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**OPC unified architecture –
Part 3: Address Space Model**

**Architecture unifiée OPC –
Partie 3: Modèle d'espace d'adressage**



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OPC UNIFIED ARCHITECTURE –

Part 3: Address Space Model

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International Standard IEC 62541-3 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 includes the following significant technical changes with respect to the previous edition:

- a) Added new improved approach for exposing structure definitions. An Attribute on the Data Type Node now simply contains a binary description.
- b) Added new flags for Variables to indicate atomicity when reading or writing.
- c) Added Roles and Permissions to allow configuration of a role-based authorization.
- d) Added new data types: “Union”, “Decimal”, “OptionSet”, “DateString”, “TimeString”, “DurationString”, “NormalizedString”, “DecimalString”, and “AudioDataType”.

- e) Added definition on how to use the ModellingRules OptionalPlaceholder and MandatoryPlaceholder for Methods.
- f) Added optional Properties “MaxCharacters” and “MaxByteStringLength” to Variable Nodes.

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

FDIS	Report on voting
65E/715/FDIS	65E/731/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.

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Italics are used to denote a defined term or definition that appears in Clause 3 in one of the parts of the 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 also, 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.

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OPC UNIFIED ARCHITECTURE –

Part 3: Address Space Model

1 Scope

This part of IEC 62541 defines the OPC Unified Architecture (OPC UA) *AddressSpace* and its *Objects*. This document is the OPC UA meta model on which OPC UA information models are based.

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.

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

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 62541-8, *OPC Unified Architecture – Part 8: Data Access*

ISO/IEC/IEEE 60559:2011, *Information technology – Microprocessor Systems – Floating-Point arithmetic*

ISO 639 (all parts), *Codes for the representation of names of languages*

ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

ISO 8601 (all parts), *Date and time – Representations for information interchange*

IETF RFC 5646, Tags for Identifying Languages
<http://tools.ietf.org/html/rfc5646>

Unicode Standard Annex #15: Unicode Normalization Forms,
<http://www.unicode.org/reports/tr15/>

W3C XML Schema Definition Language (XSD) Part 2: DataTypes
<http://www.w3.org/TR/xmlschema-2/>

TAI: International Atomic Time
<http://www.bipm.org/en/bipm-services/timescales/tai.html>