other"
          processContents="lax"/>
      </xs:sequence>
      <xs:attribute name="href" use="optional"/>
      <xs:attribute ref="xml:lang" use="optional"/>
      <xs:anyAttribute namespace="##other" processContents="lax"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="target">
    <xs:complexType mixed="false">
```

```

<xs:sequence>
  <xs:any minOccurs="0" maxOccurs="unbounded" namespace="##other"
    processContents="lax"/>
</xs:sequence>
<xs:attribute name="href" use="optional"/>
<xs:attribute ref="xml:lang" use="optional"/>
<xs:anyAttribute namespace="##other" processContents="lax"/>
</xs:complexType>
</xs:element>
<xs:element name="reference">
  <xs:complexType mixed="false">
    <xs:attribute name="href" use="required"/>
    <xs:attribute ref="xml:lang" use="optional"/>
    <xs:anyAttribute namespace="##other" processContents="lax"/>
  </xs:complexType>
</xs:element>
</xs:schema>

```

5.6 Change Tracking Module

5.6.1 Introduction

The Change Tracking module is used to store revision information for XLIFF elements and attributes.

5.6.2 Module Namespace

The namespace for the Change Tracking module is:

urn:oasis:names:tc:xliff:changetracking:2.0

5.6.3 Module Fragment Identification Prefix

The fragment identification prefix for the Change Tracking module is: ctr

5.6.4 Module Elements

The elements defined in the Change Tracking module are: [<changeTrack>](#), [<revisions>](#), [<revision>](#), and [<item>](#).

5.6.4.1 Tree Structure

Legend:

+ = one or more

```

<changeTrack>
|
+---<revisions> +
|
+---<revision> +
|
+---<item> +

```

5.6.4.2 changeTrack

Parent container for change tracking information associated with a sibling element, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Contains:

- One or more [<revisions>](#) elements.

5.6.4.3 revisions

Container for logical groups of revisions associated with a sibling element, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Contains:

- One or more [<revision>](#) elements.

Attributes:

- [appliesTo](#), REQUIRED
- [ref](#), OPTIONAL
- [currentVersion](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Processing Requirements

- Modifying agents MAY create [<revisions>](#) elements with attributes.
- Modifying agents SHOULD NOT modify [<revisions>](#) and its attributes defined in this module, except in the case where the [currentVersion](#) attribute is used. This attribute SHOULD be updated when a new revision becomes the most current.
- Modifying agents SHOULD NOT remove [<revisions>](#) and its attributes defined in this module.
- When the [appliesTo](#) attribute refers to an element that is a multiple instance within the enclosing element, the [ref](#) attribute MUST be used to reference an individual instance if and only if the referenced instance has an id. Using [<notes>](#) as an example:

