

INTERNATIONAL STANDARD

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OPC unified architecture [Part 7: Profiles](#) STANDARD PREVIEW
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Architecture unifiée OPC –

Partie 7: Profils <https://standards.iteh.ai/catalog/standards/sist/442d5dad-25c2-4565-b5d2-74c1c5157fce/iec-62541-7-2020>





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IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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CONTENTS

FOREWORD	12
1 Scope	15
2 Normative references	15
3 Terms, definitions, and abbreviated terms	16
3.1 Terms and definitions.....	16
3.2 Abbreviated terms	17
4 Overview	17
4.1 General.....	17
4.2 ConformanceUnit.....	18
4.3 Profiles	18
4.4 Profile Categories	19
5 Conformance Units	19
5.1 Overview.....	19
5.2 Services.....	20
5.3 Transport and communication related features.....	30
5.4 Information Model and AddressSpace related features.....	38
5.5 Miscellaneous.....	55
6 Profiles	57
6.1 Overview.....	57
6.2 Profile list	57
6.3 Conventions for Profile definitions.....	64
6.4 Profile versioning.....	64
6.5 Applications	74c1c5157fce/iec-62541-7-2020
6.6 Profile tables.....	66
6.6.1 General	66
6.6.2 Core Server Facet	66
6.6.3 Core 2017 Server Facet.....	66
6.6.4 Sessionless Server Facet	67
6.6.5 Reverse Connect Server Facet	67
6.6.6 Base Server Behaviour Facet	68
6.6.7 Request State Change Server Facet.....	68
6.6.8 Subnet Discovery Server Facet.....	68
6.6.9 Global Certificate Management Server Facet.....	68
6.6.10 Authorization Service Server Facet.....	69
6.6.11 KeyCredential Service Server Facet	69
6.6.12 Attribute WriteMask Server Facet	69
6.6.13 File Access Server Facet	69
6.6.14 Documentation Server Facet	70
6.6.15 Embedded DataChange Subscription Server Facet.....	70
6.6.16 Standard DataChange Subscription Server Facet	70
6.6.17 Standard DataChange Subscription 2017 Server Facet.....	71
6.6.18 Enhanced DataChange Subscription Server Facet.....	71
6.6.19 Enhanced DataChange Subscription 2017 Server Facet	71
6.6.20 Durable Subscription Server Facet	71
6.6.21 Data Access Server Facet	72
6.6.22 ComplexType Server Facet.....	72

6.6.23	ComplexType 2017 Server Facet	72
6.6.24	Standard Event Subscription Server Facet.....	73
6.6.25	Address Space Notifier Server Facet	74
6.6.26	A & C Base Condition Server Facet	74
6.6.27	A & C Refresh2 Server Facet.....	74
6.6.28	A & C Address Space Instance Server Facet	74
6.6.29	A & C Enable Server Facet.....	75
6.6.30	A & C AlarmMetrics Server Facet	75
6.6.31	A & C Alarm Server Facet.....	75
6.6.32	A & C Acknowledgeable Alarm Server Facet.....	76
6.6.33	A & C Exclusive Alarming Server Facet	76
6.6.34	A & C Non-Exclusive Alarming Server Facet.....	77
6.6.35	A & C Previous Instances Server Facet	77
6.6.36	A & C Dialog Server Facet.....	77
6.6.37	A & C CertificateExpiration Server Facet	78
6.6.38	A & E Wrapper Facet.....	78
6.6.39	Method Server Facet	79
6.6.40	Auditing Server Facet	79
6.6.41	Node Management Server Facet.....	80
6.6.42	User Role Base Server Facet	80
6.6.43	User Role Management Server Facet	80
6.6.44	State Machine Server Facet.....	81
6.6.45	Client Redundancy Server Facet	81
6.6.46	Redundancy Transparent Server Facet.....	81
6.6.47	Redundancy Visible Server Facet	82
6.6.48	Historical Raw Data Server Facet	82
6.6.49	Historical Aggregate Server Facet	82
6.6.50	Historical Data AtTime Server Facet	83
6.6.51	Historical Access Modified Data Server Facet.....	84
6.6.52	Historical Annotation Server Facet.....	84
6.6.53	Historical Data Insert Server Facet	84
6.6.54	Historical Data Update Server Facet	84
6.6.55	Historical Data Replace Server Facet	85
6.6.56	Historical Data Delete Server Facet	85
6.6.57	Historical Access Structured Data Server Facet.....	85
6.6.58	Base Historical Event Server Facet.....	85
6.6.59	Historical Event Update Server Facet	86
6.6.60	Historical Event Replace Server Facet	86
6.6.61	Historical Event Insert Server Facet.....	86
6.6.62	Historical Event Delete Server Facet	86
6.6.63	Aggregate Subscription Server Facet.....	87
6.6.64	Nano Embedded Device Server Profile	88
6.6.65	Nano Embedded Device 2017 Server Profile	88
6.6.66	Micro Embedded Device Server Profile	88
6.6.67	Micro Embedded Device 2017 Server Profile	88
6.6.68	Embedded UA Server Profile	88
6.6.69	Embedded 2017 UA Server Profile	89
6.6.70	Standard UA Server Profile.....	89
6.6.71	Standard 2017 UA Server Profile	89

