

CLUE data model

draft-ietf-clue-data-model-schema-00

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R.Presta
S.P.Romano

Updates

- The draft has become a WG -00 document
- Towards the alignment with the framework draft:
 - Entities not envisioned anymore have been removed
 - New entities have been added
 - ...a few others are still to be modeled
- New proposal for the capture encoding model
- First attempt at data model & protocol integration: an example of 'Advertisement'

Deleted objects

- <micPattern>
 - Audio capture -specific attribute discussed on the mailing list
<http://www.ietf.org/mail-archive/web/clue/current/msg02022.html>
➔ not listed in the FW draft
- <nativeAspectRatio>
 - Video capture -specific attribute envisioned in draft-romanow-clue-data-model-01 ➔ not listed in the FW draft
- <sceneSpace>
 - As per thread
<http://www.ietf.org/mail-archive/web/clue/current/msg02514.html>
 - Not necessary
- <dynamic>
 - Replaced by <mobility>
- <content>
 - Other media capture attributes will cover its functionality

<mobility>

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- Was: <dynamic>
 - “an optional boolean element indicating whether or not the capture device originating the capture moves during the telepresence session”
- Now:
 - “indicates whether or not the point of capture, line on point of capture, and area of capture values will stay the same, or are expected to change frequently. Possible values are static, dynamic, and highly dynamic.”

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framework-11

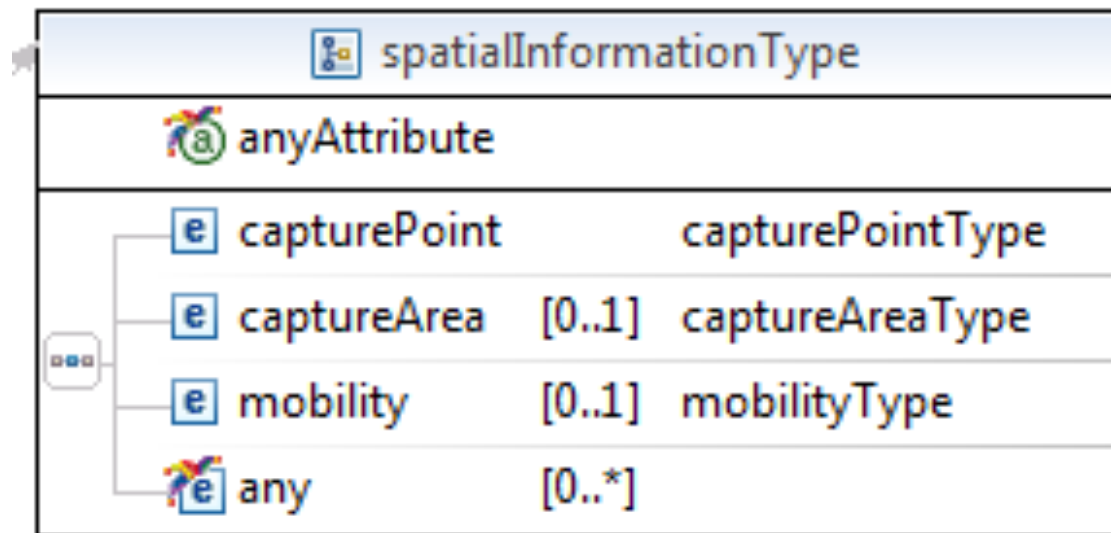
<mobility>

- static
 - fixed capture point / line on point of capture / capture area
 - dynamic
 - things might change
 - highly-dynamic
 - things might change continuously
- ➔ it might be included as a spatial information about a media capture

```
<!-- MOBILITY TYPE -->
<xs:simpleType name="mobilityType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="static"/>
    <xs:enumeration value="dynamic"/>
    <xs:enumeration value="highly-dynamic"/>
  </xs:restriction>
</xs:simpleType>
```

<mobility>: proposal

- What about moving <mobility> inside the spatial information box?
 - It is a description attribute that is available only for spatially definable captures



