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**Smernice za medobratovalnost naprav, povezanih v domače omrežje po standardu za hišna digitalna omrežja (DLNA) - 1. del: Arhitektura in protokoli (IEC 62680-4:2013)**

Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 1: Architecture and protocols (IEC 62680-4:2013)

Digital living network alliance (DLNA) Interoperabilitäts-Richtlinien für Geräte im Heimnetzwerk - Teil 1: Architektur und Protokolle (IEC 62481-1:2013)

Lignes directrices pour l'interopérabilité des dispositifs domestiques DLNA (Digital Living Network Alliance) - Partie 1: Architecture et protocoles (TA9) (CEI 62481-1:2013)

**Ta slovenski standard je istoveten z: EN 62481-1:2014**

**ICS:**

33.160.01	Avdio, video in avdiovizualni sistemi na splošno	Audio, video and audiovisual systems in general
35.100.05	Večslojne uporabniške rešitve	Multilayer applications
35.110	Omreževanje	Networking

**SIST EN 62481-1:2014**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 62481-1**

April 2014

ICS 33.160; 35.100.05; 35.110

English version

**Digital living network alliance (DLNA) home networked device  
interoperability guidelines -  
Part 1: Architecture and protocols  
(IEC 62481-1:2013)**

Lignes directrices pour l'interopérabilité  
des dispositifs domestiques DLNA (Digital  
Living Network Alliance) -  
Partie 1: Architecture et protocoles (TA9)  
(CEI 62481-1:2013)

Digital living network alliance (DLNA)  
Interoperabilitäts-Richtlinien für Geräte im  
Heimnetzwerk -  
Teil 1: Architektur und Protokolle  
(IEC 62481-1:2013)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 100/1992A/CDV, future edition 2 of IEC 62481-1, prepared by technical area 9, "Audio, video and multimedia applications for end-user network", of IEC/TC 100, "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62481-1:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-10-07
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-11-27

