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Application integration at electric utilities – System interfaces for distribution management –

Part 100: IEC implementation profiles for application integration

Intégration d'applications pour les services électriques – Interfaces système pour la gestion de la distribution –

Partie 100: Profils de mise en œuvre IEC pour l'intégration d'application



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ICS 33.200

ISBN 978-2-8322-5044-0

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CONTENTS

FOREWORD.....	14
INTRODUCTION.....	16
1 Scope.....	17
1.1 General.....	17
1.2 About this document.....	17
1.3 What is not covered by this document.....	17
1.4 Future considerations.....	17
1.4.1 Choice of Encoding Mechanisms.....	17
1.4.2 Choice of Web Service Technologies.....	17
2 Normative references.....	18
3 Terms, definitions and abbreviated terms.....	18
3.1 Terms and definitions.....	18
3.2 Abbreviated terms.....	19
4 Overview.....	19
4.1 General.....	19
4.2 Message format.....	19
4.3 Profiles.....	20
4.4 Message archetypes.....	20
4.5 Header verb and noun.....	20
4.6 Example IEC 61968-100 messages.....	21
4.7 Message exchange patterns.....	21
4.7.1 General.....	21
4.7.2 Request/response message exchange pattern.....	21
4.7.3 Unsolicited event message exchange pattern.....	21
4.7.4 Consequential event message exchange pattern.....	22
4.8 Basic request/response message types.....	22
5 Message archetypes.....	23
5.1 General.....	23
5.2 Request message.....	23
5.2.1 General.....	23
5.2.2 Root element.....	23
5.2.3 Structure.....	23
5.2.4 Header element.....	24
5.2.5 Application-specific data.....	24
5.2.6 Side-effects of a request message.....	24
5.3 Response message.....	24
5.3.1 General.....	24
5.3.2 Root element.....	24
5.3.3 Structure.....	24
5.3.4 Header element.....	25
5.3.5 Application-specific data and status notifications.....	25
5.3.6 Simple acknowledgement message.....	25
5.4 Event message.....	26
5.4.1 General.....	26
5.4.2 Root element.....	26
5.4.3 Structure.....	26

5.4.4	Header element	26
5.4.5	Application-specific data	26
5.5	Fault message	27
5.5.1	General	27
5.5.2	Root element	27
5.5.3	Structure	27
5.5.4	Reply element	27
6	Elementary message exchange patterns	27
6.1	General	27
6.2	Request/response message exchange pattern	27
6.2.1	General	27
6.2.2	Response messages	28
6.3	Unsolicited event message exchange pattern	29
6.4	Consequential event message exchange pattern	29
6.5	Simple acknowledgement message exchange patterns	30
6.5.1	General	30
6.5.2	Request/response message exchange pattern with simple acknowledgement messages	31
6.5.3	Unsolicited event message exchange pattern with simple acknowledgement message	32
6.5.4	Consequential event message exchange pattern with simple acknowledgement messages	32
7	Message details	33
7.1	General	33
7.2	Message encoding	34
7.3	Schema definition and validation	34
7.4	Top-level structure	34
7.4.1	General	34
7.4.2	Structure of request messages	34
7.4.3	Structure of response messages	37
7.4.4	Structure of event messages	39
7.5	The <Header> element	42
7.5.1	General	42
7.5.2	Message header subelements	42
7.5.3	Message header for request messages	44
7.5.4	Message header for response messages	46
7.5.5	Message header for event messages	48
7.6	The <Reply> element	50
7.6.1	General	50
7.6.2	Structure	51
7.6.3	Reply subelements	51
7.6.4	The <Reply><Status> subelement	51
7.6.5	Combining the <Reply><Status><ObjectID>, <OperationSet>, <UpdateID> and <TransactionID> elements	58
7.6.6	The <Reply><Transaction> element	59
7.7	The <Payload> element	59
7.7.1	General	59
7.7.2	Payload subelements	59
7.7.3	The <Payload><OperationSet> element	60

