

Change Track Module

This module is used to store change tracking information for XLIFF elements and attributes.

Module Specification

Module Namespace

The namespace for the Change Track module is: urn:oasis:names:tc:xliff:changeTrack:2.0

Module Elements

The elements defined in the changeTrack module are: <changeTrack>, <revisions>, <revision>, and <item>.

Tree Structure

Legend:

+ = one or more

? = zero or one

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

changeTrack

Parent container for change tracking information associated with the enclosing element.

Contains:

- One or more <revisions> elements.

Attributes:

- none

Processing Requirements

- If a user agent does not support processing the Change Track module, it can ignore the module, but still must preserve it.

revisions

Container for logical groups of revisions associated with the enclosing element.

Contains:

- One or more <revision> elements

Attributes:

- appliesTo, required
- nid, optional
- currentVersion, optional
- attributes from any namespace, optional

Processing Requirements

- User agents may create <revisions> and its attributes
- User 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.
- User 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 nid attribute can be used to reference an individual instance when that instance has an id. Using <notes> as an example:

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

revision

Container for specific revisions associated with the enclosing element.

Contains:

- One or more <item> elements

Attributes:

- author, optional
- datetime, optional
- version, optional
- checksum, optional
- attributes from any namespace, optional

Processing Requirements

- User agents may create <revision> and its attributes.
- User agents should not modify <revision> and its attributes defined in this module.
- User agents may remove <revision> and its attributes defined in this module only if there is more than one instance of <revision> present. For example, a user agent may only want to preserve the most current revision.
- When the checksum attribute is used, a user agent should compute and store this checksum on the initial instance of the element and any revisions being tracked. It should also detect that the current checksum of an element is out of date and allow the changes to be committed as a new revision or be reverted back to the latest tracked state.

Item

Container for a specific revision associated with the enclosing element.

Contains:

- Text

Attributes:

- property, required
- attributes from any namespace, optional

Processing Requirements

- User agents may create <item> and its attributes.
- User agents should not modify <item> and its attributes defined in this module.
- User agents should not remove <item> and its attributes defined in this module, unless they are removed as part of <revision>.

Module Attributes

The attributes defined in the Change Track module are: appliesTo, nid, author, datetime, version, checksum, currentVersion, and property.

appliesTo

Applies To – Indicates the XLIFF element to which the change track information applies.

Value description: Any valid XLIFF element.

Default value: undefined.

Used in: <revisions>

nid

Original data reference - Holds a reference to a single instance of an element that is a multiple instance within the enclosing element.

Value description: An XSD NMTOKEN that must be the value of the id attribute of a single instance of an element that is a multiple instance within the enclosing element.

Default value: undefined

Used in: <revisions>

currentVersion

Current Version - Holds a reference to the most current version of a revision.

Value description: An XSD NMTOKEN that must be the value of the version attribute of one of the <revision> elements listed in the same <revisions> element.

Default value: none

Used in: <revisions>

author

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

Value description: undefined

Default value: undefined

Used in: <revision>, any XLIFF element that accepts attributes from any namespace

datetime

Date and Time - Indicates the date and time the referenced element or its attributes were created or modified.

Value description: Date in [\[ISO 8601\]](#) Format.

Default value: undefined.

Used in: <revision>, any XLIFF element that accepts attributes from any namespace

version

Version - Indicates the version of the referenced element or its attributes that were created or modified.

Value description: undefined

Default value: undefined

Used in: <revision>, any XLIFF element that accepts attributes from any namespace

checksum

Checksum – A CRC32 checksum of the revision data.

Value description: Provides a way to detect changes not tracked by an XLIFF aware user agent, for example, a manual search and replace operation using a text editor.

Default value: undefined

Used in: <revision>, any XLIFF element that accepts attributes from any namespace

property

Property – The type of revision data.

