SLOVENSKI STANDARD
SIST EN 62541-6:2015

01-oktober-2015

Nadomešča:
SIST EN 62541-6:2012

Enotna arhitektura OPC - 6. del: Načrtovanje (IEC 62541-6:2015)

OPC Unified Architecture - Part 6: Mappings (IEC 62541-6:2015)

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Ta slovenski standard je istoveten z: EN 62541-6:2015

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ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62541-6

May 2015

ICS 25.040.40; 35.100

Supersedes EN 62541-6:2011

English Version

OPC unified architecture - Part 6: Mappings (IEC 62541-6:2015)

Architecture unifiée OPC - Partie 6: Correspondances (IEC 62541-6:2015)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Ref. No. EN 62541-6:2015 E

SIST EN 62541-6:2015

Foreword

The text of document 65E/377/CDV, future edition 2 of IEC 62541-6, prepared by SC 65E "Devices and integration in enterprise systems", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62541-6:2015.

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) 2016-01-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-04-29

This document supersedes EN 62541-6:2011.

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Endorsement notice

The text of the International Standard IEC 62541-6:2015 was approved by CENELEC as a European Standard without any modification.

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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
IEC/TR 62541-1	-	OPC unified architecture - Part 1: Overview and concepts	CLC/TR 62541-1	-
IEC/TR 62541-2	-	OPC unified architecture - Part 2: Security model	CLC/TR 62541-2	-
IEC 62541-3	-	OPC unified architecture - Part 3: Address Space Model	EN 62541-3	-
IEC 62541-4	-	OPC Unified Architecture - Part 4: Services	EN 62541-4	-
IEC 62541-5	-	OPC unified architecture - Part 5: Information Model	EN 62541-5	-
IEC 62541-7	-	OPC unified architecture - Part 7: Profiles	EN 62541-7	-
IEEE 754	2008	IEEE Standard for Binary Floating-Point Arithmetic	-	-
ITU-T X.509	-	Information technology - Open systems interconnection - The Directory: Public-key and attribute certificate frameworks	-	-
ITU-T X.690	2002	Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)	-	-
FIPS PUB 180-2	2002	Secure Hash Standard	-	-
FIPS PUB 197	2001	Advanced Encryption Standard (AES)	-	-
RFC 1305	1992	Network Time Protocol (Version 3) - Specification, Implementation and Analysis	-	-
RFC 2104	1997	HMAC: Keyed-Hashing for Message Authentication	-	-
RFC 2437	1998	PKCS #1: RSA Cryptography Specifications Version 2.0	-	-

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Publication	Year	Title	EN/HD	Year
RFC 2616	1999	Hypertext Transfer Protocol - HTTP/1.1	-	-
RFC 3280	2002	Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	-	-
RFC 3548	2003	The Base16, Base32, and Base64 Data Encodings	-	-
RFC 3629	2003	UTF-8, a transformation format of ISO 10646	-	-
RFC 4514	2006	Lightweight Directory Access Protocol (LDAP): String Representation of Distinguished Names	-	-
RFC 5246	2008	The Transport Layer Security (TLS) Protocol Version 1.2	-	-
SOAP Part 1	2007	SOAP Version 1.2 - Part 1: Messaging Framework	-	-
SOAP Part 2	2007	SOAP Version 1.2 - Part 2: Adjuncts	-	-
WS-Addressing	2004	Web Services Addressing (WS-Addressing)	-	-
XML Encryption	2002	XML Encryption Syntax and Processing	-	-
XML Schema Part 1	2004	XML Schema - Part 1: Structures	-	-
XML Schema Part 2	2004	XML Schema - Part 2: Datatypes	-	-
XML Signature	2008	XML Signature Syntax and Processing	-	-

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IEC 62541-6

Edition 2.0 2015-03

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ICS 25.040.40; 35.100

ISBN 978-2-8322-2373-4

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CONTENTS

FOREWORD 7
1 Scope 9
2 Normative references 9
3 Terms, definitions, abbreviations and symbols 11
3.1 Terms and definitions 11
3.2 Abbreviations and symbols 11
4 Overview 12
5 Data encoding 13
5.1 General 13
5.1.1 Overview 13
5.1.2 Built-in Types 13
5.1.3 Guid 14
5.1.4 ByteString 15
5.1.5 ExtensionObject` 15
5.1.6 Variant 15
5.2 OPC UA Binary 16
5.2.1 General 16
5.2.2 Built-in Types 16
5.2.3 Enumerations 25
5.2.4 Arrays 25
5.2.5 Structures 25
5.2.6 Messages 26
5.3 XML 26
5.3.1 Built-in Types 26
5.3.2 Enumerations 33
5.3.3 Arrays 33
5.3.4 Structures 33
5.3.5 Messages 34
6 Message SecurityProtocols 34
6.1 Security handshake 34
6.2 Certificates 35
6.2.1 General 35
6.2.2 Application Instance Certificate 36
6.2.3 Signed Software Certificate 36
6.3 Time synchronization 37
6.4 UTC and International Atomic Time (TAI) 37
6.5 Issued User Identity Tokens – Kerberos 38
6.6 WS Secure Conversation 38
6.6.1 Overview 38
6.6.2 Notation 40
6.6.3 Request Security Token (RST/SCT) 40
6.6.4 Request Security Token Response (RSTR/SCT) 41
6.6.5 Using the SCT 42
6.6.6 Cancelling Security contexts 42
6.7 OPC UA Secure Conversation 43
6.7.1 Overview 43

