

# **Requirements for the SCF Module EBU-TT2EBU-TT-D**

# Contents

<b>Disclaimer.....</b>	<b>3</b>
<b>Structure of the requirements.....</b>	<b>4</b>
<b>Requirements for Sub-module EBU-TT2EBU-TT-D.....</b>	<b>5</b>
requirement-336: EBU-TT to EBU-TT-D.....	5
requirement-338: xml:space attribute mapping.....	5
requirement-339: ttp:timeBase attribute mapping.....	5
requirement-340: ttp:cellResolution attribute mapping.....	6
requirement-341: xml:lang attribute mapping.....	6
requirement-343: ebuttm:documentCopyright element mapping.....	6
requirement-344: Elements not mapped.....	7
requirement-345: Schema conformity.....	7
requirement-346: Copied elements.....	8
requirement-347: ebuttm:authoredFrameRate element mapping.....	8
requirement-348: ebuttm:authoredFrameRateMultiplier element mapping.....	8
requirement-350: tt:style element mapping - defaultStyle.....	9
requirement-351: tt:style element mapping - tts:background.....	9
requirement-352: tt:style element mapping - tts:fontSize.....	9
requirement-353: tt:style element mapping - tts:lineHeight.....	10
requirement-354: tt:style element mapping - attributes.....	10
requirement-357: tt:region element mapping - tts:extent.....	11
requirement-358: tt:region element mapping - tts:origin.....	11
requirement-359: tt:region element mapping - tts:padding.....	11
requirement-360: tt:region element mapping - attributes.....	12
requirement-364: tt:div element mapping - attributes.....	12
requirement-367: tt:p element mapping - attributes.....	13
requirement-368: tt:p element mapping - begin.....	13
requirement-369: tt:p element mapping - end.....	13
requirement-371: tt:span element mapping - begin and end attributes.....	14
requirement-372: tt:span element mapping - attributes.....	14
requirement-373: ebuttm:conformsToStandard element.....	15

# Disclaimer

---

Copyright 2014 Institut für Rundfunktechnik GmbH, Munich, Germany

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License.

You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, the subject work distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and limitations under the License.

# Structure of the requirements

---

The structure of the requirements are as follows:

- **title:** a short title with the internal id of the requirement in brackets
- **description:** the requirement text - the specified text will be taken to test the implementation
- **area:** apart from more general requirements the requirements are categorized by modules (e.g. STLXML2EBUTT oder EBUTT2EBUTTD)
- **requirement review status:** this is the internal review status of the requirement itself (esp. of the requirement text)
- **status implementation:** this status indicates if the requirement is already met by the implementation the status codes are:
  - *outstanding* - the corresponding code has not been written yet or the requirement has been implemented but there are no test files for it
  - *waitingReview* - the code to implement the requirement has been written but with exception of the developer nobody has reviewed the code yet
  - *underReview* - the corresponding code is underReview and has not been accepted by the first reviewer yet
  - *reviewed* - the corresponding code has been reviewed and accepted by the first reviewer
  - *Priority* according to MoSCoW (the priority that is the base to decide when the feature will be implemented: m - MUST, S-Should, C-could, W-Won't. For more information see [http://en.wikipedia.org/wiki/MoSCoW\\_method](http://en.wikipedia.org/wiki/MoSCoW_method)))

## Requirements for Sub-module EBU-TT2EBU-TT-D

---

### requirement-336: EBU-TT to EBU-TT-D

---

**Description**

There is an option to transform an EBU-TT file that was generated from an STL XML file into an EBU-TT-D file.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

### requirement-338: xml:space attribute mapping

---

**Description**

The EBU-TT-D file created from an EBU-TT file has its root element's xml:space attribute set to the same value as the EBU-TT file's root element's xml:space attribute. If the xml:space attribute is not set in the EBU-TT file, the EBU-TT-D file has its xml:space attribute set to "default".

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

s

### requirement-339: ttp:timeBase attribute mapping

---

**Description**

The EBU-TT-D file's tt:tt root element has exactly one ttp:timeBase attribute with a value of type xs:string set to "media" according to EBU Tech 3380 (p.13).

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

#### **Status Implementation**

waitingReview

#### **Priority according to MoSCoW**

m

## **requirement-340: ttp:cellResolution attribute mapping**

---

#### **Description**

The EBU-TT-D file created from an EBU-TT file has its root element's ttp:cellResolution attribute set to the same value as the EBU-TT file's root element's ttp:cellResolution attribute. If the ttp:cellResolution attribute is not set in the EBU-TT file, the EBU-TT-D file has its ttp:cellResolution attribute set to "50 30".

