
Information technology — Dynamic adaptive streaming over HTTP (DASH) —

Part 1: Media presentation description and segment formats

AMENDMENT 2: Spatial relationship description, generalized URL parameters and other extensions

Technologies de l'information — Diffusion en flux adaptatif dynamique sur HTTP (DASH) —

Partie 1: Description de la présentation et formats de remise des médias

AMENDEMENT 2: Description des relations spatiales, paramètres URL généralisés et autres extensions





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents	Page
Foreword	iv
Introduction	v
Annex H (normative) Spatial Relationship Descriptions	5
H.1 Spatial Relationship Description (SRD) scheme	5
H.2 SRD @value syntax	5
H.3 Examples	7
H.3.1 Zoomed video	7
H.3.2 Tiled video	8
Annex I (normative) Flexible Insertion of URL Parameters	10
I.1 Introduction	10
I.2 Syntax	10
I.2.1 URL Query Information	11
I.2.4 Examples	14

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 2 to ISO/IEC 23009-1:2015 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information Technology*, Subcommittee SC 29, *Coding of Audio, Picture, Multimedia and Hypermedia Information*.

Introduction

This amendment to ISO/IEC 23009-1 adds the ability for MPD authors to express:

- Spatial Relationship Description between Spatial Objects in the MPD;
- Flexible parameter insertions in URLs used to query Media Segments;
- Additional Role @values;
- Association between Representations

Information Technology — Dynamic adaptive streaming over HTTP (DASH) — Part 1: Spatial Relationship Description, Generalized URL parameters and other extensions

In clause 2 "Normative references", add the following reference, in alphabetical order:

HTML 4.01 Specification, W3C Recommendation, 24 December 1999

In clause 3.1 "Terms and definitions", add the following definitions in alphabetical order:

3.1.X

associated Representation

Representation which provides supplemental or descriptive information for at least one other Representation

3.1.X

Spatial Object

a media content component corresponding to a region in a coordinate system associated to this media content component

In clause 3.2 "Symbols and abbreviated terms", add the following term:

SRD Spatial Relationship Description

In clause 4.7 "Schemes", Table 2, add the following identifiers:

Scheme Identifier	Clause in this part of ISO/IEC 23009	Informative description
urn:mpeg:dash:srd:2014	H.1	Scheme identifier for Spatial Relationship Description
urn:mpeg:dash:urlparam:2014	I.1	Scheme identifier for indicating usage of the flexible insertion of URL query parameters
urn:mpeg:dash:audio-receiver-mix:2014	5.8.5.7	Scheme identifier for receiver mix

In clause 5.3.5.1 "Overview", add :

"Associated Representations are described by a **Representation** element that contains an @associationId attribute and optionally an @associationType attribute. Associated Representations are Representations that provide information on their relationships with other Representations. As opposed to complementary Representations, the segments of an associated Representation may be optional for decoding

and/or presentation of the Representations identified by @associationId. They can be considered as supplementary or descriptive information, the type of the association being specified by the @associationType attribute"

In clause 5.3.5.2 "Representation Semantics", Table 7 – Semantics of Representation element, add:

@associationId	O	specifies all Representations the Representation is associated with in the decoding and/or presentation process as a whitespace-separated list of values of Representation@id attributes.
@associationType	O	specifies, as a whitespace separated list of values, the kind of association for each Representation the Representation has been associated with through the @associationId attribute. Values taken by this attribute are 4 character codes for track reference types registered in MP4 registration authority. This attribute shall not be present when @associationId is not present. When present, this attribute must have as many values as the number of identifiers declared in the @associationId attribute

NOTE - @associationId and @associationType attributes can only be used between Representations that are not in the same Adaptation Sets.

In clause 5.8.5.5 "DASH Role scheme", Table 22, add the following rows:

description	Textual or audio media component containing a textual description (intended for audio synthesis) or an audio description describing a visual component
sign	Visual media component representing a sign-language interpretation of an audio component.
metadata	Media component containing information intended to be processed by application specific elements.
enhanced-audio-intelligibility	Audio component with improved intelligibility of the dialogue

In clause 5.8.5.5 "DASH Role scheme", in Table 22, add the following note:

4) Role descriptors with values such as "subtitle", "caption", "description", "sign" or "metadata" may be used to enable assignment of a "kind" value in HTML 5 applications for tracks exposed from a DASH MPD.

Add the following to the end of clause 5.8.5