7.7.4	The <Payload><ObjectUpdate> element.....	66
7.7.5	AbstractPayloadType data	68
7.7.6	Multiple abstract payloads	68
7.8	The <CompressedPayload> element.....	68
7.8.1	General	68
7.8.2	Structure	68
7.8.3	CompressedPayload elements.....	69
7.8.4	The <CompressedPayload><CompressionType> subelement	69
7.8.5	The <CompressedPayload><Base64> subelement	69
7.9	The Transaction Type	69
8	Constraints and conventions.....	70
8.1	General.....	70
8.2	Application-specific data	70
8.2.1	General	70
8.2.2	The AbstractPayloadType.....	71
8.2.3	Application-specific customisation	71
8.2.4	RDF data	71
8.3	Object management requests and notifications	71
8.3.1	General	71
8.3.2	Create request message.....	72
8.3.3	Change request message	72
8.3.4	Delete request message	73
8.3.5	Update request message	73
8.3.6	Object management notifications	74
8.4	Get requests	74
8.4.1	Making a get request	74
8.4.2	Specifying multiple constraints in a request message	75
8.4.3	Responding to a get request.....	76
8.5	Cancelling transactions.....	76
8.5.1	General	76
8.5.2	Message exchange pattern.....	76
8.5.3	Transactions ID.....	77
8.5.4	Receiving a transaction ID.....	78
8.5.5	Sending a cancellation request message	78
8.5.6	Responding to a cancellation request message	78
8.6	Object identification	78
8.6.1	General	78
8.6.2	Rules for object identification.....	79
8.6.3	Identifying objects using an <mRID> element.....	79
8.6.4	Identifying objects using a <Name> element.....	79
8.6.5	Referencing objects	80
8.7	The ObjectIdentificationRevisionSets profile	81
8.7.1	General	81
8.7.2	Structure	81
8.7.3	Using the ObjectIdentificationRevisionSets profile	83
8.7.4	Adding one or more new identifiers.....	83
8.7.5	Removing one or more identifiers	84
8.7.6	Possible Errors Pertaining To ObjectIdentificationRevisionSets Requests	84

9	Transporting messages	84
9.1	General.....	84
9.2	Transporting over SOAP web services	85
9.2.1	General	85
9.2.2	Encoding of IEC 61968-100 messages inside SOAP messages	85
9.2.3	Example SOAP message	85
9.2.4	Mapping of IEC 61968-100 messages to SOAP messages.....	85
9.2.5	WSDL files.....	86
9.3	Transporting over JMS.....	87
9.3.1	General	87
9.3.2	Message exchange patterns	88
9.3.3	Application-level acknowledgement messages	88
9.3.4	JMS headers	88
Annex A	(normative) XSD files.....	90
A.1	General.....	90
A.2	The Message.xsd file	90
A.3	The AbstractPayloadType.xsd file	102
A.4	The LegacyObjectIdentificationRevisionSets.xsd File.....	103
A.5	The RDF.xsd file	108
Annex B	(normative) Template files	110
B.1	General.....	110
B.2	The GenericMessageWsdITemplate.txt file	110
B.3	The StrongMessageXsdTemplate.txt file	116
B.4	The StrongMessageWsdITemplate.txt file.....	128
Annex C	(informative) Example XSD profiles inheriting from AbstractPayloadType	135
C.1	GetMeterReadings profile	135
C.2	BinaryData profile	136
Annex D	(informative) Example IEC 61968-100:2021 messages	138
D.1	General.....	138
D.2	Messages dealing with object instantiation.....	138
D.2.1	General	138
D.2.2	Sequence diagram.....	138
D.2.3	Meter instantiation request (request message)	139
D.2.4	Meter instantiation response (step 4, success case).....	141
D.2.5	Meter instantiation response (step 4, failure case).....	141
D.3	Messages dealing with the event notification of object instantiation	142
D.3.1	General	142
D.3.2	Sequence diagram.....	142
D.3.3	Publication of a meter instantiation (event message)	142
D.3.4	Publication of a meter instantiation (simple acknowledgement message).....	146
D.4	Messages dealing with requests for information concerning an object instantiation	146
D.4.1	General	146
D.4.2	Sequence diagram.....	146
D.4.3	Request for information concerning a meter instantiation (request message).....	147
D.4.4	Request for information concerning a meter instantiation (response message).....	148
D.5	Messages utilizing an operationset to enforce transactional integrity.....	149

