SLOVENSKI STANDARD
oSIST prEN IEC 62676-2-11:2023

01-november-2023

Alarmni sistemi – Videonadzorni sistemi (VSS) za uporabo v varnostnih aplikacijah – 2-11. del: Protokoli za video prenos – Interoperabilni profili za sistem VMS in sisteme v oblaku VSaaS za varna mesta in organe pregona

Alarm systems - Video Surveillance Systems (VSS) for use in security applications - Part 2-11: Video transmission protocols - Interop profiles for VMS- and cloud VSaaS-systems for safe-cities and law-enforcement

Ta slovenski standard je istoveten z: **prEN IEC 62676-2-11:2023**

ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
33.160.40	Video sistemi	Video systems

oSIST prEN IEC 62676-2-11:2023 **en**

79/697/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62676-2-11 ED1**	
DATE OF CIRCULATION: **2023-09-08**	CLOSING DATE FOR VOTING: **2023-12-01**
SUPERSEDES DOCUMENTS: **79/685/CD, 79/694A/CC**	

IEC TC 79 : ALARM AND ELECTRONIC SECURITY SYSTEMS

SECRETARIAT: France	SECRETARY: Mr Jean-François LIGNEREUX
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant “In Some Countries” clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (See AC/22/2007 or NEW GUIDANCE DOC).

TITLE:

Alarm systems – Video Surveillance Systems (VSS) for use in security applications – Part 2-11: Video transmission protocols – Interop profiles for VMS- and cloud VSaaS-systems for safe-cities and law-enforcement

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2-11: Video transmission protocols – Interop profiles for VMS- and cloud VSaaS-systems for safe-cities and law-enforcement

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch [and/or] www.iso.org/patents. [IEC/IEC and ISO] shall not be held responsible for identifying any or all such patent rights.

IEC 62676-2-11 has been prepared by IEC technical committee 79: Alarm and electronic security systems. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
79/XX/FDIS	79/XX/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

The National Committees are requested to note that for this document the stability date is 2026.

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

INTRODUCTION

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

The IEC 62676 series of standards on video surveillance systems (VSS) is divided into six independent parts:

Part 1: System requirements

Part 2: Video transmission protocols

Part 3: Analog and digital video interfaces

Part 4: Application guidelines

Part 5: Data specifications and image quality performance for camera devices

Part 6: Performance Testing and Grading of Real-time Intelligent Video

Each part offers its own clauses for the scope, normative references, definitions, and requirements.

Today there is a lack in directive standards giving precise requirements for VSS in certain situations involving third parties (and especially the authorities), compared to intrusion or fire detection alarm systems, while video applications are becoming more important for public security.

In most cases, such situations apply to one or more independent regular operational systems (or systems of systems) and correspond to exceptional events or security incidents where authorities, first responders, etc. need immediate access to the data (video and associated information) through a single third-party Video Management Systems (VMS) for a timely response.

Since the surveillance systems are a crucial asset in crime prevention, crisis management, or forensic applications to assist the Law-Enforcement agencies and Smart Cities, the goal of this standard is to provide a fully interoperable interface for VMS and Cloud Video Surveillance-as-a-Service (VSaaS) Systems with third-party:

- security operations centers,
- professional remote video monitoring,
- remote access by law-enforcement and authorities,

for sharing their digital video-surveillance contents and associated metadata.

This standard builds upon the IEC 62676 family of standards and complements it. It does not specify any detailed requirements on application guidance and video observation objectives, on system availability, cyber security, privacy, national and legal constraints, operational procedures, environmental conditions, or technical protocols.

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2.11: Video transmission protocols - Interop profiles for VMS- and cloud VSaaS-systems for safe-cities and law-enforcement

1 Scope

Based on the IP video features offered by the IEC 62676-2 protocol standard series, this document defines minimum requirement profiles for Video Management- (VMS) and Cloud Video-Surveillance-as-a-Service (VSaaS) Systems to optimize interfacing with third parties.

It defines minimum required VMS interoperability levels from video export to exclusive video control, for the sake of remote support e.g., in crisis situations, regulating governmental organizations, national law enforcement, private security service companies, public transport operators and other authorities.

