SLOVENSKI STANDARD
SIST EN 62676-2-2:2014

01-marec-2014

Video nadzorni sistemi za varnostne aplikacije - 2-2. del: Protokoli video prenosa - Medobratovalnost IP, temelječa na storitvah HTTP in REST (IEC 62676-2-2:2013)

Video surveillance systems for use in security applications - Part 2-2: Video transmission protocols - IP interoperability implementation based on HTTP and REST services

Systèmes de video surveillance appliqués à la sécurité -ePartie 2-2: Protocoles de transmission video sous IP - Implémentation de l'interopérabilité fondée sur les services http et REST

Ta slovenski standard je istoveten z: **EN 62676-2-2:2014**

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33.160.40	Video sistemi	Video systems

SIST EN 62676-2-2:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62676-2-2

January 2014

ICS 13.320

English version

Video surveillance systems for use in security applications - Part 2-2: Video transmission protocols - IP interoperability implementation based on HTTP and REST services

(IEC 62676-2-2:2013)

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité -
Partie 2-2: Protocoles de transmission vidéo -
Mise en oeuvre de l'interopérabilité IP en fonction des services HTTP et REST
(CEI 62676-2-2:2013)

Videoüberwachungsanlagen für Sicherungsanwendungen -
Teil 2-2: Videoübertragungsprotokolle -
IP-Interoperabilität auf Basis von HTTP- und REST-Diensten
(IEC 62676-2-2:2013)

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CENELEC

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 79/436/FDIS, future edition 1 of IEC 62676-2-2, prepared by IEC TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62676-2-2:2014.

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)	2014-09-12
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-12-12

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Endorsement notice

The text of the International Standard IEC 62676-2-2:2013 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.

Publication	Year	Title	EN/HD	Year
ISO 10918-1	-	Information technology - Digital compression and coding of continuous-tone still images: Requirements and guidelines	-	-
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 13818-2	-	Information technology - Generic coding of moving pictures and associated audio information - Part 2: Video	-	-
ISO/IEC 14496-2	2004	Information Technology – Coding of audio-visual objects - Part 2: Visual	-	-
ISO/IEC 14496-3	-	Information technology - Coding of audio-visual objects - Part 3: Audio	-	-
ISO/IEC 14496-10	2012	Information technology - Coding of audio-visual objects - Part 10: Advanced Video Coding	-	-
IETF RFC 1213	-	Management Information Base for Network Management of TCP/IP-based Internets: MIB-II	-	-
IETF RFC 1945	-	Hypertext Transfer Protocol – HTTP/1.0, T. Berners-Lee, MIT/LCS, R. Fielding, UC Irvine, H. Frystyk	-	-
IETF RFC 2046	-	Multipurpose Internet Mail Extensions (MIME) - - Part 2: Media Types	-	-
IETF RFC 2250	-	RTP Payload Format for MPEG1/MPEG2 Video	-	-
IETF RFC 2326	-	Real time Streaming protocol (RTSP)	-	-
IETF RFC 2435	-	RTP Payload Format for JPEG-compressed Video	-	-
IETF RFC 2616	-	Hypertext Transfer Protocol HTTP/1.1.	-	-
IETF RFC 2617	-	HTTP Authentication: Basic and Digest Access Authentication	-	-

Publication	Year	Title	EN/HD	Year
IETF RFC 2818	-	HTTP Over TLS	-	-
IETF RFC 3016	-	RTP Payload Format for MPEG-4 Audio/Visual Streams	-	-
IETF RFC 3550	-	A Transport Protocol for Real-Time Applications	-	-
IETF RFC 3551	-	RTP Profile for Audio and Video Conferences with Minimal Control	-	-
IETF RFC 3629	-	UTF-8, a transformation format of ISO 10646	-	-
IETF RFC 3640	-	RTP Payload Format for Transport of MPEG-4 Elementary Streams	-	-
IETF RFC 3984	-	RTP Payload Format for H.264 Video	-	-
IETF RFC 4566	-	SDP: Session Description Protocol	-	-
ITU-T Recommendation G.726	-	40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)	-	-
ITU-T Recommendation H.264	-	Advanced video coding for generic audiovisual services	-	-
ITU-T Recommendation T.81	-	Information technology - Digital compression and coding of continuous-tone still images - Requirements and guidelines	-	-

IEC 62676-2-2

Edition 1.0 2013-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Video surveillance systems for use in security applications – Part 2-2: Video transmission protocols – IP interoperability implementation based on HTTP and REST services

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité – Partie 2-2: Protocoles de transmission vidéo – Mise en œuvre de l'interopérabilité IP en fonction des services HTTP et REST

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2-2: Video transmission protocols – IP interoperability implementation based on HTTP and REST services

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 62676-2-2 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

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

FDIS	Report on voting
79/436/FDIS	79/449/RVD

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 in the IEC 62676 series, published under the general title *Video surveillance systems for use in security applications*, 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.

INTRODUCTION

The IEC Technical Committee 79 in charge of alarm and electronic security systems together with many governmental organisations, test houses and equipment manufacturers have defined a common framework for video surveillance transmission in order to achieve interoperability between products.