```
<notes>
  <note id="n1">new note</note>
  <note id="n2">another note</note>
</notes>
<ctr:changeTrack>
  <ctr:revisions appliesTo="note" ref="n1">
    <ctr:revision>
      <ctr:item property="content">old note</ctr:item>
    </ctr:revision>
  </ctr:revisions>
</ctr:changeTrack>
```

5.6.4.4 revision

Container for specific revisions associated with a sibling element, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Contains:

ISO 21720:2017(E)

- One or more [<item>](#) elements.

Attributes:

- [author](#), OPTIONAL
- [datetime](#), OPTIONAL
- [version](#), OPTIONAL
- attributes from other namespaces, OPTIONAL

Processing Requirements

- Modifying agents MAY create [<revision>](#) elements with attributes.
- Modifying agents SHOULD NOT modify [<revision>](#) and its attributes defined in this module.
- Modifying agents MAY remove [<revision>](#) and its attributes defined in this module if and only if there is more than one instance of [<revision>](#) present. For example, a user agent can decide to preserve only the most current revision.

5.6.4.5 item

Container for a specific revision associated with a sibling element, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Contains:

- Text

Attributes:

- [property](#), REQUIRED
- attributes from other namespaces, OPTIONAL

Processing Requirements

- Modifying agents MAY create [<item>](#) elements with attributes.
- Modifying agents SHOULD NOT modify [<item>](#) and its attribute defined in this module.
- Modifying agents SHOULD NOT remove [<item>](#) and its attribute defined in this module, unless they are removed as part of a [<revision>](#) element removed according to its own processing requirements.

5.6.5 Module Attributes

The attributes defined in the Change Tracking module are: [appliesTo](#), [author](#), [currentVersion](#), [datetime](#), [ref](#), [property](#), and [version](#).

5.6.5.1 appliesTo

appliesTo – Indicates a specific XLIFF element which is a sibling, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Value description: NMOKEN name of any valid XLIFF element which is a sibling, or a child of a sibling element, to the change track module within the scope of the enclosing element.

Default value: undefined

Used in: [<revisions>](#)

5.6.5.2 author

author - Indicates the user or agent that created or modified the referenced element or its attributes.

Value description: Text.

Default value: undefined

Used in: [<revision>](#).

5.6.5.3 currentVersion

currentVersion - holds a reference to the most current version of a revision.

Value description: An [\[XML Schema Datatypes\]](#) NMTOKEN

Default value: none

Used in: [<revisions>](#).

Constraints

- The value of the [currentVersion](#) attribute MUST be the value of the [version](#) attribute of one of the [<revision>](#) elements listed in the same [<revisions>](#) element.

5.6.5.4 datetime

Date and Time, datetime - Indicates the date and time the referenced element or its attributes were created or modified.

Value description: Date in one of the formats defined in [\[NOTE-datetime\]](#).

Default value: undefined

Used in: [<revision>](#).

5.6.5.5 ref

Reference - Holds a reference to a single instance of an element that has multiple instances within the enclosing element.

Value description: An [\[XML Schema Datatypes\]](#) NMTOKEN

Default value: undefined

Used in: [<revisions>](#)

Constraints

ISO 21720:2017(E)

- The value of the [ref](#) attribute MUST be the value of the [id](#) attribute of a single instance of an element that is a multiple instance within the enclosing element.

5.6.5.6 property

property – Indicates the type of revision data.

Value description: The value MUST be either `content` to signify the content of an element, or the name of the attribute relating to the revision data.

Default value: none

Used in: [<item>](#).

5.6.5.7 version

version - Indicates the version of the referenced element or its attributes that were created or modified.

Value description: NMTOKEN.

Default value: undefined

Used in: [<revision>](#).

5.6.6 Example:

The following example shows change tracking for [<source>](#), [<target>](#), and [<notes>](#). Current and previous versions are both stored in the Change Tracking module.

```
<unit id="1">
  <ctr:changeTrack>
    <ctr:revisions appliesTo="source" currentVersion="r1">
      <ctr:revision author="system" datetime="2013-07-15T10:00:00+8:00"
        version="r1">
        <ctr:item property="content">Hello World</ctr:item>
      </ctr:revision>
      <ctr:revision author="system" datetime="2013-06-15T10:00:00+8:00"
        version="r2">
        <ctr:item property="content">Hello</ctr:item>
      </ctr:revision>
      <ctr:revision author="system" datetime="2013-05-15T10:00:00+8:00"
        version="r3">
        <ctr:item property="content">Hi</ctr:item>
      </ctr:revision>
    </ctr:revisions>
    <ctr:revisions appliesTo="target" currentVersion="r1">
      <ctr:revision author="Frank" datetime="2013-07-17T11:00:00+8:00"
        version="r1">
        <ctr:item property="content">Guten Tag Welt</ctr:item>
      </ctr:revision>
      <ctr:revision author="Frank" datetime="2013-06-17T11:00:00+8:00"
        version="r2">
        <ctr:item property="content">Hallo</ctr:item>
      </ctr:revision>
      <ctr:revision author="Frank" datetime="2013-05-17T11:00:00+8:00"
        version="r3">
```