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60169-24	-	Radio-frequency connectors - Part 24: Radio-frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable distribution systems (Type F)	EN 60169-24	-
IEC 62481-2	2013	Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 2: DLNA media formats	EN 62481-2	2014
IEC 62481-3	2013	Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 3: Link protection	EN 62481-3	2012
ISO 3166	-	Codes for the representation of names of countries and their subdivisions	-	-
ISO/IEC 13818-1	2000	Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems	-	-
ISO/IEC 13818-9	1996	Information technology - Generic coding of moving pictures and associated audio information - Part 9: Extension for real time interface for system decoders	-	-
ISO/IEC 14977	1996	Information technology - Syntactic metalanguage - Extended BNF	-	-
ISO/IEC 29341-1	2011	Information technology - UPnP device architecture - Part 1: UPnP Device Architecture	-	-
ISO/IEC 29341-3-2	-	Information technology - UPnP Device Architecture - Part 3-2: Audio Video Device Control Protocol - Media Renderer Device	-	-
ISO/IEC 29341-3-3	-	Information technology - UPnP Device Architecture - Part 3-3: Audio Video Device Control Protocol - Media Server Device	-	-
ISO/IEC 29341-3-10	2008	Information technology - UPnP Device Architecture - Part 3-10: Audio Video Device Control Protocol - Audio Video Transport Service	-	-
ISO/IEC 29341-3-11	-	Information technology - UPnP Device Architecture - Part 3-11: Audio Video Device Control Protocol - Connection Manager Service	-	-
ISO/IEC 29341-3-12	2008	Information technology - UPnP Device Architecture - Part 3-12: Audio Video Device Control Protocol - Content Directory Service	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC 29341-3-13	-	Information technology - UPnP Device Architecture - Part 3-13: Audio Video Device Control Protocol - Rendering Control Service	-	-
ISO/IEC 29341-4-2	-	Information technology - UPnP device architecture - Part 4-2: Audio Video Device Control Protocol - Level 2 - Media Renderer Device	-	-
ISO/IEC 29341-4-3	-	Information technology - UPnP Device Architecture - Part 4-3: Audio Video Device Control Protocol - Level 2 - Media Server Device	-	-
ISO/IEC 29341-4-4	-	Information technology - UPnP device architecture - Part 4-4: Audio Video Device Control Protocol - Level 2 - Audio Video Data Structures	-	-
ISO/IEC 29341-4-10	-	Information technology - UPnP device architecture - Part 4-10: Audio Video Device Control Protocol - Level 2 - Audio Video Transport Service	-	-
ISO/IEC 29341-4-11	-	Information technology - UPnP device architecture - Part 4-11: Audio Video Device Control Protocol - Level 2 - Connection Manager Service	-	-
ISO/IEC 29341-4-12	2008	Information technology - UPnP Device Architecture - Part 4-12: Audio Video Device Control Protocol - Level 2 - Content Directory Service	-	-
ISO/IEC 29341-4-13	-1	Information technology - UPnP device architecture - Part 4-13: Audio Video Device Control Protocol - Level 2 - Rendering Control Service	-	-
ISO/IEC 29341-4-14	-	Information technology - UPnP Device Architecture - Part 4-14: Audio Video Device Control Protocol - Level 2 - Scheduled Recording Service	-	-
ISO/IEC 29341-9-1	-	Information technology - UPnP Device Architecture - Part 9-1: Imaging Device Control Protocol - Printer Device	-	-
ISO/IEC 29341-9-12	-	Information technology - UPnP Device Architecture - Part 9-12: Imaging Device Control Protocol - Print Basic Service	-	-
ISO/IEC 29341-14-3	-	Information technology - UPnP device architecture - Part 14-3: Audio Video Device Control Protocol - Level 3 - Media Server Device	-	-
ISO/IEC 29341-14-12	-	Information technology - UPnP device architecture - Part 14-12: Audio, Video Device Control Protocol - Level 3 - Audio Video Content Directory Service	-	-
IETF RFC 1122	1989	Requirements for Internet Hosts - Communication Layers	-	-
ETSI EN 300 468	-	Digital Video Broadcasting (DVB): Specification for Service Information (SI) in DVB systems	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IETF RFC 768	1980	User Datagram Protocol	-	-
IEEE 802.3	2002	IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) - Access Method and Physical Layer Specifications	-	-
IETF RFC 791	1981	Internet Protocol - DARPA Internet Program Protocol Specification	-	-
IETF RFC 793	1981	Transmission Control Protocol - DARPA Internet Program Protocol Specification	-	-
IETF RFC 826	1982	Ethernet Address Resolution Protocol	-	-
IETF RFC 1305	1992	Network Time Protocol, Version 3 - Specification and Implementation	-	-
IETF RFC 792	1981	Internet Control Message Protocol	-	-
IETF RFC 2474	1998	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers	-	-
IEEE 802.1D	2004	IEEE Standard for Local and Metropolitan Area Networks - Media Access Control (MAC) Bridges	-	-
IEEE 802.1Q	2003	IEEE Standard for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks	-	-
IETF RFC 2131	1997	Dynamic Host Configuration Protocol	-	-
IETF RFC 3551	-	RTP Profile for Audio and Video Conferences with Minimal Control	-	-
IETF RFC 3555	-	MIME Type Registration of RTP Payload Formats, S. Casner, Packet Design	-	-
IETF RFC 2326	1998	Real time Streaming protocol (RTSP)	-	-
IETF RFC 3550	-	A Transport Protocol for Real-Time Applications	-	-
IETF RFC 3984	-	RTP Payload Format for H.264 Video	-	-
IETF RFC 2250	-	RTP Payload Format for MPEG1/MPEG2 Video	-	-
IETF RFC 3640	-	RTP Payload Format for Transport of MPEG-4-Elementary Streams	-	-
IETF RFC 3927	-	Dynamic Configuration of IPv4 Link-Local Addresses	-	-
IEEE 802.11	2011	IEEE Standard for Information Technology - Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications	-	-
IETF RFC 1191	1990	Path MTU Discovery	-	-
IETF RFC 1738	1994	Uniform Resource Locators (URL)	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-T G.9954	2007	Recommendation, Home networking transceivers - Enhanced physical, media access, and link layer specifications. ITU-T SG15/Q4 T-REC-G.9954-200701-I	-	-
ETSI TS 102 822-3	-	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime") - Part 3: Metadata	-	-
ETSI TS 102 822-4	-	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime") - Part 4: Content referencing	-	-
IETF RFC 1812	1995	Requirements for IP version 4 Routers	-	-
IETF RFC 2119	1997	Key words for use in RFCs to Indicate Requirement Levels	-	-
ANSI/ICEA S-90-661-2002	2002	Category 3, 5, & 5e Individually Unshielded Twisted Pair Indoor Cable for Use In General Purpose and LAN Communication Wiring Systems, Insulated Cable Engineers Association	-	-
IETF RFC 2234	1997	Augmented BNF for Syntax Specifications: ABNF	-	-
IETF RFC 2279	1998	UTF-8, a transformation format of ISO 10646	-	-
IETF RFC 2327	1998	SDP: Session Description Protocol	-	-
IETF RFC 2396	1998	Uniform Resource Identifiers (URI): Generic Syntax	-	-
IETF RFC 2429	2004	RTP Payload Format for the 1988 Version of ITU-T Rec. H.263 Video (H.263+)	-	-
IETF RFC 2766	2000	Network Address Translation - Protocol Translation (NAT-PT)	-	-
IETF RFC 2822	2001	Internet Message Format, P. Resnick, QUALCOMM Incorporated	-	-
IETF RFC 2929	2000	Domain Name System (DNS) IANA Considerations	-	-
IETF RFC 3066	2001	Tags for the Identification of Languages	-	-
IETF RFC 3261	2002	SIP: Session Initiation Protocol	-	-
IETF RFC 3267	2002	Real-Time Transport Protocol (RTP) Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs	-	-
IETF RFC 3391	2002	The MIME Application/Vnd.pwg-multiplexed Content-Type	-	-
IETF RFC 3556	2003	Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP) Bandwidth	-	-
IETF RFC 4184	2005	RTP Payload Format for AC-3 Audio	-	-
IETF RFC 4352	2006	RTP Payload Format for the Extended Adaptive Multi-Rate Wideband (AMR-WB+) Audio Codec	-	-