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 62541-6:2015
https://standards.iteh.ai/catalog/standards/sist/9b52970a-09d0-4b1f-8f45-d3dd0fe64f15/sist-en-62541-6-2015

SIST EN 62541-6:2015

6.7.2 MessageChunk structure 43
6.7.3 MessageChunks and error handling 46
6.7.4 Establishing a SecureChannel 47
6.7.5 Deriving keys 48
6.7.6 Verifying Message Security 49
7 Transport Protocols 50
7.1 OPC UA TCP 50
7.1.1 Overview 50
7.1.2 Message structure 50
7.1.3 Establishing a connection 52
7.1.4 Closing a connection 53
7.1.5 Error handling 54
7.1.6 Error recovery 54
7.2 SOAP/HTTP 56
7.2.1 Overview 56
7.2.2 XML Encoding 56
7.2.3 OPC UA Binary Encoding 57
7.3 HTTPS 57
7.3.1 Overview 57
7.3.2 XML Encoding 59
7.3.3 OPC UA Binary Encoding 60
7.4 Well known addresses 60
8 Normative Contracts 61
8.1 OPC Binary Schema 61
8.2 XML Schema and WSDL 61
Annex A (normative) Constants 62
A.1 Attribute Ids 62
A.2 Status Codes 62
A.3 Numeric Node Ids 62
Annex B (normative) OPC UA Nodeset 64
Annex C (normative) Type declarations for the OPC UA native Mapping 65
Annex D (normative) WSDL for the XML Mapping 66
D.1 XML Schema 66
D.2 WDSL Port Types 66
D.3 WSDL Bindings 66
Annex E (normative) Security settings management 67
E.1 Overview 67
E.2 SecuredApplication 68
E.3 CertificateIdentifier 71
E.4 CertificateStoreIdentifier 73
E.5 CertificateList 73
E.6 CertificateValidationOptions 73
Annex F (normative) Information Model XML Schema 75
F.1 Overview 75
F.2 UANodeSet 75
F.3 UANode 76
F.4 Reference 76
F.5 UAType 77

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(standards.iteh.ai)
SIST EN 62541-6:2015
https://standards.iteh.ai/catalog/standards/sist/9b52970a-09d0-4b1f-8f45-d3dd0fe64f15/sist-en-62541-6-2015

SIST EN 62541-6:2015

F.6 UAInstance 77
F.7 UAVariable 77
F.8 UAMethod 78
F.9 TranslationType 78
F.10 UADataType 79
F.11 DataTypeDefinition 79
F.12 DataTypeField 80
F.13 Variant 80
F.14 Example (Informative) 81

Figure 1 – The OPC UA Stack Overview 13
Figure 2 – Encoding Integers in a binary stream 16
Figure 3 – Encoding Floating Points in a binary stream 17
Figure 4 – Encoding Strings in a binary stream 17
Figure 5 – Encoding Guids in a binary stream 18
Figure 6 – Encoding XmlElements in a binary stream 19
Figure 7 – A String NodeId 20
Figure 8 – A Two Byte NodeId 20
Figure 9 – A Four Byte NodeId 21
Figure 10 – Security handshake 34
Figure 11 – Relevant XML Web Services specifications 39
Figure 12 – The WS Secure Conversation handshake 39
Figure 13 – OPC UA Secure Conversation MessageChunk 43
Figure 14 – OPC UA TCP Message structure 52
Figure 15 – Establishing a OPC UA TCP connection 53
Figure 16 – Closing a OPC UA TCP connection 53
Figure 17 – Recovering an OPC UA TCP connection 55
Figure 18 – Scenarios for the HTTPS Transport 58

Table 1 – Built-in Data Types 14
Table 2 – Guid structure 14
Table 3 – Supported Floating Point Types 17
Table 4 – NodeId components 19
Table 5 – NodeId DataEncoding values 19
Table 6 – Standard NodeId Binary DataEncoding 19
Table 7 – Two Byte NodeId Binary DataEncoding 20
Table 8 – Four Byte NodeId Binary DataEncoding 20
Table 9 – ExpandedNodeId Binary DataEncoding 21
Table 10 – DiagnosticInfo Binary DataEncoding 22
Table 11 – QualifiedName Binary DataEncoding 22
Table 12 – LocalizedText Binary DataEncoding 22
Table 13 – Extension Object Binary DataEncoding 23
Table 14 – Variant Binary DataEncoding 24
Table 15 – Data Value Binary DataEncoding 25

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SIST EN 62541-6:2015
https://standards.iteh.ai/catalog/standards/sist/9b52970a-09d0-4b1f-8f45-25dd0fc04f15/sist-en-62541-6-2015

