IEC 60839-11-31

Edition 1.0 2016-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-

IEC 60839-11-31:2016-11(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2016 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue
The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue
Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
65 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

IEC 60839-11-31

Edition 1.0 2016-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/05e95991-fbf1-48ef-a401-a019b6d0a741/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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 13.320

ISBN 978-2-8322-3778-6

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

CONTENTS

FOREWORD 10
INTRODUCTION 12
1 Scope 13
2 Normative references 13
3 Terms, definitions and abbreviated terms 15
3.1 Terms and definitions 15
3.2 Abbreviated terms 16
4 Overview 17
4.1 General 17
4.2 Web services 17
4.3 IP configuration 18
4.4 Device discovery 18
4.5 Device management 19
4.5.1 General 19
4.5.2 Capabilities 19
4.5.3 Network 19
4.5.4 System 20
4.5.5 Retrieval of system information 20
4.5.6 Firmware upgrade 20
4.5.7 SystemRestore 20
4.5.8 Security 20
4.6 DeviceIO 21
4.7 Event handling 21
4.8 Security 21
5 Web services framework 21
5.1 General 21
5.2 Services overview 22
5.2.1 General 22
5.2.2 Services requirements 22
5.3 WSDL overview 22
5.4 Namespaces 23
5.5 Types 24
5.6 Messages 24
5.7 Operations 25
5.7.1 General 25
5.7.2 One-way operation type 26
5.7.3 Request-response operation type 26
5.8 Port types 27
5.9 Binding 27
5.10 Ports 27
5.11 Services 28
5.12 Error handling 28
5.12.1 General 28
5.12.2 Protocol errors 28
5.12.3 SOAP errors 28
5.13 Security 31

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

5.13.1 Authentication 31
5.13.2 User-based access control 31
5.14 String representation 33
5.14.1 Character set 33
5.14.2 Allowed characters in strings 33
5.15 Proprietary extensions 33
6 IP configuration 33
7 Device discovery 34
7.1 General 34
7.2 Modes of operation 34
7.3 Discovery definitions 35
7.3.1 Endpoint reference 35
7.3.2 Hello 35
7.3.3 Probe and probe match 36
7.3.4 Resolve and resolve match 37
7.3.5 Bye 37
7.3.6 SOAP fault messages 37
8 Device management 37
8.1 General 37
8.2 Capabilities 38
8.2.1 Get WSDL URL 38
8.2.2 Capability exchange 38
8.3 Network 40
8.3.1 Get hostname 40
8.3.2 Set hostname 40
8.3.3 Set hostname from DHCP 41
8.3.4 Get DNS settings 41
8.3.5 Set DNS settings 42
8.3.6 Get NTP settings 42
8.3.7 Set NTP settings 43
8.3.8 Get dynamic DNS settings 43
8.3.9 Set dynamic DNS settings 44
8.3.10 Get network interface configuration 44
8.3.11 Set network interface configuration 45
8.3.12 Get network protocols 46
8.3.13 Set network protocols 47
8.3.14 Get default gateway 47
8.3.15 Set default gateway 48
8.3.16 Get zero configuration 48
8.3.17 Set zero configuration 48
8.3.18 Get IP address filter 49
8.3.19 Set IP address filter 49
8.3.20 Add an IP filter address 50
8.3.21 Remove an IP filter address 50
8.3.22 IEEE 802.11 configuration 51
8.4 System 55
8.4.1 Device information 55
8.4.2 Get system URIs 55
8.4.3 Backup 56

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a910b545e741/iec-60839-11-31-2016

8.4.4 Restore 56
8.4.5 Start system restore 57
8.4.6 Get system date and time 57
8.4.7 Set system date and time 58
8.4.8 Factory default 59
8.4.9 Firmware upgrade 59
8.4.10 Start firmware upgrade 60
8.4.11 Get system logs 61
8.4.12 Get support information 61
8.4.13 Reboot 62
8.4.14 Get scope parameters 62
8.4.15 Set scope parameters 62
8.4.16 Add scope parameters 63
8.4.17 Remove scope parameters 63
8.4.18 Get discovery mode 64
8.4.19 Set discovery mode 64
8.5 Security 65
8.5.1 General 65
8.5.2 Get access policy 65
8.5.3 Set access policy 65
8.5.4 Get users 65
8.5.5 Create users 66
8.5.6 Delete users 67
8.5.7 Set users settings 67
8.5.8 IEEE 802.1X configuration 68
8.5.9 Create self-signed certificate 71
8.5.10 Get certificates 71
8.5.11 Get CA certificates 71
8.5.12 Get certificate status 72
8.5.13 Set certificate status 72
8.5.14 Get certificate request 72
8.5.15 Get client certificate status 73
8.5.16 Set client certificate status 73
8.5.17 Load device certificate 74
8.5.18 Load device certificates in conjunction with its private key 74
8.5.19 Get certificate information request 75
8.5.20 Load CA certificates 76
8.5.21 Delete certificate 76
8.5.22 Get remote user 76
8.5.23 Set remote user 77
8.5.24 Get endpoint reference 77
8.6 Auxiliary operation 78
8.7 Monitoring events 78
8.7.1 Processor usage 78
8.7.2 Link status 79
8.7.3 Upload status 79
8.7.4 Operating time 79
8.7.5 Environmental conditions 81
8.7.6 Battery capacity 81

