SLOVENSKI STANDARD
oSIST prEN IEC 62541-6:2024

01-april-2024

Enotna arhitektura OPC - 6. del: Preslikave

OPC unified architecture - Part 6: Mappings

OPC Unified Architecture - Teil 6: Protokollabbildungen

Architecture unifiée OPC - Partie 6: Mappings

Ta slovenski standard je istoveten z: **prEN IEC 62541-6:2024**

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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65E/1063/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 62541-6 ED4	
DATE OF CIRCULATION:	CLOSING DATE FOR VOTING:
2024-02-02	**2024-04-26**
SUPERSEDES DOCUMENTS:	
65E/978/RR	

IEC SC 65E : DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS	
SECRETARIAT: United States of America	SECRETARY: Mr Donald (Bob) Lattimer
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 **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.	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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TITLE:

OPC Unified Architecture - Part 6: Mappings

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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 fourth edition cancels and replaces the third edition published in 2020. This edition constitutes a technical revision.

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

a) Added support for ECC to UA Secure Conversation
b) Added use of the AuthorityKeyIdentifier extension in Certificate Revocation Lists.
c) Enhanced JSON mapping of Unions.
d) Added Decimal data type encoding.
e) Specified ECC keyUsage rules.
f) Added Media assigned by IANA to UANodeSet definition.
g) Added requirements for user and issuer Certificates.
h) Added rules which specify what happens when DateTime precision is lost.
i) Added rules to allow for the truncation of strings containing embedded nulls.

j) Defined a normative string representation for NodeId, ExpandedNodeId and QualifiedName for JSON mapping.

k) Require that TAI times be converted to UTC.

l) Allow Symbol to be omitted if unknown in JSON encoding.

m) Added fields needed to support RolePermissions to the UANodeSet.

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

CDV	Report on voting
65E/XX/CDV	65E/XX/RVC

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.

Throughout this document and the other parts of the IEC 62541 series, certain document conventions are used:

Italics are used to denote a defined term or definition that appears in the "Terms and definition" clause in one of the parts of the IEC 62541 series.

Italics are also used to denote the name of a service input or output parameter or the name of a structure or element of a structure that are usually defined in tables.

The *italicized terms and names* are, with a few exceptions, written in camel-case (the practice of writing compound words or phrases in which the elements are joined without spaces, with each element's initial letter capitalized within the compound). For example, the defined term is *AddressSpace* instead of Address Space. This makes it easier to understand that there is a single definition for *AddressSpace*, not separate definitions for Address and Space.

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 document will remain unchanged until the stability date indicated on the IEC website under "http://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.

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.

OPC Unified Architecture Specification

Part 6: Mappings

1. Scope

This part of OPC Unified Architecture (OPC UA) specifies the mapping between the security model described in IEC 62541-2, the abstract service definitions specified 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 62541-1, *OPC Unified Architecture - Part 1: Overview and Concepts*

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

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

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

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

IEC 62541-6, *OPC Unified Architecture - Part 6: Mappings*

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

IEC 62541-9, *OPC Unified Architecture - Part 9: Alarms and Conditions*

IEC 62541-12, *OPC Unified Architecture - Part 12: Discovery and Global Services*

IEC 62541-18, *OPC Unified Architecture - Part 18: Role-Based Security*

IEC 62541-21, *OPC Unified Architecture - Part 21: Device OnboardingOPC Unified Architecture - Part 12: Discovery and Global Services*

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/

WS Addressing, Web Services Addressing (WS-Addressing)

http://www.w3.org/Submission/ws-addressing/

TLS, RFC 8446 – The Transport Layer Security (TLS) Protocol Version 1.3

https://datatracker.ietf.org/doc/html/rfc8446

X.509 v3, ISO/IEC 9594-8 (ITU-T Rec. X.509), Information technology – Open Systems Interconnection – The Directory: Public-key and attribute certificate frameworks

https://www.iso.org/standard/72557.html

HTTP, Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing

https://datatracker.ietf.org/doc/html/rfc7230

HTTPS, HTTP Over TLS

http://www.ietf.org/rfc/rfc2818.txt

Base64, The Base16, Base32, and Base64 Data Encodings