This document is intended to set the common technical basis for national regulations requiring inter-organizational remote-, local- or on-site access e.g., by authorities to VSS, granted only temporary e.g., in case of emergency situations.

This standard is accordingly expected to supersede ISO 22311 standard (Societal Security — Video-surveillance — Export interoperability).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60839-11-31:2016, *Alarm and electronic security systems - Part 11-31: Electronic access control systems - Core interoperability protocol based on Web services*

IEC 60839-11-32, *Alarm and electronic security systems - Part 11-32: Electronic access control systems - Access control monitoring based on Web services*

IEC 62676-2-31:2019, *Video surveillance system for use in security applications – Part 2-31: Live streaming and control based on web services*

IEC 62676-2-32:2019, *Video surveillance system for use in security applications – Part 2-32: Recording control and replay based on web services*

IEC 62676-2-33:2022, *Video surveillance system for use in security applications – Part 2-33: Cloud uplink and remote management system access*

ISO 23601, *Safety identification - Escape and evacuation plan signs*

ISO/IEC 14496-3:2003, *Information technology - Coding of audio-visual objects - Part 3: Audio*

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

ISO/IEC 14496-12:2022, *Information technology - Coding of audio-visual objects - Part 12: ISO base media file format*

ISO/IEC 23000-10, *Information technology -- Multimedia application format (MPEG-A) -- Part 10: Surveillance application format*

ISO/IEC 23008-2, *Information technology - High efficiency coding and media delivery in heterogeneous environments - Part 2: High efficiency video coding*

ITU-T/Rec G.711, *Pulse code modulation (PCM) of voice frequencies*

ITU-T/Rec G.722, *7 kHz audio-coding within 64 kbit/s*

RFC 5246, *The Transport Layer Security (TLS) Protocol Version 1.2*

3 Abbreviations, terms and definitions

For the purposes of this document, the terms and definitions generally used in the IEC 62676 series apply; abbreviations used are listed below..

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
FOV
Field of View for a camera

3.2
GPS
Global Positioning System, the widespread GNSS (Global Navigation Satellite System) for universal geolocation

3.3
LEA
Law-Enforcement Agency

3.4
PTZ
Pan Tilt and Zoom of a camera

3.5
RTSP
Real Time Streaming Protocol

3.6
SVG
Scalable Vector Graphics

3.7
TLS
Transport Layer Security

3.8
VMS, lower
Video management System, installed in single locations

3.9
VMS, upper
Video management System, connecting as client to the lower VMS

3.10
VSaaS
Cloud Video Surveillance-as-a-Service systems.

4 Overview

4.1 General

The IEC 62676 family of video-surveillance standards has been established to ensure interoperability and performance within systems, whatever their size is, up to systems of systems. The objective of Part 2-11, within this family, is to define minimum additional requirements to ensure that all the compliant video-surveillance systems not only perform as expected by their owners but also can play their societal role by supporting at the same time the relevant authorities. Such authorities can be as diverse as the different first responders, as police investigators or as the services of smart cities, all with varied use-cases.

In this context, with the authorities mastering their own assets, the present standard concentrates on the requirements put on the “low-level” systems producing the videos and associated data, allowing flexibility in the implementation by the “authorities” of their receiving/exploitation (client) system.

Such requirements rely, for each parameter and feature, on the provisions of the existing IEC 62676-2 series of standards. For the implementer’s convenience, these requirements are associated, at the beginning of section 5, to functional levels and sub-levels in a table summarizing the different requirements.

It must be noted that, as compared to the other IEC 62676-2 standards, the above provisions must accommodate the fact that most of the context relative to the site monitored by the producing system is generally stored locally at the system level and that it is accordingly the responsibility of the producing system to ensure that, whatever video and associated data are transferred to the third party, they are provided with minimum information to allow understanding by the third-party end-user of the videos in their environment (this is especially true when GPS localization is not enough to show FOV obstacles or masking, like indoor and/or in 3D infrastructures).

The other specificity is that, as entities involved are different and information is often sensitive, the implementer shall take into account the applicable information security and privacy dispositions locally and/or nationally applicable; typically, an authentication by a state-of-the-