D.5.1	General	149
D.5.2	Sequence diagram.....	149
D.5.3	Using an operationset to enforce transactional integrity (request message).....	150
D.5.4	Using an operationset to enforce transactional integrity (response message).....	153
D.6	Messages dealing with the publication of data	153
D.6.1	General	153
D.6.2	Sequence diagram.....	153
D.6.3	Publication of meter readings (event message).....	154
D.6.4	Publication of meter readings (simple acknowledgement message)	155
D.7	Messages dealing with an on-demand data request resulting in a single response.....	156
D.7.1	General	156
D.7.2	Sequence Diagram	156
D.7.3	On-demand meter reading message (request message)	157
D.7.4	On-demand meter reading message (response message).....	158
D.8	Messages dealing with an on-demand data request resulting in multiple responses	159
D.8.1	General	159
D.8.2	Sequence diagram.....	159
D.8.3	Request for an on-demand meter ping (request message)	160
D.8.4	Request for an on-demand meter ping (response message 1)	161
D.8.5	Request for an on-demand meter ping (response message 2)	162
D.8.6	Request for an on-demand meter ping (simple acknowledgement of message 2).....	163
D.8.7	Request for an on-demand meter ping (response message 3)	164
D.8.8	Request for an on-demand meter ping (simple acknowledgement of message 3).....	165
D.9	Messages dealing with historical data request	165
D.9.1	General	165
D.9.2	Sequence diagram	165
D.9.3	Historical meter read (request message)	166
D.9.4	Historical meter read (response message).....	167
D.10	Messages dealing with historical data request (responses spread over several messages).....	168
D.10.1	General	168
D.10.2	Historical meter read (response message 1 of 4)	169
D.10.3	Historical meter read (response message 2 of 4)	169
D.10.4	Historical meter read (response message 3 of 4)	170
D.10.5	Historical meter read (response message 4 of 4)	171
D.11	Messages dealing with multiple statuses within a response.....	172
D.11.1	General	172
D.11.2	Sequence diagram.....	173
D.11.3	Historical meter read (response message).....	174
D.12	Messages dealing with a consequential event message	176
D.12.1	General	176
D.12.2	Sequence diagram.....	176
D.12.3	Request for a meter connect (request message).....	177
D.12.4	Request for a meter connect (response message)	178

D.12.5	Request for a meter connect (event message)	179
D.12.6	Request for a meter connect (simple acknowledgement message).....	180
D.13	Using two operationsets to sequence multiple operations with transactional integrity.....	180
D.13.1	General	180
D.13.2	Using two OperationSets to read two meters before disconnecting them (request message).....	181
D.13.3	Using two OperationSets to read two meters before disconnecting them (response message)	182
D.14	Messages dealing with object deletion	184
D.14.1	General	184
D.14.2	Sequence diagram.....	184
D.14.3	Request to delete a meter (request message).....	185
D.14.4	Request to delete a meter (response message)	185
D.15	Messages dealing with cancellation of a single transaction	185
D.15.1	Meter control request message.....	185
D.15.2	Response message containing a single transaction id	186
D.15.3	Cancellation request (request message)	187
D.15.4	Cancellation request (response message)	187
D.16	Messages dealing with cancellation of multiple transactions	188
D.16.1	Response message containing multiple transaction IDs	188
D.16.2	Cancellation request (request message)	189
D.16.3	Cancellation request (response message)	190
D.17	Messages dealing with failed XSD validation	190
D.17.1	General	190
D.17.2	Message that fails XSD validation (request message).....	191
D.17.3	Message that fails XSD validation (response message)	191
D.18	Messages dealing with malformed requests	192
D.18.1	General	192
D.18.2	Message that is malformed (request message)	192
D.18.3	Message that is malformed (response message)	193
Annex E (informative)	Example IEC 61968-100:2021 messages for updating objects.....	194
E.1	General.....	194
E.2	CreateMeterConfig.xml	194
E.3	ModifyFormNumber.xml	195
E.4	RemoveFormNumber.xml.....	196
E.5	AddMeterMultiplier.xml	196
E.6	ModifyMeterMultiplierKind.xml	197
E.7	ModifyMeterMultiplierValue.xml.....	198
E.8	RemoveMeterMultiplierValue.xml	199
E.9	RemoveMeterMultiplier.xml	200
E.10	AddMeterSeal.xml.....	201
E.11	AddMeterSealKind.xml.....	201
E.12	ModifyMeterSealCondition.xml	202
E.13	RemoveMeterSealCondition.xml	203
E.14	RemoveMeterSeal.xml	204
E.15	ModifyProgramId.xml	205
E.16	RemoveProgramId.xml.....	205
E.17	AddChannel.xml.....	206

