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

Part 8: Session-based DASH operations

Technologies de l'information — Diffusion adaptative dynamique sur HTTP (DASH) —

Partie 8: Opérations de DASH basées sur la session

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 23009-8:2022), which has been technically revised.

The main changes are as follows:

— URL customization and other extensions.

A list of all parts in the ISO/IEC 23090 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

Dynamic adaptive streaming over HTTP (DASH) enables media-streaming model for delivery of media content in which control lies exclusively with the client. Clients may request data using the HTTP protocol from standard web servers that have no DASH-specific capabilities. Consequently, the ISO/IEC 23009 series focuses not on client or server procedures but on the data formats used to provide a DASH Media Presentation.

This document provides methods, interfaces and data for session-based operations to be used with the DASH standard. Session-based operations allows customization of requested segment URLs based on the information provided for a specific streaming session.

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

Part 8:
Session-based DASH operations

1 Scope

This document specifies the format of the Session-Based Description document and the media presentation description's (MPD) extension to be used in session-based operations with ISO/IEC 23009-1 (MPEG DASH).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 23009-1, *Information technology — Dynamic adaptive streaming over HTTP (DASH) Part 1: Media presentation description and segment formats*

IETF RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*

IETF RFC 8259, *The JavaScript Object Notation (JSON) Data Interchange Format*

3 Terms, definitions, abbreviated terms and notations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://electropedia.org/

3.1.1
SBDStart
starting time of the session-based description

3.1.2
session
sequence of DASH client actions resulting in a unique playback of a media asset

3.1.3
session-based description
collection of timed key-value pairs providing a value given a time range within the session

3.1.4
session-based description client
SBD client
client capable of parsing SBD and adding queries to the DASH segment requests accordingly

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3.1.5
sidecar document
document that stores data which is not supported by the format of the main document

3.2 Abbreviated terms

DASH	dynamic adaptive streaming over HTTP, as specified in ISO/IEC 23009-1
HTTP	hypertext transfer protocol, as specified in RFC 7230 (HTTP/1.1).
HTTPS	secure version of the hypertext transfer protocol
ISO-BMFF	ISO Base Media File Format, as specified in ISO/IEC 14496-12
MIME	multipurpose internet mail extensions, as specified in IETF RFC 6838
MPD	media presentation description, as specified in ISO/IEC 23009-1
SBD	session-based description, as defined in this document
URI	uniform resource identifier
URL	uniform resource locator
URN	uniform resource name

3.3 Notation

This document follows the notation used in ISO/IEC 23009-1.

The following naming conventions apply in this document:

— Elements in an XML document are identified by an upper-case first letter and in boldface as **Element**. To express that an element **`Element1`** is contained in another element **`Element2`**, the following format is used: **`Element2.Element1`**. If an element's name consists of two or more combined words, PascalCase is typically used, e.g. **`ImportantElement`**. Elements may be present either exactly once, or the minimum and maximum occurrence as defined by <minOccurs> ... <maxOccurs>.

— Attributes in an XML document are identified by a lower-case first letter and they are preceded by an '@'-sign, e.g. `@attribute`. To point to a specific attribute `@attribute` contained in an element **`Element`**, one may write **`Element`**`@attribute`. If an attribute's name consists of two or more combined words, camelCase is typically used after the first word, e.g. `@veryImportantAttribute`. Attributes may have assigned a status in the XML as mandatory (M), optional (O), optional with a default value (OD), and conditionally mandatory (CM).

— Namespace qualification of elements and attributes is used as per XML standards, in the form of **namespace:Element** or `@namespace:attribute`. The fully qualified namespace is provided in the schema fragment associated with the declaration. External specifications extending the namespace of DASH are expected to document the element name in the semantic table with an extension namespace prefix.

— JSON items are identified by a lower-case first letter. If an item consists of two or more combined words, camel-casing is typically used.

— Variables defined in the context of this document are specifically highlighted with *italics,* e.g., *InternalVariable*.

— The term "this clause" refers to the entire clause included within the same first heading number. The term "this subclause" refers to all text contained in the subclause with the lowest hierarchy heading.

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