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a953991-fbf1-48ef-a401-ab1905d5a741/iec-60839-11-31-2016

8.7.7 Device management 82
8.8 Service specific fault codes 82
9 Device I/O 86
9.1 General 86
9.2 Relay outputs 86
9.2.1 Overview 86
9.2.2 Get relay outputs 86
9.2.3 Get relay output options 86
9.2.4 Set relay output settings 87
9.2.5 Trigger relay output 88
9.3 Digital inputs 88
9.3.1 Overview 88
9.3.2 GetDigitalInputs 88
9.4 SerialPorts 89
9.4.1 Overview 89
9.4.2 GetSerialPorts 89
9.4.3 GetSerialPortConfiguration 89
9.4.4 SetSerialPortConfiguration 89
9.4.5 GetSerialPortConfigurationOptions 90
9.4.6 Send and/or Receive serial command 90
9.5 Capabilities 92
9.6 Events 92
9.6.1 DigitalInput state change 92
9.6.2 Relay output trigger 92
9.7 Service specific fault codes 93
10 Event handling 93
10.1 General 93
10.2 Real-time Pull-Point notification interface 93
10.2.1 General 93
10.2.2 Create pull point subscription 95
10.2.3 Pull messages 95
10.2.4 Renew 96
10.2.5 Unsubscribe 96
10.2.6 Seek 97
10.2.7 Pull point lifecycle 98
10.2.8 Persistent notification storage 98
10.3 Basic notification interface 98
10.3.1 General 98
10.3.2 Summary 98
10.3.3 Requirements 99
10.4 Properties 100
10.5 Notification structure 100
10.5.1 General 100
10.5.2 Notification information 101
10.5.3 Message format 102
10.5.4 Message description language 103
10.5.5 Message content filter 104
10.6 Synchronization point 105
10.7 Topic structure 105

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

10.7.1 General 105
10.7.2 ONVIF topic namespace 106
10.7.3 Topic type information 106
10.7.4 Topic filter 107
10.8 Get event properties 108
10.9 Capabilities 108
10.10 SOAP fault messages 109
10.11 Notification example 110
10.11.1 General 110
10.11.2 GetEventPropertiesRequest 110
10.11.3 GetEventPropertiesResponse 110
10.11.4 CreatePullPointSubscription 111
10.11.5 CreatePullPointSubscriptionResponse 111
10.11.6 PullMessagesRequest 112
10.11.7 PullMessagesResponse 112
10.11.8 UnsubscribeRequest 113
10.11.9 UnsubscribeResponse 113
10.12 Persistent storage event:BeginingOfBuffer 114
10.13 Service specific fault codes 114
11 Security 114
11.1 General 114
11.2 Transport level security 114
11.2.1 General 114
11.2.2 Supported cipher suites 115
11.2.3 Server authentication 115
11.2.4 Client authentication 115
11.3 IEEE 802.1X 116
Annex A (informative) Example for GetServices response with capabilities 117
Annex B (normative) Device IP network liferface XML schemata 119
B.1 Device management service WSDL 119
B.2 Device IO service WSDL 161
B.3 Event service WSDL 168
B.4 Common schema 179
Bibliography 197

Figure 1 – Web services based development principles 18
Figure 2 – Sequence diagram for the Real-time Pull-Point notification interface 94
Figure 3 – Sequence diagram for the base notification interface 99

Table 1 – Defined namespaces in this document 23
Table 2 – Referenced namespaces (with prefix) 24
Table 3 – Referenced namespaces (without prefix) 24
Table 4 – Operation description outline used in this document 25
Table 5 – Generic faults 30
Table 6 – HTTP errors 31
Table 7 – Access class to user level mapping 32
Table 8 – Scope parameters 36

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-0b9b5d5a741/iec-60839-11-31-2016