Proposal for <priority> settings

- When absent => "the lowest priority"
- When present => the more important the capture, the lower the numeric <priority> value
- Example:
 - AC0, priority = 1
 - VC1, priority = 2
 - other captures, no priority
- ➔ the most important capture is AC0 ,
- ➔ the second one is VC1,
- ➔ all other captures have the same level of importance, which is lower than the one of AC0 and VC1

New media capture attributes

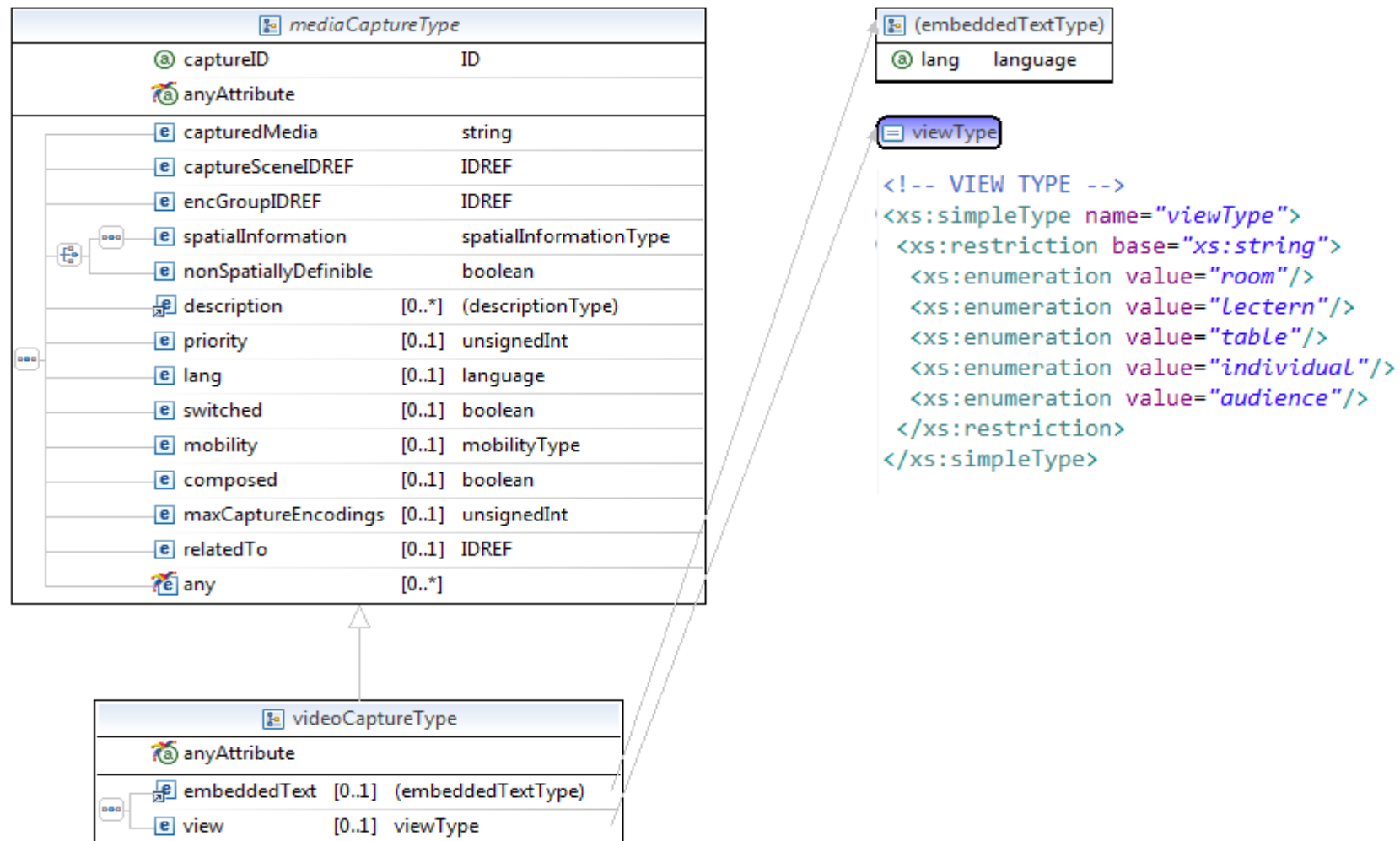
- Presentation
 - presentation.slide, presentation.audio, presentation.image, etc
 - ➔ a capture marked as “presentation.XX” can be both audio and video
- View
 - view.table, view.lecturer, etc
 - ➔ for video capture only ... or not?
- Role
 - Still to be discussed

