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INTERNATIONAL STANDARD

NORME INTERNATIONALE



Video surveillance systems for use in security applications –
iTEH STANDARD PREVIEW
Part 2-31: Live streaming and control based on web services
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Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité –
[ITEH 62676-2-31:2019](https://standards.iteh.ai/catalog/standards/sist/dea54a9c-3fce-4393-91d5-12201e100100)
Partie 2-31: Transmission en continu en direct et contrôle basé sur les services web





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VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2-31: Live streaming and control based on web services

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This first edition, together with IEC 60839-11-31 and IEC 62676-2-32, cancels and replaces IEC 62676-2-3:2013.

This edition includes the following significant technical changes with respect to IEC 62676-2-3:2013:

- a) addition of the Media2 service;
- b) additional methods for the imaging service;
- c) method duplicates from the device IO service have been removed;
- d) both the display and analytics device service are no more included.

This publication contains attached schema files. These files are intended to be used as a complement and do not form an integral part of the standard

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

FDIS	Report on voting
79/620/FDIS	79/622/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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INTRODUCTION

The goal of this document is to provide a fully interoperable network video implementation comprised of products from different network video vendors. This document describes the network video model, interfaces, data types and data exchange patterns. The document reuses existing relevant standards where available and introduces new specifications only where necessary to support the specific requirements for network video surveillance.

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VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 2-31: Live streaming and control based on web services

1 Scope

This document defines procedures for communication between network video clients and video transmitter devices. This new set of specifications makes it possible to build network video systems with devices and receivers from different manufacturers using common and well-defined interfaces. These interfaces cover functions such as media and imaging configuration, real-time streaming of audio and video, pan, tilt and zoom (PTZ) control as well as analytics.

The management and control interfaces defined in this document are described as web services. Annex F contains XML schema and Web Service Description Language (WSDL) definitions for the introduced network services.

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IEC 60839-11-31, *Alarm and electronic security systems – Part 11-31: Electronic access control systems – Core interoperability protocol based on Web services*

ISO 12639, *Graphic technology – Prepress digital data exchange – Tag image file format for image technology (TIFF/IT)*

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INTERNET ENGINEERING TASK FORCE (IETF). RFC 2326: *Real Time Streaming Protocol (RTSP)* [online]. Edited by H. Schulzrinne et al. April 1998 [viewed 2019-01-08]. Available at <http://www.ietf.org/rfc/rfc2326.txt>

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<http://www.ietf.org/rfc/rfc3984>

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<http://www.ietf.org/rfc/rfc4566.txt>

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<http://www.ietf.org/rfc/rfc6455.txt>

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Apple, *Tunneling QuickTime RTSP and RTP over HTTP*

Available at

http://www.opensource.apple.com/source/QuickTimeStreamingServer/QuickTimeStreamingServer-412.42/Documentation/RTSP_Over_HTTP.pdf¹

3 Terms and definitions

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

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

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

3.1

media profile

profile that maps a video or an audio source or an audio output to a video or an audio encoder, an audio decoder configuration and PTZ and analytics configurations

¹ QuickTime is the trademark of a product supplied by Apple Inc. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

3.2**metadata**

all streaming data except video and audio, including video analytics results, PTZ position data and other metadata (such as textual data from POS applications)

3.3**PTZ node**

low-level PTZ entity that maps to the PTZ device and its capabilities

3.4**analytics**

algorithms or programs used to analyze video and audio data to generate a high-level data description

4 Overview

4.1 General

This specification defines a standardized interface for video surveillance cameras and encoders based on the basic web service communication mechanism defined in IEC 60839-11-31. The services in this specification define the technical interface details for devices and clients in order to be compliant to ONVIF Profile S and ONVIF Profile T.

4.2 Device IO *iTeh STANDARD PREVIEW*

This specification extends the Device IO definitions from IEC 60839-11-31 by adding interfaces to retrieve the following entities:

- VideoOutputs [IEC 62676-2-31:2019](#)
<https://standards.iteh.ai/catalog/standards/sist/dea54a9c-3fce-4393-91d5-3227d34f2b65/iec-62676-2-31-2019>
- VideoSources
- AudioOutputs
- AudioSources

4.3 Imaging configuration

The imaging service provides configuration and control data for imaging-specific properties. WSDL is part of the framework and provided in the imaging WSDL file.

The service includes the following operations:

- Get and set imaging configurations such as exposure time, gain and white balance.
- Get imaging configuration options that include valid ranges for imaging parameters.
- Move a focus lens.
- Get current position and move status of a focus lens.
- Retrieve and configure imaging presets.

4.4 Media configuration

4.4.1 Media profiles

Media configurations are handled through the media service. Media configurations are used to determine the streaming properties of requested media streams as defined in this specification. Sets of media configurations are called media profiles. See Figure 1 for an abstract example.

Real-time video and audio streaming configurations are controlled using media profiles. A media profile maps a video and/or audio source to a video and/or an audio encoder, PTZ and