6.6.72	Core Client Facet.....	90
6.6.73	Core 2017 Client Facet.....	90
6.6.74	Sessionless Client Facet	90
6.6.75	Reverse Connect Client Facet	90
6.6.76	Base Client Behaviour Facet.....	91
6.6.77	Discovery Client Facet.....	91
6.6.78	Subnet Discovery Client Facet.....	91
6.6.79	Global Discovery Client Facet.....	92
6.6.80	Global Certificate Management Client Facet	92
6.6.81	KeyCredential Service Client Facet.....	92
6.6.82	Access Token Request Client Facet	92
6.6.83	AddressSpace Lookup Client Facet	93
6.6.84	Request State Change Client Facet	93
6.6.85	File Access Client Facet	93
6.6.86	Entry Level Support 2015 Client Facet.....	94
6.6.87	Multi-Server Client Connection Facet.....	94
6.6.88	Documentation – Client	94
6.6.89	Attribute Read Client Facet.....	94
6.6.90	Attribute Write Client Facet.....	95
6.6.91	DataChange Subscriber Client Facet	95
6.6.92	Durable Subscription Client Facet	96
6.6.93	DataAccess Client Facet.....	96
6.6.94	Event Subscriber Client Facet.....	97
6.6.95	Base Event Processing Client Facet.....	97
6.6.96	Notifier and Source Hierarchy Client Facet	98
6.6.97	A & C Base Condition Client Facet	98
6.6.98	A & C Refresh2 Client Facet.....	98
6.6.99	A & C Address Space Instance Client Facet	99
6.6.100	A & C Enable Client Facet	99
6.6.101	A & C AlarmMetrics Client Facet.....	99
6.6.102	A & C Alarm Client Facet	99
6.6.103	A & C Exclusive Alarming Client Facet.....	100
6.6.104	A & C Non-Exclusive Alarming Client Facet	100
6.6.105	A & C Previous Instances Client Facet.....	101
6.6.106	A & C Dialog Client Facet	101
6.6.107	A & C CertificateExpiration Client Facet.....	101
6.6.108	A & E Proxy Facet	102
6.6.109	Method Client Facet.....	103
6.6.110	Auditing Client Facet	103
6.6.111	Node Management Client Facet.....	103
6.6.112	Advanced Type Programming Client Facet	103
6.6.113	User Role Management Client Facet.....	104
6.6.114	State Machine Client Facet.....	104
6.6.115	Diagnostic Client Facet.....	104
6.6.116	Redundant Client Facet	105
6.6.117	Redundancy Switch Client Facet	105
6.6.118	Historical Access Client Facet	105
6.6.119	Historical Data AtTime Client Facet	105
6.6.120	Historical Aggregate Client Facet.....	105