E.18	ModifyChannelReadingType.xml	207
E.19	RemoveChannel.xml	208
E.20	AddConnectDisconnectFunction.xml	209
E.21	RemoveConnectDisconnectFunction.xml	210
E.22	DeleteMeterConfig.xml	211
E.23	DeleteMeterConfig.xml	211
E.24	CreateMeterConfigs.xml	212
E.25	MultipleObjectChanges.xml	214
E.26	MultipleObjectChangesWithOperationSet.xml	216
Annex F	(informative) Examples of ObjectIdentificationRevisionSets Messages	220
F.1	General	220
F.2	Add an mRID for the meter object	220
F.3	Modify name two of the meter object	222
F.4	Add name three of the meter object	223
F.5	Remove Name One of the Meter Object	225
F.6	Modify the mRID of the meter object	226
F.7	Remove the mRID of the meter object	228
F.8	Add an mRID and modify name two of the meter object	229
F.9	Modify name two of the meter object and add name one of the customer object	230
F.10	Add name two of the customer object to carry a new IdentifiedObject.name	233
Annex G	(informative) Example IEC 61968-100:2021 messages illustrating the cross-product rule	235
G.1	General	235
G.2	Specifying "OR" operations over the selection criteria	235
G.3	Specifying "AND" operations over the selection criteria	235
G.4	Specifying a combination of logical "AND" and "OR" operations	236
G.5	Example of multiple AbstractPayloadType profiles in a single message	237
Annex H	(informative) Validation of received messages	239
H.1	General	239
H.2	Example message validation using Altova XMLSpy	239
H.3	Example message validation using a Java validator	240
Annex I	(informative) Significant changes between IEC 61968-100:2013 and IEC 61968-100:2021	241
Bibliography	247
Figure 1	– Structure of a request message	24
Figure 2	– Structure of a ResponseMessage	25
Figure 3	– Structure of an EventMessage	26
Figure 4	– Structure of a FaultMessage	27
Figure 5	– Request/response message exchange pattern	28
Figure 6	– Unsolicited event message exchange pattern	29
Figure 7	– Consequential event message exchange pattern	30
Figure 8	– Request/response message exchange pattern with simple acknowledgement messages	31
Figure 9	– Unsolicited message exchange pattern with simple acknowledgement messages	32