Value description: content or the name of the attribute relating to the revision data

Default value: none

Used in: <item>

Examples:

The following example shows simple change tracking for <source>, <target>, and <notes>. The core elements serve as the current version and previous versions are stored in the <changeTrack> module.

```
<unit id="1">
  <segment id="1">
    <source ctr:author="system" ctr:datetime="2013-02-15T10:00:00+8:00">
      Hello World</source>
    <target ctr:author="Erik" ctr:datetime="2013-02-17T11:00:00+8:00">
      Hallo Welt</target>
    <notes>
      <note id="n1" category="instruction" ctr:author="Ryan"
        ctr:datetime="2013-02-15T10:30:00+8:00">A formal greeting</note>
      <note id="n2" category="request" ctr:author="Erik"
        ctr:datetime="2013-02-17T11:30:00+8:00">Please Review</note>
    </notes>
    <changeTrack>
      <revisions appliesTo="source">
        <revision author="system" datetime="2013-01-15T10:00:00+8:00">
          <item property="content">Hello</item>
        </revision>
        <revision author="system" datetime="2012-12-15T10:00:00+8:00">
```

```

    <item property="content">Hi</item>
  </revision>
</revisions>
<revisions appliesTo="target">
  <revision author="Erik" datetime="2013-01-17T11:00:00+8:00">
    <item property="content">Hallo</item>
  </revision>
  <revision author="Erik" datetime="2012-12-17T11:00:00+8:00">
    <item property="content">Gruesse</item>
  </revision>
</revisions>
<revisions appliesTo="note" nid="n1">
  <revision author="Ryan" datetime="2012-12-15T10:30:00+8:00">
    <item property="content">An informal greeting</item>
    <item property="category">comment</item>
  </revision>
</revisions>
</changeTrack>
</segment>
</unit>

```

The following example shows change tracking for <source>, <target>, and <notes> using a checksum to detect changes that may have been made outside of an XLIFF aware user agent. Current versions and previous versions are both stored in the <changeTrack> module. A checksum on a core element and the most current version of its revision in the <changeTrack> module can be checked to determine the existence of an external revision, for example the addition of an exclamation point in the target string.

```

<unit id="1">
  <segment id="1">
    <source ctr:checksum="4A17B156">Hello World</source>
    <!-- checksum is no longer valid due to the addition of an exclamation point -->
    <target ctr:checksum="50281475">Hallo Welt!</target>
    <notes>
      <note category="instruction" id="n1" ctr:checksum="59890430">A formal greeting</note>
      <note category="comment" id="n2" ctr:checksum="80E3EB9D">Please Review</note>
    </notes>
    <changeTrack>
      <revisions appliesTo="source" currentVersion="r1">
        <revision author="system" datetime="2013-02-15T10:00:00+8:00"
          version="r1" checksum="4A17B156">
          <item property="content">Hello World</item>>
        </revision>
        <revision author="system" datetime="2013-01-15T10:00:00+8:00"
          version="r2" checksum="F7D18982">
          <item property="content">Hello</item>>
        </revision>
        <revision author="system" datetime="2012-12-15T10:00:00+8:00"
          version="r3" checksum="F7D18982">
          <item property="content">Hi</item>
        </revision>
      </revisions>
      <revisions appliesTo="target" currentVersion="r1">
        <revision author="Erik" datetime="2013-02-17T11:00:00+8:00"
          version="r1" checksum="50281475">
          <item property="content">Hallo Welt</item>
        </revision>
        <revision author="Erik" datetime="2013-01-17T11:00:00+8:00"
          version="r2" checksum="78B31ED5">
          <item property="content">Hallo</item>
        </revision>
      </revisions>
    </changeTrack>
  </segment>
</unit>

```

```
</revision>
<revision author="Erik" datetime="2012-12-17T11:00:00+8:00"
  version="r3" checksum="089D3926">
  <item property="content">Gruesse</item>
</revision>
</revisions>
<revisions appliesTo="note" nid="n1" currentVersion="r1">
  <revision author="Ryan" datetime="2013-02-15T10:30:00+8:00"
    version="r1" checksum="59890430">
    <item property="content">A formal greeting</item>
    <item property="category">instruction</item>
  </revision>
  <revision author="Ryan" datetime="2012-12-15T10:30:00+8:00"
    version="r2" checksum="885537C1">
    <item property="content">An informal greeting</item>
    <item property="category">comment</item>
  </revision>
</revisions>
</changeTrack>
</segment>
</unit>
```