6.6.121	Historical Annotation Client Facet.....	107
6.6.122	Historical Access Modified Data Client Facet.....	107
6.6.123	Historical Data Insert Client Facet	107
6.6.124	Historical Data Update Client Facet	107
6.6.125	Historical Data Replace Client Facet.....	107
6.6.126	Historical Data Delete Client Facet	108
6.6.127	Historical Access Client Server Timestamp Facet	108
6.6.128	Historical Structured Data Access Client Facet	108
6.6.129	Historical Structured Data AtTime Client Facet	108
6.6.130	Historical Structured Data Modified Client Facet.....	109
6.6.131	Historical Structured Data Insert Client Facet	109
6.6.132	Historical Structured Data Update Client Facet	109
6.6.133	Historical Structured Data Replace Client Facet	109
6.6.134	Historical Structured Data Delete Client Facet	109
6.6.135	Historical Events Client Facet.....	110
6.6.136	Historical Event Insert Client Facet.....	110
6.6.137	Historical Event Update Client Facet.....	110
6.6.138	Historical Event Replace Client Facet	110
6.6.139	Historical Event Delete Client Facet.....	111
6.6.140	Aggregate Subscriber Client Facet	111
6.6.141	Standard UA Client Profile.....	112
6.6.142	Standard UA Client 2017 Profile.....	112
6.6.143	UA-TCP UA-SC UA-Binary.....	113
6.6.144	HTTPS UA-Binary.....	113
6.6.145	HTTPS UA-XML.....	114
6.6.146	HTTPS UA-JSON.....	114
6.6.147	WSS UA-SC UA-Binary.....	114
6.6.148	WSS UA-JSON	114
6.6.149	Security User Access Control Full.....	115
6.6.150	Security User Access Control Base.....	115
6.6.151	Security Time Synchronization.....	115
6.6.152	Best Practice – Audit Events.....	116
6.6.153	Best Practice – Alarm Handling	116
6.6.154	Best Practice – Random Numbers	116
6.6.155	Best Practice – Timeouts	116
6.6.156	Best Practice – Administrative Access	116
6.6.157	Best Practice – Strict Message Handling	117
6.6.158	Best Practice – Audit Events Client.....	117
6.6.159	TransportSecurity – TLS 1.2	117
6.6.160	TransportSecurity – TLS 1.2 with PFS	117
6.6.161	SecurityPolicy – None.....	118
6.6.162	SecurityPolicy – Basic128Rsa15.....	118
6.6.163	SecurityPolicy – Basic256.....	118
6.6.164	SecurityPolicy [A] – Aes128-Sha256-RsaOaep	118
6.6.165	SecurityPolicy [B] – Basic256Sha256	119
6.6.166	SecurityPolicy – Aes256-Sha256-RsaPss	119
6.6.167	User Token – Anonymous Facet	120
6.6.168	User Token – User Name Password Server Facet	120
6.6.169	User Token – X509 Certificate Server Facet	120

6.6.170 User Token – Issued Token Server Facet	121
6.6.171 User Token – Issued Token Windows Server Facet	121
6.6.172 User Token – JWT Server Facet	121
6.6.173 User Token – User Name Password Client Facet	121
6.6.174 User Token – X509 Certificate Client Facet	122
6.6.175 User Token – Issued Token Client Facet	122
6.6.176 User Token – Issued Token Windows Client Facet	122
6.6.177 User Token – JWT Client Facet	122
6.6.178 Global Discovery Server Profile	122
6.6.179 Global Discovery Server 2017 Profile	123
6.6.180 Global Discovery and Certificate Management Server	123
6.6.181 Global Discovery and Certificate Mgmt 2017 Server	123
6.6.182 Global Certificate Management Client Profile	123
6.6.183 Global Certificate Management Client 2017 Profile	123
6.6.184 Global Service Authorization Request Server Facet	124
6.6.185 Global Service KeyCredential Pull Facet	124
6.6.186 Global Service KeyCredential Push Facet	124
Bibliography	125

Figure 1 – Profile – ConformanceUnit – TestCases 18

Figure 2 – HMI Client sample 64

Figure 3 – Embedded Server sample 65

Figure 4 – Standard UA Server sample 65

IEC 62541-7:2020

<https://standards.iteh.ai/catalog/standards/sist/442d5dad-25c2-4565-b5d2-74e1e5157fe/iec-62541-7-2020> 19