The IEC 62676 series of standards on video surveillance system is divided into 4 independent parts:

Part 1 System requirements

Part 2: Video transmission protocols

Part 3: Analog and digital video interfaces

Part 4 : Application guidelines (to be published)

Each part has its own clauses on scope, references, definitions and requirements

This IEC 62676-2 series consists of 3 subparts, numbered parts 2-1, 2-2 and 2-3 respectively:

IEC 62676-2-1, *Video transmission protocols – General requirements*

IEC 62676-2-2, *Video transmission protocols – IP interoperability implementation based on HTTP and REST services*

IEC 62676-2-3, *Video transmission protocols – IP interoperability implementation based on Web services*

This second subpart of this IEC 62676-2 series covers IP interoperability implementation based on HTTP and REST services. It is based on the requirements for IP video transmission protocols covered in IEC 62676-2-1, which defines protocol requirements to be fulfilled by any high-level IP video device interface.

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2-2: Video transmission protocols – IP interoperability implementation based on HTTP and REST services

1 Scope

This part of IEC 62676 specifies a compliant IP video protocol based on HTTP and REST services.

Video transmission devices are often equipped with web servers that respond to HTTP requests. The HTTP response may contain XML content (for GET actions), XML response information (for SET actions), or various text/binary content (for retrieval of configuration data, etc.). REST is an approach to creating services that expose all information as resources in a uniform way. The ease of using REST is its uniform interface for operations. Since everything is represented as a resource, create, retrieve, update, and delete (CRUD) operations use the same URI. This specification leverages the features of HTTP and REST for IP video transmission.

A video transmission device supporting compliance to the requirements of this standard based on HTTP and REST Services as described in this document is declared as compatible to ´IEC 62676-2 HTTP and REST interoperability.´

2 Normative references

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.

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

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

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

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

ISO/IEC 14496-10:2012, *Information technology – Coding of audio-visual objects – Part 10: Advanced video coding*

IETF RFC 1213, *Management Information Base for Network Management of TCP/IP-based internets: MIB-II*

IETF RFC 1945, *Hypertext Transfer Protocol – HTTP/1.0*

IETF RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*

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IETF RFC 2326, *Real Time Streaming Protocol (RTSP)*

IETF RFC 2435, *Format de charge utile RTP pour l video JPEG*

IETF RFC 2616, *Hypertext Transfer Protocol – HTTP/1.1*

IETF RFC 2617, *HTTP Authentication: Basic and Digest Access Authentication*

IETF RFC 2818, *HTTP Over TLS*

IETF RFC 3016, *Format de charge utile RTP pour flux audio/video MPEG-4*

IETF RFC 3550, *RTP: A Transport Protocol for Real-Time Applications*

IETF RFC 3551, *RTP Profile for Audio and Video Conferences with Minimal Control*

IETF RFC 3629, *UTF-8 un format de transformation de l'ISO 10646*

IETF RFC 3640, *Format de charge utile RTP pour le transport de flux élémentaires MPEG-4*

IETF RFC 3984, *Format de charge utile RTP pour video H.264*

IETF RFC 4566, *SDP: Session Description Protocol*

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

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

ITU-T Recommendation T.81, *Information technology – Digital compression and coding of continuous-tone still images – Requirements and guidelines*

3 Abbreviations

For the purposes of this document, the following abbreviations apply.

AAC	Advanced Audio Coding
API	Application Program Interface
AVP	Audio/Video Profile
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol over Secure Socket Layer
IETF	Internet Engineering Task Force
IO	I/O Input/Output
IP	Internet Protocol

IPv4	Internet Protocol Version 4
IPv6	Internet Protocol Version 6
ISO	International Standards Organization
ITU	International telecommunications Union
JFIF	JPEG File Interchange Format
JPEG	Joint Photographic Expert Group
MPEG	Moving Pictures Experts Group
NTP	Network Time Protocol
NVS	Network Video Storage Device
POSIX	Portable Operating System Interface
PTZ	Pan / Tilt / Zoom
QoS	Quality of Service
REST	Representational State Transfer
RFC	(Request for comment) IETF Standards Draft
RTCP	Real Time Control Protocol.
RTP	Real-time Transport Protocol
RTSP	Real Time Streaming Protocol
SDP	Session Description Protocol
SHA	Secure Hash Algorithm
SOAP	Simple Object Access Protocol
SRTP	Secure Real-time Transport Protocol
SSID	Service Set ID
SSL	Secure Sockets Layer SAML Security Assertion Markup Language
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol / Internet Protocol
TKIP	Temporal Key Integrity Protocol
TLS	Transport Layer Security
TTL	Time-to-live
UDP	User Datagram Protocol
UPnP	Universal Plug and Play
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
UTC	Universal Time Coordinated
UTF	Unicode Transformation Format
UTF-8	8-bit Unicode Transformation Format URN Uniform Resource Name
UUID	Universally Unique Identifier
VMS	Video management system
VT	Video Transmission
VTD	Video Transmission device
W3C	World Wide Web Consortium
WPA	Wi-Fi Protected Access
XML	eXtensible Markup Language
Zeroconf	Zero Configuration Networking