Figure 10 – Consequential event message exchange pattern with simple acknowledgement messages	33
Figure 11 – Structure of the <CancelRequestMessage> element.....	35
Figure 12 – Structure of the <ChangeRequestMessage> element.....	35
Figure 13 – Structure of the <CreateRequestMessage> element.....	35
Figure 14 – Structure of the <DeleteRequestMessage> element.....	36
Figure 15 – Structure of the <ExecuteRequestMessage> element.....	36
Figure 16 – Structure of the <GetRequestMessage> element.....	36
Figure 17 – Structure of the <UpdateRequestMessage> element.....	37
Figure 18 – Structure of the <CancelResponseMessage> element.....	37
Figure 19 – Structure of the <ChangeResponseMessage> element.....	38
Figure 20 – Structure of the <CreateResponseMessage> element.....	38
Figure 21 – Structure of the <DeleteResponseMessage> element.....	38
Figure 22 – Structure of the <ExecuteResponseMessage> element.....	39
Figure 23 – Structure of the <GetResponseMessage> element.....	39
Figure 24 – Structure of the <UpdateResponseMessage> element.....	39
Figure 25 – Structure of the <CanceledEventMessage> element.....	40
Figure 26 – Structure of the <ChangedEventMessage> element.....	40
Figure 27 – Structure of the <CreatedEventMessage> element.....	41
Figure 28 – Structure of the <DeletedEventMessage> element.....	41
Figure 29 – Structure of the <ExecutedEventMessage> element.....	41
Figure 30 – Structure of the <UpdatedEventMessage> element.....	42
Figure 31 – Structure of the <Header> element for request messages	45
Figure 32 – Structure of the <Header> element for response messages	47
Figure 33 – Structure of the <Header> element for event messages	49
Figure 34 – Structure of the <Reply> element.....	51
Figure 35 – Structure of the <Reply><Status> element	52
Figure 36 – Example of error indications in a <Reply> element	58
Figure 37 – Structure of the <Payload><OperationSet> element for request messages	61
Figure 38 – Structure of the <Payload><OperationSet> element for response messages	62
Figure 39 – Structure of the <Payload><OperationSet> element for event messages	62
Figure 40 – Structure of the <Payload><OperationSet><Operation> element for request messages.....	64
Figure 41 – Structure of the <Payload><OperationSet><Operation> element for response messages	65
Figure 42 – Structure of the <Payload><OperationSet><Operation> element for event messages.....	66
Figure 43 – Structure of the <Payload><ObjectUpdate> element	67
Figure 44 – Structure of the <CompressedPayload> element.....	69
Figure 45 – Structure of the TransactionType	70

Figure 46 – Message Exchange Pattern for a Cancellation Request.....	77
Figure 47 – General Naming Scheme.....	80
Figure 48 – Structure of an <ObjectID> element	80
Figure 49 – ObjectIdentificationRevisionSets profile	82
Figure 50 – Example SOAP message	85
Figure A.1 – Contents of Message.xsd file	102
Figure A.2 – Contents of AbstractPayloadType.xsd file	102
Figure A.3 – Contents of LegacyObjectIdentificationRevisionSets.xsd file.....	108
Figure A.4 – Contents of the RDF.xsd file	109
Figure B.1 – Contents of GenericMessageXsdTemplate.txt file	115
Figure B.2 – Contents of StrongMessageXsdTemplate.txt file	128
Figure B.3 – Contents of StrongMessageWsdITemplate.txt file	134
Figure C.1 – Example XSD profile illustrating inheritance from AbstractPayloadType.....	136
Figure C.2 – Example XSD profile suitable for the transmission of binary data.....	137
Figure D.1 – Example sequence diagram for a meter instantiation request	139
Figure D.2 – Example meter instantiation request message	141
Figure D.3 – Example meter instantiation response message (success case)	141
Figure D.4 – Example meter instantiation response message (failure case)	141
Figure D.5 – Example sequence diagram for the publication of a meter instantiation.....	142
Figure D.6 – Example publication of a meter instantiation (event message)	146
Figure D.7 – Example publication of a meter instantiaion (simple acknowledgement message).....	146
Figure D.8 – Example sequence diagram for requests for information concerning an object instantiation.....	147
Figure D.9 – Example request for information concerning a meter instantiation (request message).....	148
Figure D.10 – Example request for information concerning a meter instantiation (response message)	149
Figure D.11 – Example sequence diagram for an OperationSet request.....	150
Figure D.12 – Example OperationSet message to enforce transactional integrity (request message).....	153
Figure D.13 – Example OperationSet message to enforce transactional integrity (response message)	153
Figure D.14 – Example sequence diagram for the publication of meter readings	154
Figure D.15 – Example publication of routine meter readings (event message).....	155
Figure D.16 – Example publication of routine meter readings (simple acknowledgement message).....	156
Figure D.17 – Example sequence diagram for the retrieval of on-demand meter readings.....	157
Figure D.18 – Example on-demand meter readings request message	158
Figure D.19 – Example on-demand meter readings response message.....	159
Figure D.20 – Example sequence diagram for an on-demand meter ping request	160
Figure D.21 – Example on-demand meter ping request (request message)	161
Figure D.22 – Example on-demand meter ping request (response message)	162
Figure D.23 – Example on-demand meter ping request (response message 2)	163

