

### SLOVENSKI STANDARD SIST EN 62481-3:2014

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Smernice za medobratovalnost naprav, povezanih v domače omrežje po standardu za hišna digitalna omrežja (DLNA) - 3. del: Zaščita povezav (IEC 62481-3:2013)

Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 3: Link protection

Digital living network alliance (DLNA) Interoperabilitäts-Richtlinien für Geräte im Heimnetzwerk - Teil 3: Verbindungsschutz (Standards.iteh.ai)

Lignes directrices pour l'interopérabil<u>ité des dispositifs</u> domestiques DLNA (Digital Living Network Alliance) - Partie 3: Protection des liaisons 69 f0 e 3 ff - 7689 - 4 b f7 - a a 61 - b 9 3 d 6 e 5 2 4 5 8 5 / sist - en - 6 2 4 8 1 - 3 - 2 0 1 4

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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	Omreževanie	Networking

SIST EN 62481-3:2014 en,fr,de

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EN 62481-3

NORME EUROPÉENNE EUROPÄISCHE NORM

March 2014

ICS 33.160; 35.100.05; 35.110

Supersedes EN 62481-3:2011

English version

# Digital living network alliance (DLNA) home networked device interoperability guidelines Part 3: Link protection

(IEC 62481-3:2013)

Lignes directrices pour l'interopérabilité des dispositifs domestiques DLNA (Digital Living Network Alliance) -Partie 3: Protection des liaisons (CEI 62481-3:2013) Digital living network alliance (DLNA) Interoperabilitäts-Richtlinien für Geräte im Heimnetzwerk -Teil 3: Verbindungsschutz (IEC 62481-3:2013)

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This European Standard was approved by CENELEC on 2013-11-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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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European Committee for Electrotechnical Standardization 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 100/1994/CDV, future edition 2 of IEC 62481-3, 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 62481-3:2014.

The following dates are fixed:

latest date by which the document has (dop) 2014-09-21 to be implemented at national level by publication of an identical national standard or by endorsement
 latest date by which the national standards conflicting with the document have to be withdrawn

This document supersedes EN 62481-3:2011.

EN 62481-3:2014 includes the following significant technical changes with respect to EN 62481-3:2011:

- a) includes variable play (trick mode) support;
- b) includes updates to resolve interoperability issues. PREVIEW

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The text of the International Standard IEC 62481-3:2013 was approved by CENELEC as a European Standard without any modification.

## 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>	EN/HD	<u>Year</u>
IEC 62481-1	2013	Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 1: Architecture and protocols	EN 62481-1	2012
IEC 62481-2	2013	Digital living network alliance (DLNA) home networked device interoperability guidelines - Part 2: DLNA media formats	EN 62481-2	2014
ISO/IEC 13818-1 + corr. December	2000 2002	Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems	-	-
ISO/IEC 14496-2	2004 iT	Information Technology – Coding of audio- visual objects - Part 2: Visual PRF VIF	W	-
ISO/IEC 29341-3-10	) -	Information technology - UPnP Device Architecture - Part 3-10: Audio Video Device Control Protocol - Audio Video Transport Service SIST EN 62481-3:2014	-	-
ISO/IEC 29341-3-1	https://sta	Architecture Part 3-1-1 Audio Video Device Control Protocol - Connection Manager Service	-2a61-	-
IETF RFC 1191	1990	Path MTU Discovery	-	-
IETF RFC 2616	-	Hypertext Transfer Protocol HTTP/1.1.	-	-
IETF RFC 3551	-	RTP Profile for Audio and Video Conferences with Minimal Control	-	-
IETF RFC 3550	-	A Transport Protocol for Real-Time Applications	-	-
IETF RFC 1738	1994	Uniform Resource Locators (URL)	-	-
DTCP Volume 1	2005	Digital transmission content protection specification	-	-
DTCP Volume 1 Supplement E	2005	Mapping DCTP to IP	-	-

DTCP Audio Compliance Rules EXHIBIT B-2	2002	Compliance rules for licensed products that receive or transmit commercial audio works	-
IEEE 802.1Q	-	IEEE Standard for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks	-
IEEE 802.11	-	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	-
RTP	-	RTP Payload Format for Windows Media Audio and Video, Microsoft Corporation	-
DTCP	2005	DTCP Adopter Agreement, Digital Transmission Protection License Agreement	-
WMDRM-ND		Windows Media DRM for Network Devices, Windows Media Technologies	-

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Edition 2.0 2013-10

## INTERNATIONAL STANDARD



Digital living networked liance (DLNA) home networked device interoperability guidelines –

Part 3: Link protection (standards.iteh.ai)

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#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### Part 3: Link protection

#### **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 62481-3 has been prepared technical area 9: Audio, video and multimedia applications for end-user network, by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) includes variable play (trick mode) support;
- b) includes updates to resolve interoperability issues.

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

CDV	Report on voting	
100/1994/CDV	100/2082/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 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.