Questions

- Are they mutually exclusive or not?
 - NO (presentation.image vs view.lecturer)
- Are they media-specific or not?
 - NO
- ➔ same issues as with “content” 😞
- ➔ potential ambiguities

Proposal for “view”

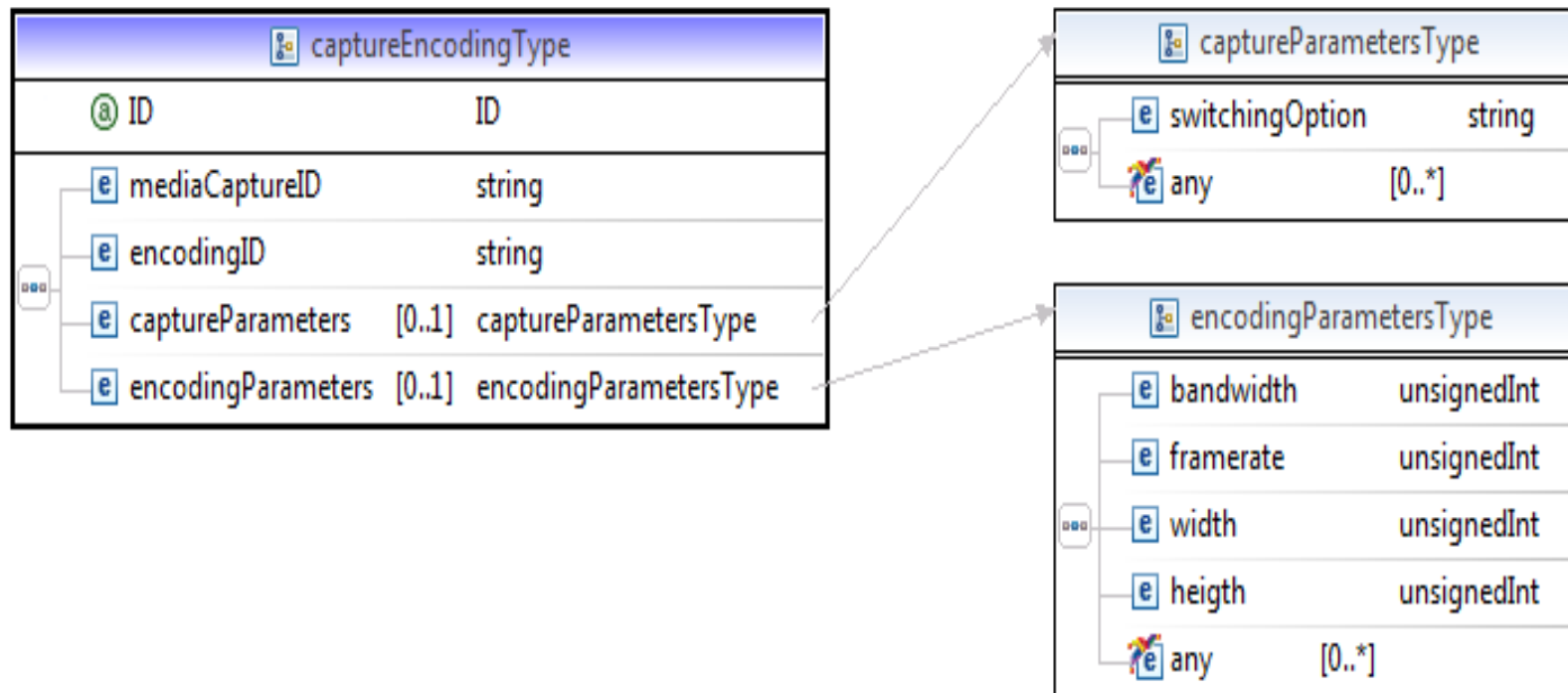
- Seen as a video capture -specific attribute