```

    <ctr:item property="content">Grüsse</ctr:item>
  </ctr:revision>
</ctr:revisions>
<ctr:revisions appliesTo="note" ref="n1" currentVersion="r1">
  <ctr:revision author="Bob" datetime="2013-07-16T10:30:00+8:00"
    version="r1">
    <ctr:item property="content">The translation should be formal
  </ctr:item>
    <ctr:item property="category">instruction</ctr:item>
  </ctr:revision>
  <ctr:revision author="Bob" datetime="2013-05-16T10:30:00+8:00"
    version="r2">
    <ctr:item property="content">The translation should be informal
  </ctr:item>
    <ctr:item property="category">comment</ctr:item>
  </ctr:revision>
</ctr:revisions>
<ctr:revisions appliesTo="note" ref="n2" currentVersion="r1">
  <ctr:revision author="Bob" datetime="2013-07-18T10:30:00+8:00"
    version="r1">
    <ctr:item property="content">Please Review my translation
  </ctr:item>
  </ctr:revision>
</ctr:revisions>
</ctr:changeTrack>
<notes>
  <note category="instruction" id="n1">The translation should be
    formal</note>
  <note category="comment" id="n2">Please Review my translation</note>
</notes>
<segment>
  <source>Hello World</source>
  <target>Guten Tag Welt</target>
</segment>
</unit>

```

5.6.7 XML Schema

The schema listed below for reading convenience is accessible at http://docs.oasis-open.org/xliff/xliff-core/v2.0/os/schemas/modules/change_tracking.xsd.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  xmlns:ctr="urn:oasis:names:tc:xliff:changetracking:2.0"
  targetNamespace="urn:oasis:names:tc:xliff:changetracking:2.0">
  <!-- Elements -->
  <xs:element name="changeTrack">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded"
          ref="ctr:revisions"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="revisions">
    <xs:complexType mixed="false">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded"

```

```

        ref="ctr:revision"/>
    </xs:sequence>
    <xs:attribute name="appliesTo" use="required" type="xs:NMTOKEN"/>
    <xs:attribute name="ref" use="optional" type="xs:NMTOKEN"/>
    <xs:attribute name="currentVersion" use="optional"
        type="xs:NMTOKEN"/>
    <xs:anyAttribute namespace="##other" processContents="lax"/>
</xs:complexType>
</xs:element>
<xs:element name="revision">
    <xs:complexType mixed="false">
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="unbounded" ref="ctr:item"/>
        </xs:sequence>
        <xs:attribute name="author" use="optional"/>
        <xs:attribute name="datetime" use="optional"/>
        <xs:attribute name="version" use="optional" type="xs:NMTOKEN"/>
        <xs:anyAttribute namespace="##other" processContents="lax"/>
    </xs:complexType>
</xs:element>
<xs:element name="item">
    <xs:complexType mixed="true">
        <xs:attribute name="property" use="required"/>
        <xs:anyAttribute namespace="##other" processContents="lax"/>
    </xs:complexType>
</xs:element>
</xs:schema>

```

5.7 Size and Length Restriction Module

5.7.1 Introduction

The Size and Length Restriction module provides a mechanism to annotate the XLIFF content with information on storage and general size restrictions.

The restriction framework has support for two distinct types of restrictions; storage size restrictions and general size restriction. The reason for this is that it is often common to have separate restrictions between storage and display / physical representation of data. Since it would be impossible to define all restrictions here a concept of restriction profile is introduced. The profiles for storage size and general size are independent. The information related to restriction profiles are stored in the processing invariant part of the XLIFF file like the [<xlf:file>](#), [<xlf:group>](#) and [<xlf:unit>](#) elements and contained within elements defined in this module. The information regarding the specific restrictions are stored on the processing invariant parts and on the inline elements as attributes or attributes referencing data in the elements defined in this module. To avoid issues with segmentation no information regarding size restrictions is present on [<xlf:segment>](#), [<xlf:source>](#) and [<xlf:target>](#) elements. The module defines a namespace for all the elements and attributes it introduces, in the rest of the module specification elements and attributes are in this namespace unless stated otherwise. In other parts of the XLIFF specification the prefix "slr" is used to refer to this module's namespace. For clarity the prefix "xlf" will be used for *XLIFF Core* elements and attributes. Profile names use the same namespace-like naming convention as user defined values in the *XLIFF Core* specification. The names SHOULD be composed of two components separated by a colon. <authority>:<name>. The authority "xliif" is reserved for profiles defined by the OASIS XLIFF Technical Committee.

5.7.2 Module Namespace

The namespace for the Size and Length restriction module is:
urn:oasis:names:tc:xliif:sizerestriction:2.0

5.7.3 Module Fragment Identification Prefix

The fragment identification prefix for the Size and Length restriction module is: `slr`

5.7.4 Module Elements

The elements defined in the Size and Length restriction module are: [<profiles>](#), [<normalization>](#) and [<data>](#).