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

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#### INTRODUCTION

Consumers are acquiring, viewing, and managing an increasing amount of digital media (photos, music, and video) on devices in the Consumer Electronics (CE), mobile, and Personal Computer (PC) domains. As such, they want to conveniently enjoy the content, regardless of the source, across different devices and locations in the home. The digital home vision integrates the Internet, mobile, and broadcast networks through a seamless, interoperable network, which will provide a unique opportunity for manufacturers and consumers alike. In order to achieve this interoperability, a common set of industry design guidelines is needed that allows vendors to participate in a growing marketplace, leading to more innovation, simplicity, and value for consumers. This standard serves that purpose and provides vendors with the information needed to build interoperable networked platforms and devices for the digital home.

This standard is organized to align with the overall structure of IEC 62481-1 and IEC 62481-2.

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

Part 3: Link protection

#### 1 Scope

This part of IEC 62481 specifies the DLNA link protection guidelines, which are an extension of the DLNA guidelines. DLNA link protection is defined as the protection of a content stream between two devices on a DLNA network from illegitimate observation or interception using the protocols defined within this part of IEC 62481.

Content protection is an important mechanism for ensuring that commercial content is protected from piracy and illegitimate redistribution. Link Protection is a technique that enables distribution of protected commercial content on a home network, thus resulting in greater consumer flexibility while still preserving the rights of copyright holders and content providers.

The guidelines in this part of IEC 62481 reference existing technologies for Link Protection and provide mechanisms for interoperability between different implementations as well as integration with the DLNA architecture.

### 2 Normative references (standards.iteh.ai)

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

IEC 62481-1:2013, Digital Living Network Alliance (DLNA) home networked device interoperability guidelines – Part 1: Architecture and protocols

IEC 62481-2:2013, Digital Living Network Alliance (DLNA) home networked device interoperability guidelines – Part 2: DLNA media formats

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

ISO/IEC 14496-2:2004, Information technology – Coding of Audio-Visual Objects – Part 2: Visual

Amendment 1:2004, Error resilient simple scalable profile

ISO/IEC 29341-3-10, 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

IETF RFC 1191, Path MTU Discovery, J. Mogul, DECWRL, S. Deering, Stanford University, November 1990

http://www.ietf.org/rfc/rfc1191.txt

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IETF RFC 2616, *Hypertext Transfer Protocol – HTTP/1.1*, R. Fielding, UC Irvine, J. Gettys, Compaq/W3C, J. Mogul, Compaq, H. Frystyk, W3C/MIT, L. Masinter, Xerox, P. Leach, Microsoft\*, T. Berners-Lee, June 1999 <a href="http://www.ietf.org/rfc/rfc2616.txt?number=2616">http://www.ietf.org/rfc/rfc2616.txt?number=2616</a>

IETF RFC 3550, RTP: A Transport Protocol for Real-Time Applications, H. Schulzrinne, Columbia University, S. Casner, Packet Design, R. Frederick, Blue Coat Systems Inc., V. Jacobson, Packet Design, July 2003 <a href="http://www.ietf.org/rfc/rfc3550.txt">http://www.ietf.org/rfc/rfc3550.txt</a>

IETF RFC 3551, RTP Profile for Audio and Video Conferences with Minimal Control, H. Schulzrinne, Columbia University, S. Casner, Packet Design, July 2003 <a href="http://www.ietf.org/rfc/rfc3551.txt">http://www.ietf.org/rfc/rfc3551.txt</a>

DTCP Volume 1 (informational version), Digital Transmission Content Protection Specification Volume1, Revision 1.4: February 28, 2005 http://www.dtcp.com/data/info 20050228 dtcp vol 1 1p4.pdf

DTCP Volume 1 Supplement E (informational version), DTCP Volume 1 Supplement E Mapping DTCP to IP, Revision 1.1: February 28, 2005 http://www.dtcp.com/data/info 20050228 dtcp VISE 1p1.pdf

DTCP Audio Compliance Rules EXHIBIT B-2, Compliance Rules For Licensed Products That Receive Or Transmit Commercial Audio Works, June 2002
http://www.dtcp.com/data/Compliance\_Rules\_Audio\_020610.pdf
https://standards.iteh.ai/catalog/standards/sist/69f0e3ff-7689-4bf7-aa61-

IEEE 802.1Q, IEEE standard for information feet and information exchange between systems — IEEE standard for local and metropolitan areanetworks — Common specifications — Virtual Bridged Local Area Networks

IEEE 802.11, 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

DTCP Adopter Agreement, DTCP Adopter Agreement, Digital Transmission Protection License Agreement, DTLA Digital Transmission Licensing Administrator, May 2005 <a href="http://www.dtcp.com/">http://www.dtcp.com/</a>

WMDRM-ND, Windows Media DRM for Network Devices, Windows Media Technologies http://wmlicense.smdisp.net/licenserequest/default.asp

RTP Payload format for WMV and WMA, RTP Payload Format for Windows Media Audio and Video, Microsoft Corporation http://download.microsoft.com/download/5/5/a/55a7b886-b742-4613-8ea8-d8b8b5c27bbc/RTP PayloadFormat for WMAandWMV v1.doc

#### 3 Terms, definitions and abbreviated terms

#### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.