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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62676-2-2:2014 sisaldab Euroopa standardi EN 62676-2-2:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 62676-2-2:2014 consists of the English text of the European standard EN 62676-2-2:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 17.01.2014.	Date of Availability of the European standard is 17.01.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.320

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62676-2-2

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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 HTPP 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)

This European Standard was approved by CENELEC on 2013-12-12. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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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

Ref. No. EN 62676-2-2:2014 E

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

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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	-	-

CONTENTS

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*

IETF RFC 2250, *Format de charge utile RTP pour la video MPEG1/MPEG2*

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