IEC 62481-2

Edition 1.0 2007-08

INTERNATIONAL STANDARD

Digital living network alliance (DLNA) home networked device interoperability guidelines –
Part 2: DLNA media formats

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE XK

ICS 33.160; 35.100.05; 35.110

ISBN 2-8318-9272-4

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FOREWORD

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International Standard IEC 62481-2 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment

The text of this standard is based on the following documents:

CDV	Report on voting
100/1128/CDV	100/1214/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 62481 series, published under the general title *Digital living network alliance (DLNA) home networked device interoperability guidelines,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

DIGITAL LIVING NETWORK ALLIANCE (DLNA) HOME NETWORKED DEVICE INTEROPERABILITY GUIDELINES –

Part 2: DLNA media formats

1 Scope

This part of IEC 62481 specifies the DLNA media format profiles applicable to IEC 62481-1. Media format profiles are defined for each of the following media classes: audio, image and AV. In addition, profile ID values that identify media collections and printer XHTML documents are also introduced.

It is envisioned that in the home network environment, devices will be capable of exchanging content items that originate from different sources. Content items will typically come encoded in different formats. The term "format" designates the compression and encoding tools utilized to generate the binary instance of a content item, which will be eventually exchanged over the home network using streaming or file transfer protocols. Examples of formats include MPEG-2, MPEG-4, WMV and others for video; or MP3, AAC, WMA and others for audio.

Formats alone, however, include as part of their specifications multiple parameters, features and tools which can be used in a myriad of combinations to generate content binaries. In this standard, the notion of a format profile is introduced to identify a particular suitable combination of format parameters which define a way for representing content binaries. A format like MPEG-2, for example, can have multiple profiles depending on selections for the companion audio, the system-layer multiplexing specifications, allowed frame resolutions, allowed aspect ratios, allowed bit rates, etc.

This standard provides a quasi-exhaustive list of broadly-used format profiles for image, audio, and AV formats. For each particular format profile, this standard defines a profile ID text token to be used during the DLNA media discovery and media transfer operations. The profile ID is exposed in a server's content directory service (CDS) to signal to potential networked players or renderers the existence of a content item with particular coding and compression features defined precisely by the item's profile ID. This standard also describes the uses of format profiles which define media collections and printer XHTML documents.

The number of potential combinations for suitable profiles becomes large rather quickly, as evidenced by the long profile lists observed in the different sections of this standard. Consequently, this standard introduces the notion of mandatory profiles, supported by all devices, as a means to provide baseline content interoperability in the home. Servers have to be capable of exposing and transferring mandatory profiles while players and renderers have to be capable of decoding and rendering the mandatory profiles. Unfortunately, mandatory format profiles cannot be defined universally to suit all scenarios. For this reason, the definition of mandatory profiles is made taking into account the geographical region and the target device category.

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.

IEC 62481-1, *Digital living network alliance (DLNA) home networked device interoperability guidelines – Part 1: Architecture and protocols*

ISO/IEC 10918-1:1994, *Information technology – Digital compression and coding of continuous-tone still images: Requirements and guidelines*

ISO/IEC 11172-1:1993, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s – Part 1: Systems*

ISO/IEC 11172-2:1993, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s – Part 2: Video*

ISO/IEC 11172-3:1993, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s – Part 3: Audio*

ISO/IEC 13818-1:2000, *Information technology – Generic coding of moving pictures and associated audio information: Systems*

ISO/IEC 13818-2:2000, *Information technology – Generic coding of moving pictures and associated audio information: Video*

ISO/IEC 13818-3:1998, *Information technology – Generic coding of moving pictures and associated audio information – Part 3: Audio*

ISO/IEC 13818-11:2004, *Information technology – Generic coding of moving pictures and associated audio information – Part 11: IPMP on MPEG-2 systems*

ISO/IEC 14496-1:2001, *Information technology – Coding of audio-visual objects – Part 1: Systems*

ISO/IEC 14496-2:2004, *Information technology – Coding of audio-visual objects – Part 2: Visual*

Amendment 1 (2004)
Amendment 2 (2005)
Amendment 3 (2007)

ISO/IEC 14496-3:2005, *Information technology – Coding of audio-visual objects – Part 3: Audio*

ISO/IEC 14496-10:2005, *Information technology – Coding of audio-visual objects – Part 10: Visual*

ISO/IEC 14496-12:2005, *Information technology – Coding of audio-visual objects – Part 12: ISO base media file format*

ISO/IEC 14496-14:2003, *Information technology – Coding of audio-visual objects – Part 14: MP4 file format*

ISO/IEC 14496-15:2004, *Information technology – Coding of audio-visual objects – Advanced Video Coding (AVC) file format*

ISO/IEC 15948:2004, *Information technology – Computer graphics and image processing – Portable Network Graphics (PNG): Functional specification*

ITU-R Recommendation BS.1196-11:2001, *Audio coding for digital terrestrial television broadcasting*

ITU-T Recommendation G.726:1990, *40, 32, 24,16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)*

ITU-T Recommendation H.263:2005, *Video coding for low bit rate communication*

ITU-T Recommendation H.264:2005, *Advanced video coding for generic audiovisual services*

ETSI TSR 101 154 V1.4:2004, *Digital Video Broadcasting (DVB*) – Implementation Guidelines for the use of MPEG-2 Systems, Video and Audio Coding in Broadcasting Applications based on the MPEG-2 Transport Stream, European Telecommunications Standard Institute* http://webapp.etsi.org/action/PU/20050111/ts_101154v010601p.pdf