Figure D.24 – Example on-demand meter ping request (simple acknowledgement message 2).....	164
Figure D.25 – Example on-demand meter ping request (response message 3)	164
Figure D.26 – Example on-demand meter ping request (simple acknowledgement message 3).....	165
Figure D.27 – Example sequence diagram for the retrieval of historical meter readings	166
Figure D.28 – Example historical meter read request (request message).....	167
Figure D.29 – Example historical meter read request (response message)	168
Figure D.30 – Example historical meter read request (response message 1 of 4).....	169
Figure D.31 – Example historical meter read request (response message 2 of 4).....	170
Figure D.32 – Example historical meter read request (response message 3 of 4).....	171
Figure D.33 – Example historical meter read request (response message 4 of 4).....	172
Figure D.34 – Example sequence diagram for the retrieval of historical meter readings (request message).....	173
Figure D.35 – Example historical meter read request, mixed success and failure cases (request message).....	174
Figure D.36 – Example historical meter read request, mixed success and failure cases (response message)	176
Figure D.37 – Example sequence diagram for the requesting a meter connect.....	177
Figure D.38 – Example meter connect (request message)	178
Figure D.39 – Example meter connect (response message).....	179
Figure D.40 – Example meter connect (event message).....	180
Figure D.41 – Example meter connect (simple acknowledgement message)	180
Figure D.42 – Using two OperationSets to read two meters before disconnecting them (request message).....	182
Figure D.43 – Using two OperationSets to Read two meters before disconnecting them (response message)	183
Figure D.44 – Example sequence diagram for the deletion of a meter.....	184
Figure D.45 – Example meter deletion (request message)	185
Figure D.46 – Example meter deletion (response message).....	185
Figure D.47 – Example create(EndDeviceControls) request message	186
Figure D.48 – Example response message containing a single transaction ID.....	187
Figure D.49 – Example cancellation request message	187
Figure D.50 – Example response to a cancellation request message	188
Figure D.51 – Example response message containing several transaction IDs.....	189
Figure D.52 – Example cancellation request message	190
Figure D.53 – Example response to a cancellation request message	190
Figure D.54 – Example message that fails XSD validation (request message)	191
Figure D.55 – Example message that fails XSD validation (response message).....	192
Figure D.56 – Example malformed message (request message)	192
Figure D.57 – Example malformed message (response message).....	193
Figure E.1 – CreateMeterConfig.xml	195
Figure E.2 – ModifyFormNumber.xml	196
Figure E.3 – RemoveFormNumber.xml.....	196
Figure E.4 – AddMeterMultiplier.xml	197