<captureEncoding> -00

- It will appear in a CONFIGURE message
- For each capture encoding, we need to specify:
 - (besides the capture ID and the encoding ID)
 - The switching policy of the capture
 - The encoding parameters
 - Desired bandwidth
 - Desired framerate
 - Desired width
 - Desired height
 - ... what else?

<captureEncoding> -00



<captureEncoding> -00 issues

- The previous definition allows inconsistencies
 - One capture can be requested with different capture parameters
 - This is in conflict with the parameter-independent definition of “media capture”
 - All captures within the same scene entry must be set with the same switching option (☹)
 - Switching options as capture scene entry attributes cause confusion

A possible solution

- Remove <switchingPolicies> as a capture scene entry attribute
- Add <switchingPolicy> as a media capture attribute
- Remove <captureParameters> from the encoding definition

A possible solution (-01 version)

| mediaCaptureType | |
|-----------------------|----------------------------|
| captureID | ID |
| anyAttribute | |
| captureMedia | string |
| captureSceneIDREF | IDREF |
| encGroupIDREF | IDREF |
| spatialInformation | spatialInformationType |
| nonSpatiallyDefinable | boolean |
| description | [0..*] (descriptionType) |
| priority | [0..1] unsignedInt |
| lang | [0..1] language |
| switchingPolicy | [0..1] switchingPolicyType |
| composed | [0..1] boolean |
| maxCaptureEncodings | [0..1] unsignedInt |
| relatedTo | [0..1] IDREF |
| any | [0..*] |

| spatialInformationType | |
|------------------------|------------------------|
| anyAttribute | |
| capturePoint | capturePointType |
| captureArea | [0..1] captureAreaType |
| mobility | [0..1] mobilityType |
| any | [0..*] |

| (descriptionType) | |
|-------------------|----------|
| lang | language |

| switchingPolicyType | |
|---------------------|--|
|---------------------|--|

```

<!-- SWITCHING POLICY TYPE -->
<xs:simpleType name="switchingPolicyType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="site-switching"/>
    <xs:enumeration value="segment-switching"/>
  </xs:restriction>
</xs:simpleType>

```

| captureEncodingType | |
|---------------------|-------------------------------|
| ID | ID |
| mediaCaptureID | string |
| encodingID | string |
| encodingParameters | [0..1] encodingParametersType |

| encodingParametersType | |
|------------------------|-------------|
| bandwidth | unsignedInt |
| framerate | unsignedInt |
| width | unsignedInt |
| height | unsignedInt |
| any | [0..*] |

Working with the protocol

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clue:advertisement xmlns="urn:ietf:params:xml:ns:clue-info"
    xmlns:clue="urn:ietf:params:xml:ns:clue-message">
  <clue:mediaCaptures>
    <mediaCapture xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:type="audioCaptureType" captureID="AC1">
      <capturedMedia>audio</capturedMedia>
      <captureSceneIDREF>CS2</captureSceneIDREF>
      <encGroupIDREF>EG1</encGroupIDREF>
      <nonSpatiallyDefinable>true</nonSpatiallyDefinable>
      <description lang="en">presentation audio</description>
      <audioChannelFormat>mono</audioChannelFormat>
    </mediaCapture>
    <mediaCapture xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:type="videoCaptureType" captureID="VC4">
      <capturedMedia>video</capturedMedia>
      <captureSceneIDREF>CS2</captureSceneIDREF>
      <encGroupIDREF>EG0</encGroupIDREF>
      <nonSpatiallyDefinable>true</nonSpatiallyDefinable>
      <description lang="en">presentation video</description>
```

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Questions & Discussion