5.7.4.1 Tree Structure

Legend:

? = zero or one

```
<profiles>
|
+---<normalization> ?
|
+---<other> *
```

5.7.4.2 profiles

This element selects the restriction profiles to use in the document. If no storage or general profile is specified the default values (empty) of those elements will disable restriction checking in the file.

Contains:

- Zero or one [<normalization>](#) element followed by
- elements from other namespaces, OPTIONAL

Attributes:

- [generalProfile](#), OPTIONAL
- [storageProfile](#), OPTIONAL

Processing Requirements

- Any overall configuration or settings related to the selected profile MUST be placed in child elements of this element.
- Data not related to the configuration of the selected profiles MUST NOT be placed in this element.

5.7.4.3 normalization

This element is used to hold the attributes specifying the normalization form to apply to storage and size restrictions defined in the standard profiles.

Contains:

This element is always empty.

Attributes:

ISO 21720:2017(E)

- [general](#), OPTIONAL
- [storage](#), OPTIONAL

Processing Requirements

- If this element is not present no normalization SHOULD be performed for the standard profiles.
- Other profiles MAY use this element in its specified form but MUST NOT add new extensions to it.

5.7.4.4 data

This elements act as a container for data needed by the specified profile to check the part of the XLIFF document that is a sibling or descendant of a sibling of this element. It is not used by the default profiles.

Contains:

- elements from other namespaces, OPTIONAL

Attributes:

- [profile](#), REQUIRED
- attributes from other namespaces, OPTIONAL

Processing Requirements

- Third party profiles MUST place all data in this element instead of using other extension points if the data serves no other purpose in the processing of the document.
- Data not used by the specified profile MUST NOT be placed in this element.

5.7.5 Module Attributes

The attributes defined in the Size and Length restriction module are: [storageProfile](#), [generalProfile](#), [storage](#), [general](#), [profile](#), [storageRestriction](#), [sizeRestriction](#), [equivStorage](#), [sizeInfo](#) and [sizeInfoRef](#).

5.7.5.1 storageProfile

This attribute specifies, which profile to use while checking storage size restrictions. Empty string means that no restrictions are applied.

Value description: Name of restriction profile to use for storage size restrictions.

Default value: empty string

Used in: [<profiles>](#).

5.7.5.2 generalProfile

This attribute specifies, which profile to use while checking the general size restrictions. Empty string means that no restrictions apply.

Value description: Name of restriction profile to use for general size restrictions.

Default value: empty string

Used in: [<profiles>](#).

5.7.5.3 storage

This attribute specifies the normalization form to apply for storage size restrictions. Only the normalization forms C and D as specified by the Unicode Consortium are supported, see [Unicode Standard Annex #15](#).

Value description: normalization to apply.

Table 5. Values

Value	Description
none	No additional normalization SHOULD be done, content SHOULD be used as represented in the document. It is possible that other <i>Agents</i> have already done some type of normalization when <i>Modifying</i> content. This means that this setting could give different results depending on what <i>Agents</i> are used to perform a specific action on the <i>XLIFF Document</i> .
nfc	Normalization Form C MUST be used
nfd	Normalization Form D MUST be used

Default value: none

Used in: [<normalization>](#).

5.7.5.4 general

This attribute specifies the normalization to apply for general size restrictions. Only the normalization forms C and D as specified by the Unicode Consortium are supported, see [Unicode Standard Annex #15](#).

Value description: normalization to apply.

Table 6. Values

Value	Description
none	No additional normalization SHOULD be done, content SHOULD be used as represented in the document. It is possible that other <i>Agents</i> have already done some type of normalization when <i>Modifying</i> content. This means that this setting could give different results depending on what <i>Agents</i> are used to perform a specific action on the <i>XLIFF Document</i> .
nfc	Normalization Form C MUST be used
nfd	Normalization Form D MUST be used

Default value: none

Used in: [<normalization>](#).

5.7.5.5 profile

This attribute is used on the `<data>` element to indicate what profile the contents of that element apply to.

Value description: Name of a restriction profile