Figure E.5 – ModifyMeterMultiplierKind.xml	198
Figure E.6 – ModifyMeterMultiplierValue.xml	199
Figure E.7 – RemoveMeterMultiplierValue.xml	200
Figure E.8 – RemoveMeterMultiplier.xml	200
Figure E.9 – AddMeterSeal.xml	201
Figure E.10 – AddMeterSealKind.xml	202
Figure E.11 – ModifyMeterSealCondition.xml	203
Figure E.12 – RemoveMeterDealCondition.xml	204
Figure E.13 – RemoveMeterSeal.xml	204
Figure E.14 – ModifyProgramId.xml	205
Figure E.15 – RemoveProgramId.xml	206
Figure E.16 – AddChannelId.xml	207
Figure E.17 – ModifyChannelReadingType.xml	208
Figure E.18 – RemoveChannel.xml	209
Figure E.19 – AddConnectDisconnectFunction.xml	210
Figure E.20 – RemoveConnectDisconnectFunction.xml	211
Figure E.21 – DeleteMeterConfig.xml	211
Figure E.22 – DeleteMeterConfig.xml	212
Figure E.23 – CreateMeterConfigs.xml	214
Figure E.24 – MultipleObjectChanges.xml	216
Figure E.25 – MultipleObjectChangesWithOperationSet.xml	219
Figure F.1 – Add an mRID for the Meter Object	221
Figure F.2 – Modify name two of the meter object	223
Figure F.3 – Add name three of the meter object	224
Figure F.4 – Remove name one of the meter object	226
Figure F.5 – Modify the mRID of the meter object	227
Figure F.6 – Remove the mRID of the meter object	228
Figure F.7 – Add an mRID and modify name two of the meter object	230
Figure F.8 – Add name one of the customer object and modify name two of the meter object	232
Figure F.9 – Add name two of the customer object to carry a new IdentifiedObject.name	234
Figure G.1 – Example get(MeterConfig) request illustrating a logical "OR" operation	235
Figure G.2 – Example get(MeterReadings) request illustrating a logical "AND" operation	236
Figure G.3 – Example request message illustrating combined logical "AND" and "OR" operations	237
Figure G.4 – Example of multiple AbstractPayloadType profiles in a single message	238
Figure H.1 – Example message suitably modified to specify the locations of the relevant XSD files	240
Figure H.2 – Example of local modifications made to the Message.xsd file	240
Table 1 – List of top-level root elements in request messages	34
Table 2 – List of top-level root elements in response messages	37
Table 3 – List of top-level root elements in event messages	40

Table 4 – Elements in the Message <Header> element.....	42
Table 5 – Verbs used in request messages.....	45
Table 6 – Verbs used in event messages.....	49
Table 7 – Subelements within the <Reply> element.....	51
Table 8 – Subelements within the <Reply><Status> element	53
Table 9 – Values of the <Reply><Status><Level> element	54
Table 10 – Normative values for the <Reply><Status><Code> element	54
Table 11 – Subelements within the <Payload> element.....	60
Table 12 – Subelements within the <Payload><OperationSet> element.....	61
Table 13 – Subelements within the <Payload><OperationSet><Operation> element.....	63
Table 14 – Subelements within the <Payload><ObjectUpdate> element.....	67
Table 15 – Subelements within the <Payload><ObjectUpdate><UpdateAction> element.....	68
Table 16 – Subelements within the <CompressedPayload> element.....	69
Table 17 – Values of the <CompressedPayload><CompressionType> element.....	69
Table 18 – Elements of a transaction type	70
Table 19 – Subelements within an <ObjectID> element.....	81
Table 20 – Elements of an ObjectIdentificationRevisionSets profile	83
Table 21 – Generic WSDL template variable names.....	86
Table 22 – Strongly-typed message XSD template variable names	87
Table 23 – Strongly-typed WSDL template variable names	87
Table F.1 – Initial naming states of the example meter object	220
Table F.2 – Initial naming states of the example customer object.....	220
Table F.3 – Add an mRID for the meter object	221
Table F.4 – Modify name two of the meter object	222
Table F.5 – Add name three of the meter object.....	224
Table F.6 – Remove name one of the meter object	225
Table F.7 – Modify the mRID of the meter object	227
Table F.8 – Remove the mRID of the meter object.....	228
Table F.9 – Add an mRID and modify name two of the meter object.....	229
Table F.10 – Modify name two of the meter object	231
Table F.11 – Add name one of the customer object.....	231
Table F.12 – Add name two of the customer object to carry a new IdentifiedObject.name	233
Table I.1 – Significant changes introduced in IEC 61968-100:2021 since IEC 61968- 100:2013	242
Table I.2 – Detailed changes introduced from IEC 61968-100:2013 to IEC 61968- 100:2021	243
Table I.3 – Elements removed from IEC 61968-100:2013.....	244

