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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.

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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.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

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ISO/IEC TR 21000-12, which is a Technical Report of type [3], 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 TR 21000 consists of the following parts, under the general title *Information technology — Multimedia framework (MPEG-21)*:

— *Part 1: Vision, Technologies and Strategy* [Technical Report]

— *Part 2: Digital Item Declaration*

— *Part 3: Digital Item Identification*

— *Part 5: Rights Expression Language*

— *Part 6: Rights Data Dictionary*

— *Part 7: Digital Item Adaptation*

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— *Part 8: Reference Software*

— *Part 9: File Format*

— *Part 10: Digital Item Processing*

— *Part 11: Evaluation Tools for Persistent Association Technologies* [Technical Report]

— *Part 12: Test Bed for MPEG-21 Resource Delivery* [Technical Report]

— *Part 16: Binary Format*

The following parts are under preparation:

— *Part 4: Intellectual Property Management and Protection Components*

— *Part 15: Event Reporting*

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Introduction

This document describes the component API of ISO/IEC TR 21000-12: Test Bed for MPEG-21 Resource Delivery. The test bed is mainly composed of a streaming player, a media server, and an IP network emulator. This document describes the API of each components of the test bed to facilitate a component oriented development process. This platform provides a flexible and fair test environment for evaluating scalable media streaming technologies for MPEG contents over IP networks.

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Information technology — Multimedia framework (MPEG-21) —

Part 12:
Test Bed for MPEG-21 Resource Delivery

1 Scope

This Technical Report specifies a test bed that is designed to assist in performance assessment of MPEG-21, Scalable Video Coding (SVC) for streaming applications and for the evaluation of resource delivery technologies over unreliable packet-switched networks. A subset of MPEG-4 IPMP is also included in the test bed so that encrypted streaming and layered access functionality of a DRM system can be tested for different SVC designs.

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