

IEC 62541-004 OPC Unified Architecture - Part 4: Services

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Table 1: Data sheet for OPC Unified Architecture - Part 4: Services

Title	OPC Unified Architecture - Part 4: Services
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Note: The following is an excerpt from the official IEC catalog. It is provided here as a convenience and is not authoritative. Refer to the original document as the authoritative reference.

Abstract

IEC 62541-4:2020 defines the OPC Unified Architecture (OPC UA) Services. The Services defined are the collection of abstract Remote Procedure Calls (RPC) that are implemented by OPC UA Servers and called by OPC UA Clients. All interactions between OPC UA Clients and Servers occur via these Services. The defined Services are considered abstract because no particular RPC mechanism for implementation is defined in this document. [IEC 62541-006 OPC Unified Architecture - Part 6: Mappings](#) specifies one or more concrete mappings supported for implementation. For example, one mapping in IEC 62541-6 is to XML Web Services. In that case the Services described in this document appear as the Web service methods in the WSDL contract. Not all OPC UA Servers will need to implement all of the defined Services. IEC 62541-7 defines the Profiles that dictate which Services need to be implemented in order to be compliant with a particular Profile 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) Added ability to resend all data of monitored items in a Subscription using the **ResendData** Method.
- b) Added support for durable Subscriptions (lifetime of hours or days).
- c) Added **Register2** and **FindServersOnNetwork** Services to support network-wide discovery using capability filters.
- d) Removed definition of software certificates. Will be defined in a future edition.
- e) Extended and partially revised the redundancy definition. Added sub-range definitions for **ServiceLevel** and added more terms for redundancy.
- f) Added a section on how to use Authorization Services to request user access tokens.
- g) Added JSON Web Tokens (JWTs) as a new user token.
- h) Added the concept of session-less service invocation.

- i) Added a generic structure that allows passing any number of attributes to the **AddNodes** Service.
- j) Added requirement to protect against user identity token attacks.
- k) Added new **EncryptedSecret** format for user identity tokens.

See also:

- [IEC 62541-001 OPC Unified Architecture - Part 1: Overview and concepts](#)
- [IEC 62541-002 OPC Unified Architecture - Part 2: Security Model](#)
- [IEC 62541-003 OPC Unified Architecture - Part 3: Address Space Model](#)
- [IEC 62541-005 OPC Unified Architecture - Part 5: Information Model](#)
- [IEC 62541-006 OPC Unified Architecture - Part 6: Mappings](#)
- [IEC 62541-007 OPC Unified Architecture - Part 7: Profiles](#)
- [IEC 62541-008 OPC Unified Architecture - Part 8: Data Access](#)
- [IEC 62541-009 OPC Unified Architecture - Part 9: Alarms and Conditions](#)
- [IEC 62541-010 OPC Unified Architecture - Part 10: Programs](#)
- [IEC 62541-011 OPC Unified Architecture - Part 11: Historical Access](#)
- [IEC 62541-012 OPC Unified Architecture - Part 12: Discovery and global](#)
- [IEC 62541-013 OPC Unified Architecture - Part 13: Aggregates](#)
- [IEC 62541-014 OPC Unified Architecture - Part 14: PubSub](#)
- [IEC 62541-100 OPC Unified Architecture - Part 100: Device Interface](#)

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