INTERNATIONAL ORGANISATION FOR STANDARDISATION
ORGANISATION INTERNATIONALE DE NORMALISATION
ISO/IEC JTC1/SC29/WG11
CODING OF MOVING PICTURES AND AUDIO

ISO/IEC JTC1/SC29/WG11 MPEG2014/ m34246
July 2014, Sapporo, Japan

Source **TNO**
Status **For discussion**
Title **Conformance work for Spatial Relationship Description – 23009-1 AMD2**
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1 Introduction

At the 108th meeting, MPEG issued PDAM for amendment 2 of MPEG-DAH part 1. This new amendment contains several new features including the Spatial Relationship Description. This input document provides the necessary modifications of the conformance software as well as new test vectors implementing the SRD feature.

2 Validation rules for SRD feature

	Clause in 23009-1 AMD2	Rule	Conformance Check Implementation
1	H.1	An EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to "urn:mpeg:dash:srd:2014" shall be the child element of an AdaptationSet or a SubRepresentation element.	
2	H.1	If a Period contains one or more EssentialProperty with @schemeIdUri equal to "urn:mpeg:dash:srd:2014" then the MPD shall be still valid if every element having the EssentialProperty as a child element were to be discarded.	
3	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to "urn:mpeg:dash:srd:2014" is present, then the @value attribute must contain at least the mandatory comma separated parameters, i.e. `source_id`, `x`, `y`, `w`, `h`.	
4	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to "urn:mpeg:dash:srd:2014" is present, then each parameter value has to match the expected type format i.e. non-negative integer in decimal	

		representation.
5	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to “urn:mpeg:dash:srd:2014” is present and the @value attribute contains the optional parameter `W` then the optional parameter `H` shall be present too.
6	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to “urn:mpeg:dash:srd:2014” is present and the @value attribute contains the optional parameter `H` then the optional parameter `W` shall be present too.
7	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to “urn:mpeg:dash:srd:2014” is present and the @value attribute contains the optional parameter `W` then the optional parameter `H` shall be present too.
8	H.2	If an EssentialProperty or SupplementalProperty descriptor with @schemeIdUri equal to “urn:mpeg:dash:srd:2014” is present and the @value attribute contains the optional parameter `spatial_set_id` then the optional parameters `W` and `H` shall be present too.
9	H.2	For a given `source_id` of the @value attribute, at least one of the EssentialProperty in the containing Period shall specify the optional parameters `W` and `H`.
10	H.2	For a given `source_id` of the @value attribute, if two SRD elements (indistinctively EssentialProperty or SupplementalProperty) explicitly specify a different pair of values for the optional parameters (`W,H`) then all the remaining SRD element shall explicitly specify a pair of values for (`W,H`) too.
11	H.2	For a given `source_id` of the @value attribute, the values of x, w and `W` shall be such that, for each descriptor, the sum of `x` and `w` is smaller or equal to `W`.
12	H.2	For a given `source_id` of the @value attribute, the values of y, h and `H` shall be such that, for each descriptor, the sum of `y` and `h` is smaller or equal to `H`.

3 Test vectors

The following Test Vectors conforms to ISOBMFF on-demand profile.

	Features	comment
1	Test Vector(1) SRD description in AdaptationSet This Test Vectors are inspired by the scenario 3 described	

	in 23009-3 2nd edition AMD1. 4 segment files are for each spatial parts. The SRD parameters in the MPD are expressed in an arbitrary unit.
2	Test Vector(2) SRD description in Sub-Segment This Test Vectors are inspired by the scenario 7 described in 23009-3 2nd edition AMD1. 4 Spatial parts are embedded into 1 segment file. The SRD parameters in the MPD are expressed in a pixel unit.
3	Test Vector(3) 2 Layered video organization This Test Vectors are inspired by the scenario 5 described in 23009-3 2nd edition AMD1. 4 segment files are for each spatial parts and 1 segment file is for non-SRD video. MPD describes the mandatory parameters by arbitrary values and optional values.

These test vectors can be found at this address : http://download.tsi.telecom-paristech.fr/gpac/DASH_CONFORMANCE/TelecomParisTech/SRD/