SVENSK STANDARD SS-EN 60839-11-31

Fastställd	Utgåva	Sida	Ansvarig kommitté
2017-09-06	1	1 (1+200)	SEK TK 79

Larmsystem – Del 11-31: Passerkontrollsystem – IP-interoperabilitet baserad på webbtjänster – Kärnspecifikation

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

Som svensk standard gäller europastandarden EN 60839-11-31:2017. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60839-11-31:2017.

Nationellt förord

Europastandarden EN 60839-11-31:2017

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 60839-11-31, First edition, 2016 - Alarm and electronic security systems - Part 11-31: Electronic access control systems - Core interoperability protocol based on Web services**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 13.320.00

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60839-11-31

March 2017

ICS 13.320

English Version

Alarm and electronic security systems - Part 11-31: Electronic access control systems - Core interoperability protocol based on Web services (IEC 60839-11-31:2016)

Systèmes d'alarme et de sécurité électroniques - Partie 11-31: Systèmes de contrôle d'accès électronique - Protocole de base d'interopérabilité en fonction des services Web (IEC 60839-11-31:2016)

Alarmanlagen - Teil 11-31: Elektronische Zutrittskontrollanlagen - IP Interoperabilität auf Basis von Webservices - Kernspezifikation (IEC 60839-11-31:2016)

This European Standard was approved by CENELEC on 2016-12-29. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 60839-11-31:2017 E

SEK Svensk Elstandard

European foreword

The text of document 79/522/CDV, future edition 1 of IEC 60839-11-31, prepared by IEC/TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60839-11-31:2017.

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)	2017-09-29
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-12-29

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 60839-11-31:2016 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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEEE 1003.1	-	The Open Group Base Specifications Issue 6, IEEE Std 1003.1, 2004 Edition		
IEEE 802.11	2007	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	-	-
IEEE 802.1X	2004	Port Based Network Access Control	-	-
IETF RFC 952	-	DoD Internet Host Table Specification	-	-
IETF RFC 1123	1989	Requirements for Internet Hosts - Application and Support	-	-
IETF RFC 2131	-	Dynamic Host Configuration Protocol	-	-
IETF RFC 2136	-	Dynamic Updates in the Domain Name System (DNS UPDATE)	-	-
IETF RFC 2246	-	The TLS Protocol Version 1.0	-	-
IETF RFC 2617	-	HTTP Authentication: Basic and Digest Access Authentication	-	-
IETF RFC 2986	-	PKCS #10: Certification Request Syntax Specification Version 1.7	-	-
IETF RFC 3268	-	Advanced Encryption Standard (AES) Cipher suites for Transport Layer Security (TLS)	-	-
IETF RFC 3315	-	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	-	-
IETF RFC 3927	-	Dynamic Configuration of IPv4 Link-Local Addresses	-	-
IETF RFC 4122	-	A Universally Unique IDentifier (UUID) URN Namespace	-	-

Publication	Year	Title	EN/HD	Year
IETF RFC 4514	-	Lightweight Directory Access Protocol (LDAP): String Representation of Distinguished Names	-	-
IETF RFC 4702	-	The Dynamic Host Configuration Protocol (DHCP) Client Fully Qualified Domain Name (FQDN) Option	-	-
IETF RFC 4861	-	Neighbor Discovery for IP version 6 (IPv6)	-	-
IETF RFC 4862	-	IPv6 Stateless Address Auto configuration	-	-
ISO/IEC 8824-2	-	Information technology - Abstract Syntax Notation One (ASN.1): Information object specification	-	-
ISO/IEC 8824-3	-	Information technology - Abstract Syntax Notation One (ASN.1): Constraint specification	-	-
ISO/IEC 8824-4	-	Information technology - Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications	-	-
ISO/IEC 8825-1	-	Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)	-	-
OASIS WS-BaseNotification	-	Web Services Base Notification 1.3 (WS-BaseNotification)		
OASIS WS-Topics	-	Web Services Topics 1.3 (WS-Topics)		
W3C SOAP-MTOM	-	SOAP Message Transmission Optimization-Mechanism		-
W3C SOAP Part 1	-	SOAP Version 1.2 - Part 1: Messaging Framework	-	-
W3C WS-Addressing	-	Web Services Addressing 1.0 - Core	-	-
WS-I BP 2.0	-	Basic Profile Version 2.0		
XMLSOAP WS-Discovery	-	Web Services Dynamic Discovery (WS-Discovery)", J. Beatty et al., April 2005		

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 11-31: Electronic access control systems – Core interoperability protocol based on Web 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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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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60839-11-31 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

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

CDV	Report on voting
79/522/CDV	79/546/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 in the IEC 60839 series, published under the general title *Alarm and electronic security systems*, 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 website 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

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

This document is based upon work done by the ONVIF open industry forum. The ONVIF Core specification is compatible with this document.

This document is accompanied by a set of computer readable interface definitions:

- Device Service WSDL, see Clause B.1;
- Device IO Service WSDL, see Clause B.2;
- Event Service WSDL, see Clause B.3;
- Common schema, see Clause B.4.

This document is divided into the following clauses:

Document overview: Gives an overview of the different standard parts and how they are related to each other.

Web services frame work: Offers a brief introduction to Web services and the Web services basis for this document.

IP configuration: Defines the network IP configuration requirements.

Device discovery: Describes how devices are discovered in local and remote networks.