#### **Area**

EBU-TT2EBU-TT-D

#### **Requirement Review Status**

accepted

#### **Status Implementation**

waitingReview

#### **Priority according to MoSCoW**

m

## **requirement-341: xml:lang attribute mapping**

---

#### **Description**

The EBU-TT-D file created from an EBU-TT file has its root element's xml:lang attribute set to the same value as the EBU-TT file's root element's xml:lang attribute.

#### **Area**

EBU-TT2EBU-TT-D

#### **Requirement Review Status**

accepted

#### **Status Implementation**

accepted

#### **Priority according to MoSCoW**

m

## **requirement-343: ebuttm:documentCopyright element mapping**

---

#### **Description**

If the EBU-TT file's tt:head element has a ebuttm:documentCopyright child element, the EBU-TT-D file's tt:head element has a ttm:copyright child element with its value taken from the EBU-TT file's ebuttm:documentCopyright element. Otherwise the element is not mapped.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

s

**requirement-344: Elements not mapped**

---

**Description**

The following elements are not mapped from EBU-TT to EBU-TT-D according to EBU Tech 3380 (p.16): ebuttm:documentReadingSpeed, ebuttm:binaryData, ebuttm:documentOriginalProgrammeTitle, ebuttm:documentOriginalEpisodeTitle, ebuttm:documentTranslatedProgrammeTitle, ebuttm:documentTranslatedEpisodeTitle, ebuttm:documentTotalNumberOfSubtitles, ebuttm:documentMaximumNumberOfDisplayableCharacterInAnyRow, ebuttm:documentSubtitleListReferenceCode, ebuttm:documentStartOfProgramme.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

s

**requirement-345: Schema conformity**

---

**Description**

The EBU-TT-D file conforms to the EBU-TT-D XSD.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

## requirement-346: Copied elements

---

### Description

The following elements, if existent, are copied from EBU-TT to EBU-TT-D with all their respective attributes and content according to EBU Tech 3380 (p.16). They are placed as children of the ebttm:documentMetadata element: ebttm:documentIdentifier, ebttm:documentOriginatingSystem, ebttm:documentTargetAspectRatio, ebttm:documentTargetActiveFormatDescriptor, ebttm:documentIntendedTargetBarData, ebttm:documentIntendedTargetFormat, ebttm:documentTranslatorsName, ebttm:documentTranslatorsContactDetails, ebttm:documentCountryOfOrigin, ebttm:documentPublisher, ebttm:documentEditorsName, ebttm:documentEditorsContactDetails, ebttm:documentUserDefinedArea, ttm:agent.

### Area

EBU-TT2EBU-TT-D

### Requirement Review Status

inDiscussion

### Status Implementation

outstanding

### Priority according to MoSCoW

s

## requirement-347: ebttm:authoredFrameRate element mapping

---

### Description

The EBU-TT-D file's ebttm:authoredFrameRate element is mapped from the EBU-TT file's tt:tt element's ttp:frameRate attribute.

### Area

EBU-TT2EBU-TT-D

### Requirement Review Status

inDiscussion

### Status Implementation

outstanding

### Priority according to MoSCoW

w

## requirement-348: ebttm:authoredFrameRateMultiplier element mapping

---

### Description

If available the EBU-TT-D file's ebttm:authoredFrameRateMultiplier element is taken from the EBU-TT file's tt:tt element's ttp:frameRateMultiplier attribute. Otherwise this metadata element is not set.

### Area

EBU-TT2EBU-TT-D

### Requirement Review Status



inDiscussion

#### Status Implementation

outstanding

#### Priority according to MoSCoW

w

## requirement-350: tt:style element mapping - defaultStyle

---

#### Description

The EBU-TT-D file's tt:styling element has at least one tt:style child element. Exactly one tt:styling element's xml:id attribute has the value "defaultStyle".

#### Area

EBU-TT2EBU-TT-D

#### Requirement Review Status

accepted

#### Status Implementation

waitingReview

#### Priority according to MoSCoW

m

## requirement-351: tt:style element mapping - tts:background

---

#### Description

The EBU-TT file's tt:style elements' tts:color attribute and tts:background attribute of type ebuttdt:colorType are mapped to the EBU-TT-D file's tt:style elements' tts:color attribute and tts:background attribute of type ebuttdt:distributionColorType according to the datatype definition in EBU Tech 3380 4.2 (p.34). Named colors are mapped according to the table in TTML1 8.3.10.

