International Standard

ISO/IEC 23093-6

# Information technology — Internet of media things —

## Part 6: Media data formats and application programming interface (API) for distributed artificial intelligence (AI) processing

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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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# Introduction

The ISO/IEC 23093 series provides an architecture and specifies APIs and compressed representation of data flowing between media things (MThings).

The APIs for MThings facilitate the discovery of other MThings in the network, as well as connecting and efficiently exchanging data between Them. The APIs also support transaction tokens to access valuable functionalities, resources, and data from MThings.

MThing-related information comprises characteristics and discovery data, mission descriptions from system designers and end-users, raw and processed sensed data, and actuation information. The ISO/IEC 23093 series specifies input and output data formats for media sensors, actuators, storages, and analysers. In addition, media analysers can process sensed data from media sensors to produce analysed data, which can be cascaded to other media analysers to extract semantic information. Multiple MThings can be gathered and operated autonomously using mission descriptions given by system designers and end-users.

This document contains the tools to describe data generated from media analysers capable of distributed AI processing and their APIs. It addresses the normative aspects of the data and APIs for media analysers and illustrates non-normative examples.

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# Information technology — Internet of media things —

# Part 6: Media data formats and application programming interface (API) for distributed artificial intelligence (AI) processing

## 1 Scope

This document specifies the syntax and semantics of description schemes to represent data exchanged by media analysers for distributed artificial intelligence (AI) processing. Moreover, it specifies the application programming interfaces (APIs) to exchange these data between media things.

This document does not specify how analysis is carried out, but defines the interfaces between the media things.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes the 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 23093-1, *Information technology — Internet of media things — Part 1: Architecture*

ISO/IEC 23093-2, *Information technology — Internet of media things — Part 2: Discovery and communication API*

ISO/IEC 23093-3:—[1)], *Information technology — Internet of media things — Part 3: Media data formats and API*

ISO/IEC 23005-5:2019, *Information technology — Media context and control — Part 5: Data formats for interaction devices*

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 23093-1, ISO/IEC 23093-2, ISO/IEC 23093-3 and the following 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://www.electropedia.org/

**3.1.1**
**media analyser**
**MAnalyser**
MThing that can analyse media or metadata and produce interpreted media, metadata, or commands

1) Under preparation. Stage at the time of publication: ISO/IEC/FDIS 23093-3:2025.

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### 3.2 Abbreviated terms

| | |
|---|---|
| API | application programming interface |
| MACV | media actuator command vocabulary |
| MAOV | media analyser output vocabulary |
| MTDL | media thing description language |
| IIDL | interaction information description language |
| DCV | device command vocabulary |
| XML | extensible mark-up language |
| XSI | XML schema instance |

## 4 Schema documents and prefixes

### 4.1 Schema documents

The syntax and semantics of data interfacing MThings are provided as schema snippets imbricated with other text. To form a valid schema document, users can gather these schema components in this document with the schema wrapper provided at the head of the clause. For better readability, the relevant schema documents are available at: https://standards.iso.org/iso-iec/23093/-6/ed-1/en/.

Each schema document has a version attribute, the value of which is always "ISO/IEC 23093-6." Furthermore, an informative identifier is given as the value of the `id` attribute of the `schema` component. This identifier is non-normative and used as a convention in this document to reference another schema document. In particular, it is used for the `schemaLocation` attribute of the `include` and `import` schema components.

### 4.2 Use of prefixes

For clarity, consistent namespace prefixes are used throughout this document.

The "`xsi:`" prefix is not normative. It is a naming convention in this document to refer to an element of the XML schema instance namespace[4].

"`xml:`" and "`xmlns:`" are normative prefixes defined in Reference [1]. By definition, the prefix "xml:" is bound to "`https://www.w3.org/XML/1998/namespace`." The prefix "`xmlns:`" is used only for namespace bindings and is not itself bound to any namespace name.

All other prefixes used in either the text or examples of this document are not normative, e.g. "`mtdl:`", "`macv:`", "`maov:`", "`iidl:`", "`dcv:`".

— In particular, most informative examples in this document are provided as XML fragments without the typically required XML document declaration and, thus, miss a correct namespace binding context declaration. The different prefixes are bound to the namespaces in these description fragments, as in Table 1.

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