Table 1 – Profile Categories 20

Table 2 – Conformance Groups 21

Table 3 – Discovery Services 21

Table 4 – Session Services 22

Table 5 – Node Management Services 23

Table 6 – View Services 24

Table 7 – Attribute Services 25

Table 8 – Method Services 26

Table 9 – Monitored Item Services 27

Table 10 – Subscription Services 29

Table 11 – Security 31

Table 12 – Protocol and Encoding 38

Table 13 – Base Information 39

Table 14 – Address Space Model 41

Table 15 – Data Access 42

Table 16 – Alarms and Conditions 43

Table 17 – Historical Access 46

Table 18 – Aggregates 49

Table 19 – Auditing 54

Table 20 – Redundancy 54

Table 21 – Global Discovery Server 55

Table 22 – Miscellaneous	56
Table 23 – Profile list	58
Table 24 – Core 2017 Server Facet	67
Table 25 – Sessionless Server Facet	67
Table 26 – Reverse Connect Server Facet	68
Table 27 – Base Server Behaviour Facet	68
Table 28 – Request State Change Server Facet	68
Table 29 – Subnet Discovery Server Facet	68
Table 30 – Global Certificate Management Server Facet	69
Table 31 – Authorization Service Server Facet	69
Table 32 – KeyCredential Service Server Facet	69
Table 33 – Attribute WriteMask Server Facet	69
Table 34 – File Access Server Facet	70
Table 35 – Documentation Server Facet	70
Table 36 – Embedded DataChange Subscription Server Facet	70
Table 37 – Standard DataChange Subscription 2017 Server Facet	71
Table 38 – Enhanced DataChange Subscription 2017 Server Facet	71
Table 39 – Durable Subscription Server Facet	72
Table 40 – Data Access Server Facet	72
Table 41 – ComplexType 2017 Server Facet	73
Table 42 – Standard Event Subscription Server Facet	73
Table 43 – Address Space Notifier Server Facet	74
Table 44 – A & C Base Condition Server Facet	74
Table 45 – A & C Refresh2 Server Facet	74
Table 46 – A & C Address Space Instance Server Facet	75
Table 47 – A & C Enable Server Facet	75
Table 48 – A & C AlarmMetrics Server Facet	75
Table 49 – A & C Alarm Server Facet	76
Table 50 – A & C Acknowledgeable Alarm Server Facet	76
Table 51 – A & C Exclusive Alarming Server Facet	77
Table 52 – A & C Non-Exclusive Alarming Server Facet	77
Table 53 – A & C Previous Instances Server Facet	77
Table 54 – A & C Dialog Server Facet	78
Table 55 – A & C CertificateExpiration Server Facet	78
Table 56 – A & E Wrapper Facet	79
Table 57 – Method Server Facet	79
Table 58 – Auditing Server Facet	80
Table 59 – Node Management Server Facet	80
Table 60 – User Role Base Server Facet	80
Table 61 – User Role Management Server Facet	81
Table 62 – State Machine Server Facet	81
Table 63 – Client Redundancy Server Facet	81
Table 64 – Redundancy Transparent Server Facet	81

Table 65 – Redundancy Visible Server Facet	82
Table 66 – Historical Raw Data Server Facet	82
Table 67 – Historical Aggregate Server Facet	83
Table 68 – Historical Data AtTime Server Facet	84
Table 69 – Historical Access Modified Data Server Facet	84
Table 70 – Historical Annotation Server Facet	84
Table 71 – Historical Data Insert Server Facet	84
Table 72 – Historical Data Update Server Facet	85
Table 73 – Historical Data Replace Server Facet	85
Table 74 – Historical Data Delete Server Facet	85
Table 75 – Historical Access Structured Data Server Facet	85
Table 76 – Base Historical Event Server Facet	86
Table 77 – Historical Event Update Server Facet	86
Table 78 – Historical Event Replace Server Facet	86
Table 79 – Historical Event Insert Server Facet	86
Table 80 – Historical Event Delete Server Facet	86
Table 81 – Aggregate Subscription Server Facet	87
Table 82 – Nano Embedded Device 2017 Server Profile	88
Table 83 – Micro Embedded Device 2017 Server Profile	88
Table 84 – Embedded 2017 UA Server Profile	89
Table 85 – Standard 2017 UA Server Profile	89
Table 86 – Core 2017 Client Facet	90
Table 87 – Sessionless Client Facet	90
Table 88 – Reverse Connect Client Facet	91
Table 89 – Base Client Behaviour Facet	91
Table 90 – Discovery Client Facet	91
Table 91 – Subnet Discovery Client Facet	92
Table 92 – Global Discovery Client Facet	92
Table 93 – Global Certificate Management Client Facet	92
Table 94 – KeyCredential Service Client Facet	92
Table 95 – Access Token Request Client Facet	93
Table 96 – AddressSpace Lookup Client Facet	93
Table 97 – Request State Change Client Facet	93
Table 98 – File Access Client Facet	93
Table 99 – Entry Level Support 2015 Client Facet	94
Table 100 – Multi-Server Client Connection Facet	94
Table 101 – Documentation – Client	94
Table 102 – Attribute Read Client Facet	95
Table 103 – Attribute Write Client Facet	95
Table 104 – DataChange Subscriber Client Facet	96
Table 105 – Durable Subscription Client Facet	96
Table 106 – DataAccess Client Facet	97
Table 107 – Event Subscriber Client Facet	97