#### Area

EBU-TT2EBU-TT-D

#### Requirement Review Status

accepted

#### Status Implementation

reviewed

#### Priority according to MoSCoW

m

## requirement-352: tt:style element mapping - tts:fontSize

---

#### Description

The EBU-TT file's tt:style elements' tts:fontSize attribute of type ebuttdt:fontSizeType is mapped to the EBU-TT-D file's tt:style elements' tts:fontSize attribute of type ebuttdt:distributionFontSizeType according to the datatype definition in EBU Tech 3380 4.5 (p.35). Thus the values of this type are non-negative numbers of type xs:decimal

appended by the percentage sign "%". If the EBU-TT file's tt:style element's tts:fontSize attribute is set to '1c 1c', the EBU-TT-D file's tt:style element's tts:fontsize attribute is mapped to '100%'. If it is set to '1c 2c', it gets mapped to '200%'.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

reviewed

**Priority according to MoSCoW**

m

## requirement-353: tt:style element mapping - tts:lineHeight

---

**Description**

The EBU-TT file's tt:style elements' tts:lineHeight attribute of type ebuttdt:lineHeightType is mapped to the EBU-TT-D file's tt:style elements' tts:lineHeight attribute of type ebuttdt:distributionLineHeightType according to the datatype definition in EBU Tech 3380 4.8 (p.35). Thus the values of this type are non-negative numbers of type xs:decimal appended by the percentage sign "%". If the EBU-TT file was created from an STLXML file, the tts:lineHeight attribute is set to '125%'.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

waitingReview

**Priority according to MoSCoW**

m

## requirement-354: tt:style element mapping - attributes

---

**Description**

The EBU-TT-D file's tt:style elements are mapped to the EBU-TT file's tt:style elements with regard of the supported style attributes according to EBU Tech 3380 (p.18 - p.22). The following attributes can be copied from the EBU-TT file: xml:id, tts:direction, tts:fontFamily, tts:textAlign, tts:fontStyle, tts:fontWeight, tts:textDecoration, tts:unicodeBidi, ebutts:multiRowAlign.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

reviewed

**Priority according to MoSCoW**

m

**requirement-357: tt:region element mapping - tts:extent**

---

**Description**

The EBU-TT-D file's tt:region elements' tts:extent attribute of type ebuttdt:distributionExtentType is mapped to the EBU-TT file's tt:region elements' tts:extent attribute of type ebuttdt:extentType according to the datatype definition in EBU Tech 3380 4.3 (p.34). Thus the values of this type are non-negative numbers of type xs:decimal appended by the percentage sign "%" with the first value expressing the width and the second value expressing the height. If the EBU-TT file uses % values the values are copied, if the EBU-TT file uses a cell metric the percentage values are calculated so that proportional relationship to height and width of the root container are kept. "px" metric are mapped by default to "80% 80%" until the mapping of the pixel metric is supported in this conversion as well.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

**requirement-358: tt:region element mapping - tts:origin**

---

**Description**

The EBU-TT-D file's tt:region elements' tts:origin attribute of type ebuttdt:distributionOriginType is mapped to the EBU-TT file's tt:region elements' tts:origin attribute of type ebuttdt:originType according to the datatype definition in EBU Tech 3380 4.3 (p.34). Thus the values of this type are non-negative numbers of type xs:decimal appended by the percentage sign "%" with the first value expressing the offset in x-direction and the second value expressing the offset in y-direction. If the EBU-TT file uses % values the values are copied, if the EBU-TT file uses a cell metric the percentage values are calculated so that proportional relationship to height and width of the root container are kept. The "px" metric are mapped by default to "10% 10%" until this metric is supported in this conversion as well.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

**requirement-359: tt:region element mapping - tts:padding**

---

**Description**

The EBU-TT-D file's tt:region elements' tts:padding attribute of type ebuttdt:distributionPaddingType is mapped to the EBU-TT file's tt:region elements' tts:padding attribute of type ebuttdt:PaddingType according to the datatype definition in EBU Tech 3380 4.3 (p.34). Thus the values of this type are non-negative numbers of type xs:decimal appended by the percentage sign "%". Depending on the amount of values given within the attribute, the mapping is done according to the meaning described in EBU Tech 3380 4.10 (p.36). If the EBU-TT file uses % values the values are copied, if the EBU-TT file uses a cell metric the percentage values are calculated so that proportional relationship to height and width of the root container are kept. The "px" metric are mapped by default to "80% 80%" until this metric is supported in this conversion as well.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