Device management: Defines the configuration of basics like network and security related settings.

Device IO: Defines the handling of input and output ports on a device.

Event handling: Defines how to subscribe to and receive notifications (events) from a device.

Security: Defines the transport and message level security requirements.

ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 11-31: Electronic access control systems – Core interoperability protocol based on Web services

1 Scope

This part of IEC 60839 defines procedures for communication between network clients and devices. This series of interoperability standards makes it possible to build an alarm and electronic security system with clients and devices from different manufacturers using common and well defined interfaces. The functions defined in this document covers discovery, device management and event framework. Supplementary dedicated services are defined in separate documents.

The management and control interfaces defined in this document are described as Web services. This document also contains full XML schema and Web Service Description Language (WSDL) definitions.

In order to offer full plug-and-play interoperability, this document defines procedures for device discovery. The device discovery mechanisms in this document are based on the WS-Discovery specification with extensions.

This document does not in any way limit a manufacturer to add other protocol or extend the protocol defined here and rules on how to accomplish this are also provided in this document.

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.

IEEE 1003.1, *The Open Group Base Specifications Issue 6, IEEE Std 1003.1, 2004 Edition <http://pubs.opengroup.org/onlinepubs/009695399/>*

IEEE 802.11, *Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications*
<http://standards.ieee.org/getieee802/download/802.11-2007.pdf>

IEEE 802.1X, *Port-Based Network Access Control*
<http://standards.ieee.org/getieee802/download/802.1X-2004.pdf>

IETF RFC 952, Internet Host Table Specification
<https://tools.ietf.org/html/rfc952

IETF RFC 1123:1989, Requirements for Internet Hosts – Application and Support
<https://tools.ietf.org/html/rfc1123>

IETF RFC 2131, *Dynamic Host Configuration Protocol*
<http://www.ietf.org/rfc/rfc2131.txt>

IETF RFC 2136, *Dynamic Updates in the Domain Name System (DNS UPDATE)*
<http://www.ietf.org/rfc/rfc2136.txt>

IETF RFC 2246, *The TLS Protocol Version 1.0*
<http://www.ietf.org/rfc/rfc2246.txt>

IETF RFC 2617, *HTTP Authentication: Basic and Digest Access Authentication*
<http://www.ietf.org/rfc/rfc2617.txt>

IETF RFC 2986, PKCS #10*, Certification Request Syntax Specification Version 1.7*
<http://www.ietf.org/rfc/rfc2986.txt>

IETF RFC 3268, *Advanced Encryption Standard (AES) Cipher suites for Transport Layer Security (TLS)*
<http://www.ietf.org/rfc/rfc3268.txt>

IETF RFC 3315, *Dynamic Host Configuration Protocol for IPv6 (DHCPv6)*
<http://www.ietf.org/rfc/rfc3315.txt>

IETF RFC 3927, *Dynamic Configuration of IPv4 Link-Local Addresses*
<http://www.ietf.org/rfc/rfc3927.txt>

IETF RFC 4122, *A Universally Unique IDentifier (UUID) URN Namespace*
<http://www.ietf.org/rfc/rfc4122.txt>

IETF RFC 4514, *Lightweight Directory Access Protocol (LDAP): String Representation of Distinguished Names*
<http://www.ietf.org/rfc/rfc4514.txt>

IETF RFC 4702, *The Dynamic Host Configuration Protocol (DHCP) Client Fully Qualified Domain Name (FQDN) Option*
<http://www.ietf.org/rfc/rfc4702.txt>

IETF RFC 4861, *Neighbor Discovery for IP version 6 (IPv6)*
<http://www.ietf.org/rfc/rfc4861.txt>

IETF RFC 4862, *IPv6 Stateless Address Auto configuration*
<http://www.ietf.org/rfc/rfc4862.txt>

ISO/IEC 8824-2, *Information Technology – Abstract Syntax Notation One (ASN.1): Information object specification*

ISO/IEC 8824-3, *Information Technology – Abstract Syntax Notation One (ASN.1): Constraint specification*

ISO/IEC 8824-4*, Information Technology – Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications*

ISO/IEC 8825-1, *Information Technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*

OASIS WS-BaseNotification, *Web Services Base Notification 1.3 (WS-BaseNotification)*
<http://docs.oasis-open.org/wsn/wsn-ws_base_notification-1.3-spec-os.pdf>

OASIS WS-Topics*, Web Services Topics 1.3 (WS-Topics)*
<http://docs.oasis-open.org/wsn/wsn-ws_topics-1.3-spec-os.pdf>

W3C SOAP-MTOM, *SOAP Message Transmission Optimization Mechanism*
<http://www.w3.org/TR/soap12-mtom/>

W3C SOAP12-PART1, *SOAP 1.2 Part 1, Messaging Framework*
<http://www.w3.org/TR/soap12-part1/>

W3C WS-Addressing, *Web Services Addressing 1.0 – Core*
<http://www.w3.org/TR/ws-addr-core/>

WS-I BP 2.0, *Basic Profile Version 2.0*
<http://www.ws-i.org/Profiles/BasicProfile-2.0-2010-11-09.html>

XMLSOAP WS-Discovery, *Web Services Dynamic Discovery (WS-Discovery)", J. Beatty et al., April 2005*
<http://specs.xmlsoap.org/ws/2005/04/discovery/ws-discovery.pdf>