SIST EN 62541-6:2015

Table 16 – Sample OPC UA Binary Encoded structure 26
Table 17 – XML Data Type Mappings for Integers 27
Table 18 – XML Data Type Mappings for Floating Points 27
Table 19 – Components of NodeId 29
Table 20 – Components of ExpandedNodeId 30
Table 21 – Components of Enumeration 33
Table 22 – SecurityPolicy 35
Table 23 – ApplicationInstanceCertificate 36
Table 24 – SignedSoftwareCertificate 37
Table 25 – Kerberos UserTokenPolicy 38
Table 26 – WS-* Namespace prefixes 40
Table 27 – RST/SCT Mapping to an OpenSecureChannel Request 41
Table 28 – RSTR/SCT Mapping to an OpenSecureChannel Response 42
Table 29 – OPC UA Secure Conversation Message header 44
Table 30 – Asymmetric algorithm Security header 44
Table 31 – Symmetric algorithm Security header 45
Table 32 – Sequence header 45
Table 33 – OPC UA Secure Conversation Message footer 46
Table 34 – OPC UA Secure Conversation Message abort body 47
Table 35 – OPC UA Secure Conversation OpenSecureChannel Service 47
Table 36 – Cryptography key generation parameters 49
Table 37 – OPC UA TCP Message header 50
Table 38 – OPC UA TCP Hello Message 51
Table 39 – OPC UA TCP Acknowledge Message 51
Table 40 – OPC UA TCP Error Message 52
Table 41 – OPC UA TCP error codes 54
Table 42 – WS-Addressing headers 56
Table 43 – Well known addresses for Local Discovery Servers 60
Table A.1 – Identifiers assigned to Attributes 62
Table E.1 – SecuredApplication 69
Table E.2 – CertificateIdentifier 71
Table E.3 – Structured directory store 72
Table E.4 – CertificateStoreIdentfier 73
Table E.5 – CertificateList 73
Table E.6 – CertificateValidationOptions 74
Table F.1 – UANodeSet 75
Table F.2 – UANode 76
Table F.3 – Reference 77
Table F.4 – UANodeSet Type Nodes 77
Table F.5 – UANodeSet Instance Nodes 77
Table F.6 – UAInstance 77
Table F.7 – UAVariable 78
Table F.8 – UAMethod 78

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https://standards.iteh.ai/catalog/standards/sist/9b52970a-09d0-4b1f-8f45-c3a0e4f1f5/sist-en-62541-6-2015

SIST EN 62541-6:2015

Table F.9 – TranslationType 79
Table F.10 – UADataType 79
Table F.11 – DataTypeDefinition 80
Table F.12 – DataTypeField 80

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SIST EN 62541-6:2015
https://standards.iteh.ai/catalog/standards/sist/9b52970a-09d0-4b1f-8f45-d3dd0fe64f15/sist-en-62541-6-2015

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OPC UNIFIED ARCHITECTURE –

Part 6: Mappings

FOREWORD

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International Standard IEC 62541-6 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Some applications need to operation in environments with no access to cryptography libraries. To support this a new HTTPS transport has been defined in 7.3;
b) The padding byte is not long enough to handle asymmetric key sizes larger than 2048 bits. Added an additional padding byte to 6.7.2 to handle this case.
c) Fixed errors in SOAP action URIs defined in 7.2.2;

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d) Needed a standard way to serialize nodes in an address space. Added the UANodeSet schema defined in Annex F;

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

CDV	Report on voting
65E/377/CDV	65E/405/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 of the IEC 62541 series, published under the general title *OPC Unified Architecture*, 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 web site 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.

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OPC UNIFIED ARCHITECTURE –

Part 6: Mappings

1 Scope

This part of IEC 62541 specifies the OPC Unified Architecture (OPC UA) mapping between the security model described in IEC TR 62541-2, the abstract service definitions, described in IEC 62541-4, the data structures defined in IEC 62541-5 and the physical network protocols that can be used to implement the OPC UA specification.

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.

IEC TR 62541-1, *OPC Unified Architecture – Part 1: Overview and Concepts*

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IEC TR 62541-2, *OPC Unified Architecture – Part 2: Security Model*

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IEC 62541-3, *OPC Unified Architecture – Part 3: Address Space Model*

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IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-5, *OPC Unified Architecture – Part 5: Information Model*

IEC 62541-7, *OPC Unified Architecture – Part 7: Profiles*

XML Schema Part 1: XML Schema Part 1: Structures

http://www.w3.org/TR/xmlschema-1/

XML Schema Part 2: XML Schema Part 2: Datatypes

http://www.w3.org/TR/xmlschema-2/

SOAP Part 1: SOAP Version 1.2 Part 1: Messaging Framework

http://www.w3.org/TR/soap12-part1/

SOAP Part 2: SOAP Version 1.2 Part 2: Adjuncts

http://www.w3.org/TR/soap12-part2/

XML Encryption: XML Encryption Syntax and Processing

http://www.w3.org/TR/xmlenc-core/

XML Signature: XML-Signature Syntax and Processing

http://www.w3.org/TR/xmldsig-core/

WS Security: SOAP Message Security 1.1

http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-SOAPMessageSecurity.pdf