Table 9 – GetWSDLUrl command 38
Table 10 – GetServices command 38
Table 11 – GetServiceCapabilities command 39
Table 12 – Capabilities in the GetServiceCapabilities command 39
Table 13 – GetHostname command 40
Table 14 – SetHostname command 41
Table 15 – SetHostnameFromDHCP command 41
Table 16 – GetDNS command 42
Table 17 – SetDNS command 42
Table 18 – GetNTP command 43
Table 19 – SetNTP command 43
Table 20 – GetDynamicDNS command 44
Table 21 – SetDynamicDNS command 44
Table 22 – GetNetworkInterfaces command 45
Table 23 – SetNetworkInterfaces command 46
Table 24 – GetNetworkProtocols command 47
Table 25 – SetNetworkProtocols command 47
Table 26 – GetNetworkDefaultGateway command 47
Table 27 – SetNetworkDefaultGateway command 48
Table 28 – GetZeroConfiguration command 48
Table 29 – SetZeroConfiguration command 49
Table 30 – GetIPAddressFilter command 49
Table 31 – SetIPAddressFilter command 50
Table 32 – AddIPAddressFilter command 50
Table 33 – RemoveIPAddressFilter command 51
Table 34 – GetDot11Capabilities 53
Table 35 – IEEE 802.11 capabilities 53
Table 36 – GetDot11Status 54
Table 37 – ScanAvailableDot11Networks 55
Table 38 – GetDeviceInformation command 55
Table 39 – GetSystemUris command 56
Table 40 – GetSystemBackup command 56
Table 41 – RestoreSystem command 57
Table 42 – StartSystemRestore command 57
Table 43 – GetSystemDateAndTime command 58
Table 44 – SetSystemDateAndTime command 59
Table 45 – SetSystemFactoryDefault command 59
Table 46 – UpgradeSystemFirmware command 60
Table 47 – StartFirmwareUpgrade command 60
Table 48 – GetSystemLog command 61
Table 49 – GetSystemSupportInformation command 61
Table 50 – SystemReboot command 62
Table 51 – GetScopes command 62

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a91905d5a741/iec-60839-11-31-2016

Table 52 – SetScopes command 63
Table 53 – AddScopes command 63
Table 54 – RemoveScopes command 64
Table 55 – GetDiscoveryMode command 64
Table 56 – SetDiscoveryMode command 64
Table 57 – GetAccessPolicy command 65
Table 58 – SetAccessPolicy command 65
Table 59 – GetUsers command 66
Table 60 – CreateUsers command 66
Table 61 – DeleteUsers command 67
Table 62 – SetUser command 67
Table 63 – CreateDot1XConfiguration command 69
Table 64 – SetDot1XConfigurationRequest command 69
Table 65 – GetDot1XConfiguration command 70
Table 66 – GetDot1XConfigurations command 70
Table 67 – DeleteDot1XConfigurations command 70
Table 68 – CreateCertificate command 71
Table 69 – GetCertificates command 71
Table 70 – GetCACertificates command 72
Table 71 – GetCertificatesStatus command 72
Table 72 – SetCertificatesStatus command 72
Table 73 – GetPkcs10Request command 73
Table 74 – GetClientCertificateMode command 73
Table 75 – SetClientCertificateMode command 74
Table 76 – LoadCertificates command 74
Table 77 – LoadCertificateWithPrivateKey command 75
Table 78 – GetCertificateInformation command 75
Table 79 – LoadCACertificates command 76
Table 80 – DeleteCertificates command 76
Table 81 – GetRemoteUser command 77
Table 82 – SetRemoteUser command 77
Table 83 – GetEndpointReference command 78
Table 84 – SendAuxiliary command 78
Table 85 – Device service specific fault codes 82
Table 86 – GetRelayOutputs command 86
Table 87 – GetRelayOutputOptions command 87
Table 88 – SetRelayOutputSettings command. 88
Table 89 – SetRelayOutputState command 88
Table 90 – GetDigitalInputs command 89
Table 91 – GetSerialPorts command 89
Table 92 – GetSerialPortConfiguration command 89
Table 93 – SetSerialPortConfiguration command 90
Table 94 – GetSerialPortConfigurationOptions command 90

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a959f1-fbf1-48ef-a401-a1965d2a1f1d/iec-60839-11-31-2016

Table 95 – Send and/or Receive serial command 91
Table 96 – GetServiceCapabilities command 92
Table 97 – DeviceIO service specific fault codes 93
Table 98 – CreatePullPointSubscription command 95
Table 99 – PullMessages command 96
Table 100 – Renew command 96
Table 101 – Unsubscribe command 97
Table 102 – Seek command 97
Table 103 – SetSynchronizationPoint command 105
Table 104 – GetEventProperties command 108
Table 105 – GetServiceCapabilities command 109

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

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.
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) 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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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.

IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a9f9b5d5a741/iec-60839-11-31-2016

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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.

IEC 60839-11-31:2016
https://standards.iteh.ai/catalog/standards/sist/68a95991-fbf1-48ef-a401-a919b5d5a741/iec-60839-11-31-2016

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>