Table 108 – Base Event Processing Client Facet	98
Table 109 – Notifier and Source Hierarchy Client Facet	98
Table 110 – A & C Base Condition Client Facet	98
Table 111 – A & C Refresh2 Client Facet.....	99
Table 112 – A & C Address Space Instance Client Facet	99
Table 113 – A & C Enable Client Facet	99
Table 114 – A & C AlarmMetrics Client Facet.....	99
Table 115 – A & C Alarm Client Facet.....	100
Table 116 – A & C Exclusive Alarming Client Facet	100
Table 117 – A & C Non-Exclusive Alarming Client Facet.....	101
Table 118 – A & C Previous Instances Client Facet	101
Table 119 – A & C Dialog Client Facet.....	101
Table 120 – A & C CertificateExpiration Client Facet	101
Table 121 – A & E Proxy Facet	102
Table 122 – Method Client Facet	103
Table 123 – Auditing Client Facet	103
Table 124 – Node Management Client Facet.....	103
Table 125 – Advanced Type Programming Client Facet.....	104
Table 126 – User Role Management Client Facet	104
Table 127 – State Machine Client Facet.....	104
Table 128 – Diagnostic Client Facet.....	104
Table 129 – Redundant Client Facet	105
Table 130 – Redundancy Switch Client Facet.....	105
Table 131 – Historical Access Client Facet	105
Table 132 – Historical Data AtTime Client Facet	105
Table 133 – Historical Aggregate Client Facet	106
Table 134 – Historical Annotation Client Facet.....	107
Table 135 – Historical Access Modified Data Client Facet.....	107
Table 136 – Historical Data Insert Client Facet	107
Table 137 – Historical Data Update Client Facet	107
Table 138 – Historical Data Replace Client Facet	108
Table 139 – Historical Data Delete Client Facet	108
Table 140 – Historical Access Client Server Timestamp Facet	108
Table 141 – Historical Structured Data Access Client Facet.....	108
Table 142 – Historical Structured Data AtTime Client Facet	108
Table 143 – Historical Structured Data Modified Client Facet	109
Table 144 – Historical Structured Data Insert Client Facet	109
Table 145 – Historical Structured Data Update Client Facet.....	109
Table 146 – Historical Structured Data Replace Client Facet	109
Table 147 – Historical Structured Data Delete Client Facet	110
Table 148 – Historical Events Client Facet.....	110
Table 149 – Historical Event Insert Client Facet.....	110
Table 150 – Historical Event Update Client Facet	110

Table 151 – Historical Event Replace Client Facet.....	110
Table 152 – Historical Event Delete Client Facet	111
Table 153 – Aggregate Subscriber Client Facet	111
Table 154 – Standard UA Client 2017 Profile	113
Table 155 – UA-TCP UA-SC UA-Binary	113
Table 156 – HTTPS UA-Binary.....	113
Table 157 – HTTPS UA-XML	114
Table 158 – HTTPS UA-JSON	114
Table 159 – WSS UA-SC UA-Binary	114
Table 160 – WSS UA-JSON.....	115
Table 161 – Security User Access Control Full	115
Table 162 – Security User Access Control Base	115
Table 163 – Security Time Synchronization	115
Table 164 – Best Practice – Audit Events	116
Table 165 – Best Practice – Alarm Handling	116
Table 166 – Best Practice – Random Numbers	116
Table 167 – Best Practice – Timeouts.....	116
Table 168 – Best Practice – Administrative Access.....	117
Table 169 – Best Practice – Strict Message Handling	117
Table 170 – Best Practice – Audit Events Client.....	117
Table 171 – TransportSecurity – TLS 1.2	117
Table 172 – TransportSecurity – TLS 1.2 with PFS <small>IEC 62541-7:2020 https://standards.iteh.ai/catalog/standards/sist/442d5dad-25c2-4565-b5d2-74e1e5157fe/iec-62541-7-2020</small>	118
Table 173 – SecurityPolicy – None	118
Table 174 – SecurityPolicy [A] – Aes128-Sha256-RsaOaep	119
Table 175 – SecurityPolicy [B] – Basic256Sha256	119
Table 176 – SecurityPolicy – Aes256-Sha256-RsaPss	120
Table 177 – User Token – Anonymous Facet.....	120
Table 178 – User Token – User Name Password Server Facet	120
Table 179 – User Token – X509 Certificate Server Facet.....	120
Table 180 – User Token – Issued Token Server Facet	121
Table 181 – User Token – Issued Token Windows Server Facet	121
Table 182 – User Token – JWT Server Facet.....	121
Table 183 – User Token – User Name Password Client Facet.....	121
Table 184 – User Token – X509 Certificate Client Facet	122
Table 185 – User Token – Issued Token Client Facet	122
Table 186 – User Token – Issued Token Windows Client Facet	122
Table 187 – User Token – JWT Client Facet	122
Table 188 – Global Discovery Server 2017 Profile	123
Table 189 – Global Discovery and Certificate Mgmt 2017 Server	123
Table 190 – Global Certificate Management Client 2017 Profile	124
Table 191 – Global Service Authorization Request Server Facet.....	124

Table 192 – Global Service KeyCredential Pull Facet	124
Table 193 – Global Service KeyCredential Push Facet.....	124

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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

<https://standards.iteh.ai/catalog/standards/sist/442d5dad-25c2-4565-b5d2->

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.