<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IETF RFC 4585	2006	Extended RTP Profile for Real-time Transport Control Protocol (RTCP)-based Feedback (RTP/AVPF)	-	-
IETF RFC 4588	2006	RTP Retransmission Payload Format	-	-
IETF RFC 4646	2006	Tags for the Identification of Languages	-	-
ANSI/CEA-766-C	2008	U.S. and Canadian Rating Region Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information Using ATSC Program and System Information Protocol (PSIP)	-	-
ANSI/CEA-2033 A	2008	Specification for Electronic Program Guide Data Interchange	-	-
IETF RFC 2616	1999	Hypertext Transfer Protocol HTTP/1.1.	-	-
IETF RFC 1945	1996	Hypertext Transfer Protocol – HTTP/1.0, T. Berners-Lee, MIT/LCS, R. Fielding, UC Irvine, H. Frystyk	-	-
IETF RFC 2145	1997	Use and Interpretation of HTTP Version Numbers	-	-
ISO 8601	2004	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-

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IEC 62680-4

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# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Universal serial bus interfaces for data and power –  
Part 4: Universal Serial Bus Cables and Connectors Class Document,  
Revision 2.0**

**Interfaces de bus universel en série pour les données et l'alimentation  
électrique –  
Partie 4: Document des classes des câbles et des connecteurs de bus universel  
en série, Révision 2.0**

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## UNIVERSAL SERIAL BUS INTERFACES FOR DATA AND POWER –

**Part 4: Universal Serial Bus Cables and  
Connectors Class Document, Revision 2.0**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62680-4 has been prepared by technical area 14: Interfaces and methods of measurement for personal computing equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this standard is based on documents prepared by the USB Implementers Forum (USB-IF). The structure and editorial rules used in this publication reflect the practice of the organization which submitted it.

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

CDV	Report on voting
100/1984/CDV	100/2065/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.

A list of all the parts in the IEC 62680 series, published under the general title *Universal serial bus interfaces for data and power* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

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