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**Information technology — Multimedia  
Middleware —**

**Part 8:  
Reference software**

*Technologies de l'information — Intergiciel multimédia —  
Partie 8: Logiciel de référence*

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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. 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.

ISO/IEC 23004-8 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 23004 consists of the following parts, under the general title *Information technology — Multimedia Middleware*:

- *Part 1: Architecture*
- *Part 2: Multimedia application programming interface API*
- *Part 3: Component model*
- *Part 4: Resource and quality management*
- *Part 5: Component download*
- *Part 6: Fault management*
- *Part 7: System integrity management*
- *Part 8: Reference software*

## Introduction

ISO/IEC JTC 1/ SC 29 has produced many important International Standards (for example MPEG-1, MPEG-2, MPEG-4, MPEG-7, and MPEG-21). One of the next steps in this process is the standardization of an Application Programming Interface (API) for Multimedia Middleware (M3W) allowing application software to execute multimedia functions with a minimum knowledge of the inner workings of the multimedia middleware as well as to support a structured way of updating, upgrading and/or extending the multimedia middleware.

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# Information technology — Multimedia Middleware —

## Part 8: Reference software

### 1 Scope

This part of ISO/IEC 23004 explains the organization of the reference software for ISO/IEC 23004– 1 to 7 (Multimedia Middleware). The electronic attachment to this part of ISO/IEC 23004 provides the source code of the actual software.

### 2 Normative references

The following referenced documents are indispensable for the application 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 23004-2, *Information technology — Multimedia Middleware — Part 2: Multimedia application programming interface (API)*

ISO/IEC 23004-3, *Information technology — Multimedia Middleware — Part 3: Component model*

ISO/IEC 23004-5, *Information technology — Multimedia Middleware — Part 5: Component download*

ISO/IEC 23004-6, *Information technology — Multimedia Middleware — Part 6: Fault management*

### 3 Overview of reference software

This is an informative clause. The reference software is organized into directories according to the different parts of ISO/IEC 23004. These directories are:

- **1\_Architecture:** This directory is rather empty. The architecture is reflected by the implementation of the other parts.
- **2\_Multimedia-API:** This directory contains the reference implementation of Audio and Video, Governance and IPMP logical components. The Audio and Video logical components are based on UHAPI4Linux implementation.
- **3\_ComponentModel:** This directory contains the implementation of the core framework, services for remote method invocation (REMI) and services that allow instantiation of services based on a logical component id (Service Manager). The core framework also contains tools that aid in the development of M3W Components (IDL compiler).
- **4\_ResourceManagement-Framework:** This directory contains the implementation of the resource management framework. This framework can be used to optimize the Quality of Service perceived by the user in a situation where resources are constrained and often not enough to run all applications and services at the highest quality level.