

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**OPC unified architecture –
Part 7: Profiles**

**Architecture unifiée OPC –
Partie 7: Profils**





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Part 7: Profiles**

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COMMISSION

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OPC UNIFIED ARCHITECTURE –
Part 7: Profiles**FOREWORD**

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International Standard IEC 62541-7 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

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

- a) new functional Profiles:
 - profiles for global discovery and global certificate management;
 - profiles for global KeyCredential management and global access token management;
 - facet for durable subscriptions;
 - standard UA Client Profile;

- profiles for administration of user roles and permissions.
- b) new transport Profiles:
- HTTPS with JSON encoding;
 - secure WebSockets (WSS) with binary or JSON encoding;
 - reverse connectivity.
- c) new security Profiles:
- transportSecurity – TLS 1.2 with PFS (with perfect forward secrecy);
 - securityPolicy [A] – Aes128-Sha256-RsaOaep (replaces Base128Rsa15);
 - securityPolicy – Aes256-Sha256-RsaPss adds perfect forward secrecy for UA TCP);
 - user Token JWT (Jason Web Token).
- d) deprecated Security Profiles (due to broken algorithms):
- securityPolicy – Basic128Rsa15 (broken algorithm Sha1);
 - securityPolicy – Basic256 (broken algorithm Sha1);
 - transportSecurity – TLS 1.0 (broken algorithm RC4);
 - transportSecurity – TLS 1.1 (broken algorithm RC4).
- e) deprecated Transport (missing support on most platforms):
- SOAP/HTTP with WS-SecureConversation (all encodings).

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

FDIS	Report on voting
65E/707/FDIS	65E/725/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.

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.

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