

English version

**OPC unified architecture -  
Part 1: Overview and concepts  
(IEC/TR 62541-1:2010)**

Architecture unifiée OPC -  
Partie 1: Vue d'ensemble et concepts  
(CEI/TR 62541-1:2010)

OPC Unified Architecture -  
Teil 1: Übersicht und Konzepte  
(IEC/TR 62541-1:2010)

This Technical Report was approved by CENELEC on 2010-06-25.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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## Foreword

The text of the Technical Report IEC/TR 62541-1:2010, prepared by SC 65E, Devices and integration in enterprise systems, of IEC TC 65, Industrial-process measurement, control and automation, was submitted to vote and was approved by CENELEC as CLC/TR 62541-1 on 2010-06-25.

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the Technical Report IEC/TR 62541-1:2010 was approved by CENELEC as a Technical Report without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC/TR 62541-2	NOTE Harmonized as CLC/TR 62541-2.
IEC 62541-3	NOTE Harmonized as EN 62541-3.
IEC 62541-4	NOTE Harmonized as EN 62541-4.
IEC 62541-5	NOTE Harmonized as EN 62541-5.
IEC 62541-6	NOTE Harmonized as EN 62541-6.
IEC 62541-8	NOTE Harmonized as EN 62541-8.

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**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62541	Series	OPC unified architecture	EN 62541	Series

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## INTRODUCTION

This technical report introduces the specification for developers of OPC Unified Architecture applications. This technical report and specification are a result of an analysis and design process to develop a standard interface to facilitate the development of applications by multiple vendors that inter-operate seamlessly together.

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## OPC UNIFIED ARCHITECTURE –

### Part 1: Overview and Concepts

#### 1 Scope

This part of IEC 62541 presents the concepts and overview of the Unified Architecture (OPC UA) specification produced by the OPC Foundation. Reading this report enables the reader to understand the series of IEC 62541 standards. Each of the other parts is briefly explained along with a suggested reading order.

#### 2 Normative references

The following referenced documents are indispensable for the application 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 62541 (all parts), *OPC Unified Architecture*

#### 3 Terms, definitions, abbreviations and conventions

##### 3.1 Document conventions

Throughout this document and the referenced other Parts of the 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 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 often 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*.

##### 3.2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

###### 3.2.1

###### **AddressSpace**

collection of information that an OPC UA *Server* makes visible to its *Clients*

NOTE See IEC 62541-3 for a description of the contents and structure of the *Server AddressSpace*.

###### 3.2.2

###### **Alarm**

type of *Event* associated with a state condition that typically requires acknowledgement

NOTE See IEC 62541-9 for a description of *Alarms*.