## requirement-360: tt:region element mapping - attributes

---

**Description**

The EBU-TT-D file's tt:region elements are taken from the EBU-TT file's tt:region elements with regard of the supported style attributes according to EBU Tech 3380 (p.23 - p.26). The following attributes can be copied: xml:id, style, tts:displayAlign, tts:writingMode.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

outstanding

**Priority according to MoSCoW**

m

## requirement-364: tt:div element mapping - attributes

---

**Description**

The EBU-TT-D file's tt:div elements' attributes are copied from the EBU-TT file's tt:div elements' attributes with regard of the supported attributes according to EBU Tech 3380 (p.28 - p.29). The following attributes can be copied: xml:id, region, style.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

waitingReview

**Priority according to MoSCoW**

m

## requirement-367: tt:p element mapping - attributes

---

### Description

The EBU-TT-D file's tt:p elements' attributes are copied from the EBU-TT file's tt:p elements' attributes with regard of the supported attributes according to EBU Tech 3380 (p.29 - p.32). The following attributes can be copied: xml:id, xml:space, xml:lang, region, style, ttm:role, ttm:agent.

### Area

EBU-TT2EBU-TT-D

### Requirement Review Status

accepted

### Status Implementation

reviewed

**Priority according to MoSCoW**

m

## requirement-368: tt:p element mapping - begin

---

### Description

The EBU-TT-D file's tt:p elements' begin attributes are taken from the EBU-TT file's tt:p elements' begin attributes. The format of the EBU-TT-D file's tt:p element's begin attributes has the form hh:mm:ss.ms (hh = hours, mm = minutes, ss = seconds, ms = milliseconds / fraction). If the timebase of the EBU-TT file is SMPTE the value is calculated according to the specified frameRate, frameRateMultiplier and DropFrame. If the timecode of in the source document does not conform to the expected value (taking into account the framerate) transformation exits with an error message.

### Area

EBU-TT2EBU-TT-D

### Requirement Review Status

accepted

### Status Implementation

reviewed

**Priority according to MoSCoW**

m

## requirement-369: tt:p element mapping - end

---

### Description

The EBU-TT-D file's tt:p elements' end attributes are taken from the EBU-TT file's tt:p elements' end attributes. The format of the EBU-TT-D file's tt:p element's begin attributes has the form hh:mm:ss.ms (hh = hours, mm = minutes, ss = seconds, ms = milliseconds / fraction). If the timebase of the EBU-TT file is SMPTE the value is

calculated according to the specified frameRate, frameRateMultiplier and DropFrame. If the timecode of in the source document does not conform to the expected value (taking into account the framerate) transformation exits with an error message.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

reviewed

**Priority according to MoSCoW**

m

## requirement-371: tt:span element mapping - begin and end attributes

---

**Description**

An EBU-TT file's tt:span elements' begin and end attribute of either type ebuttdt:smpTeTimingType or type ebuttdt:mediaTimingType are mapped to the created EBU-TT-D file's tt:span elements' begin and end attribute of type ebuttdt:distributionMediaTimingType according to the datatype definition in EBU Tech 3380 4.12 (p.36) taking into account frameRate, frameRateMultiplier and dropFrame when the timebase is "smpTe".

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

waitingReview

**Priority according to MoSCoW**

m

## requirement-372: tt:span element mapping - attributes

---

**Description**

An EBU-TT-D file's tt:span elements' attributes are copied from the EBU-TT file's tt:span elements' attributes with regard of the supported attributes according to EBU Tech 3380 (p.32 - p.34). The following attributes can be copied: xml:id, xml:space, xml:lang, style, ttm:role, ttm:agent.

**Area**

EBU-TT2EBU-TT-D

**Requirement Review Status**

accepted

**Status Implementation**

reviewed

**Priority according to MoSCoW**

m

## **requirement-373: ebuttm:conformsToStandard element**

---

### **Description**

The conformance to the EBU Spec 3380 is signalled through the addition of the ebuttm:conformsToStandard element as the first child of the ebuttm:documentMetadata element.

### **Area**

EBU-TT2EBU-TT-D

### **Requirement Review Status**

accepted

### **Status Implementation**

accepted

### **Priority according to MoSCoW**

m