INTERNATIONAL ELECTROTECHNICAL COMMISSION

APPLICATION INTEGRATION AT ELECTRIC UTILITIES – SYSTEM INTERFACES FOR DISTRIBUTION MANAGEMENT –

Part 100: IEC implementation profiles for application integration

FOREWORD

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IEC 61968-100 has been prepared by IEC technical committee 57: Power systems management and associated information exchange. It is an International Standard.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

This IEC 61968-100:2022 edition cancels and replaces the IEC 61968-100:2013 edition published in 2013. This edition constitutes a technical revision.

- a) This edition includes the following significant technical changes with respect to the previous edition: IEC 61968-100:2022 has been refined to remove ambiguities and redundancies. Informative and normative clauses are marked as such and, in the latter case, appropriate verbal forms of language are used;
- b) The messages defined by IEC 61968-100:2022 are in general not backwards compatible with those of IEC 61968-100:2013. Annex I lists the significant technical changes introduced since the publication of IEC 61968-100:2013 and provides appropriate suggestions for migrating to IEC 61968-100:2022.

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

Draft	Report on voting
57/2446/FDIS	57/2455/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 61968 series, published under the general title *Application integration at electric utilities – System interfaces for distribution management*, can be found on the IEC website.

NOTE

The following print types are used:

- Literal text such as program fragments or XML elements in `Courier New 10`.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document specifies how implementations of IEC 61968 may be made interoperable using common enterprise integration technologies. In particular, it describes how message payloads defined in IEC 61968 (Parts 3 to 9 and Part 13), IEC 61970 and IEC 62325 are to be exchanged between systems using transport mechanisms such as web services and the Java Message Service.

This document may also find usage beyond information exchanges defined for these International Standards such as for the integration of market systems or for general enterprise integration.

APPLICATION INTEGRATION AT ELECTRIC UTILITIES – SYSTEM INTERFACES FOR DISTRIBUTION MANAGEMENT –

Part 100: IEC implementation profiles for application integration

1 Scope

1.1 General

This part of IEC 61968 defines how messages may be exchanged between cooperating systems in order to facilitate the transfer of application-specific data. Such application-specific data include but are not limited to the message payloads defined in IEC 61968 (Parts 3 to 9 and Part 13), IEC 61970 and IEC 62325.

1.2 About this document

This document provides normative definitions for:

- a set of message archetypes (Clause 5);
- a set of message exchange patterns that both sending and receiving systems are expected to implement (Clause 6);
- the exact format of the messages that are to be transmitted over the various integration technologies including a precise description of the information that each message must contain (Clause 7);
- a set of constraints and conventions to which applications must adhere in order to facilitate message exchange using IEC 61968-100 (Clause 8);
- the details of how IEC 61968-100 messages should be implemented using various underlying transport mechanisms (Clause 9).

1.3 What is not covered by this document

Security considerations lie outside the scope of IEC 61968-100. This document defers to the IEC 62351 series for definitions and practices relating to the secure transmission of messages.

1.4 Future considerations

1.4.1 Choice of Encoding Mechanisms

This document prescribes XML as the normative encoding mechanism for all messages defined by this document.

Future editions of IEC 61968-100 may specify additional normative encoding methods including support for JSON (RFC 4627) documents whose semantics are defined by the IEC CIM and whose syntax is defined by an IETF JSON schema.

1.4.2 Choice of Web Service Technologies

This document provides normative definitions for the use of SOAP Web Services (9.2) and Java Message Service (9.3) for the transport of messages.

Future editions of IEC 61968-100 may specify additional normative web service technologies such as REST.