
**Information technology — Internet of
media things —**

**Part 4:
Reference software and conformance**

*Technologie de l'information — Internet des objets media —
Partie 4: Logiciels de référence et conformité*

This document is a preview generated by ELC



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, 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
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	1
3.1 Terms and definitions	1
3.2 Abbreviated terms	1
4 Reference software for ISO/IEC 23093-3	2
4.1 General	2
4.2 ISO/IEC 23093-3 APIs for MTDL	2
4.2.1 General	2
4.2.2 APIs for MThing	2
4.2.3 APIs for MSensor	3
4.2.4 APIs for MActuator	3
4.2.5 APIs for MAnalyzer	3
4.2.6 APIs for MStorage	3
4.2.7 APIs for MManager	4
4.2.8 APIs for MAggregator	4
4.3 ISO/IEC 23093-3 APIs for MSOV	4
4.4 ISO/IEC 23093-3 APIs for MACV	4
4.5 ISO/IEC 23093-3 APIs for MAOV	5
5 Conformance for ISO/IEC 23093-3	5
5.1 General	5
5.2 Schema-based conformance for ISO/IEC 23093-3	5
5.2.1 General	5
5.2.2 Example of a valid MTDL instance test	6
5.2.3 Example of an invalid MTDL instance test	6
5.2.4 Example of a valid MSOV instance test	6
5.2.5 Example of an invalid MSOV instance test	6
5.2.6 Example of a valid MACV instance test	7
5.2.7 Example of an invalid MACV instance test	7
5.2.8 Example of a valid MAOV instance test	7
5.2.9 Example of an invalid MAOV instance test	7
Bibliography	8

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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*.

A list of all parts in the ISO/IEC 23093 series can be found on the ISO website.

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.

Introduction

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

The APIs for the media things facilitate discovering other media things in the network, connecting and efficiently exchanging data between media things. The APIs also provide means for supporting transaction tokens in order to access valuable functionalities, resources, and data from media things.

Media things related information consists of characteristics and discovery data, setup information from a system designer, raw and processed sensed data, and actuation information. The ISO/IEC 23093 series specifies data formats of input and output for media sensors, media actuators, media storages, media analyzers, etc. Sensed data from media sensors can be processed by media analyzers to produce analysed data, and the media analyzers can be cascaded in order to extract semantic information.

This document contains the tools to describe data exchanged between media things (e.g. media sensors, media actuators, media analyzers, media storages) and their APIs. It addresses the normative aspects of the data and APIs for media things and also illustrates non-normative examples.

Information technology — Internet of media things —

Part 4: Reference software and conformance

1 Scope

This document specifies the conformance and reference software implementing ISO/IEC 23093-3. The information provided is applicable for determining the reference software modules available for ISO/IEC 23093-3, understanding the functionality of the available reference software modules, and utilizing the available reference software modules.

Furthermore, this document provides means for conformance testing, i.e. bitstreams – XML descriptions – that conform or do not conform to ISO/IEC 23093-3.

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 23093-1, *Information technology — Internet of media things — Architecture*

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

ISO/IEC 23093-3, *Information technology — Internet of media things — Part 3: Media data formats and APIs*

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 and ISO/IEC 23093-3 apply.

3.2 Abbreviated terms

API	application programming interface
MACV	media actuator command vocabulary
MAOV	media analyzer output vocabulary
MSOV	media sensor output vocabulary
MTDL	media thing description language