



IEC 61158-5-3

Edition 3.0 2014-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Industrial communication networks – Fieldbus specifications –
Part 5-3: Application layer service definition – Type 3 elements
(iteh-STANDARD REVIEW standards.iteh.ai)

Réseaux de communication industriels – Spécifications des bus de terrain –
Partie 5-3: Définition des services de la couche application – Éléments de type 3
<https://standards.iec.ch/catalog/standards/SISI-4000e5401-5241-4ed1-a82a-bf556bb9d575/iec-61158-5-3-2014>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.



IEC 61158-5-3

Edition 3.0 2014-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Industrial communication networks – Fieldbus specifications –
Part 5-3: Application layer service definition – Type 3 elements
(standards.iteh.ai)

Réseaux de communication industriels – Spécifications des bus de terrain –
Partie 5-3: Définition des services de la couche application – Éléments de type 3
b556bb9d575/iec-61158-5-3-2014

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

XH

ICS 25.040.40; 35.100.70; 35.110

ISBN 978-2-8322-1732-0

Warning! Make sure that you obtained this publication from an authorized distributor.

Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

FOREWORD	11
INTRODUCTION	13
1 Scope	14
1.1 General	14
1.2 Specifications	15
1.3 Conformance	15
2 Normative references	15
3 Terms, definitions, abbreviations, symbols and conventions	16
3.1 Referenced terms and definitions	16
3.2 Fieldbus Application Layer Type 3 – specific terms and definitions	18
3.3 Abbreviations and symbols	25
3.4 Conventions	26
4 Concepts	31
5 Data type ASE	32
6 Communication model specification	32
6.1 DP concepts	32
6.2 ASEs	51
6.3 Summary of FAL classes	430
6.4 Permitted FAL services by AREP role	431
6.5 Conformance classes	435
6.6 Application characteristics	436
Bibliography	438 https://standards.iteh.ai/catalog/standards/sist/480e34a9-5241-4ed1-a82a-b156bb9d575/iec-61158-5-3-2014
Figure 1 – Example of DP communication with a single controlling device	34
Figure 2 – Example of DP communication with several controlling devices	34
Figure 3 – Example of DP communication between field devices	35
Figure 4 – DP-slave model (modular DP-slave)	37
Figure 5 – DP-slave model (compact DP-slave)	38
Figure 6 – Overview of application processes	39
Figure 7 – DP-slave model (modular DP-slave)	40
Figure 8 – Application Service Elements (ASEs)	42
Figure 9 – Application Process with application Objects (APOs)	43
Figure 10 – Access to a remote APO	44
Figure 11 – Access to a remote APO for publisher/subscriber association	45
Figure 12 – Example of one AR with two AREPs	46
Figure 13 – Relation of a simple process data object to the real object	52
Figure 14 – Relation of a combined process data object to the real objects	54
Figure 15 – Sequence of an isochronous DP cycle with one DP-master (class 1)	85
Figure 16 – Additional time relationships in a DP system operating in isochronous mode	86
Figure 17 – DP system with optimized isochronous DP cycle	88
Figure 18 – Buffered synchronized isochronous mode at the DP-master (class 1)	89

Figure 19 – Enhanced synchronized isochronous mode at the DP-master (class 1)	90
Figure 20 – Input, output and PLL state machine interaction	91
Figure 21 – PLL state diagram	96
Figure 22 – OUTPUT state diagram	100
Figure 23 – INPUT state diagram.....	104
Figure 24 – Treatment of an alarm in the DP system.....	137
Figure 25 – Load Region state diagram for erasable memory.....	236
Figure 26 – Load region state diagram for non-erasable memory	237
Figure 27 – Function invocation state diagram	269
Figure 28 – System architecture	283
Figure 29 – Assignment of communication relationship to application relationship	290
Figure 30 – MS0 application relationship	296
Figure 31 – Output buffer model of a DP-slave without sync functionality.....	297
Figure 32 – Output buffer model of a DP-slave with sync functionality	297
Figure 33 – Input buffer model of a DP-slave without freeze functionality.....	298
Figure 34 – Input buffer model of a DP-slave with freeze functionality.....	298
Figure 35 – MS1 application relationship	299
Figure 36 – MS2 application relationship	299
Figure 37 – Example of inter-network communication	300
Figure 38 – Example without inter-network addressing.....	301
Figure 39 – First example with inter-network addressing.....	301
Figure 40 – Second example with inter-network addressing	302
Figure 41 – MS3 application relationship	304
Figure 42 – MM1 application relationship	304
Figure 43 – MM2 application relationship	305
Figure 44 – Cycle time of the DP system	437
 Table 1 – Requirements and features of fieldbus DP.....	33
Table 2 – Status values of the service primitives.....	50
Table 3 – Access Rights MS1	53
Table 4 – Access Rights MS2	53
Table 5 – Access Rights MS1	56
Table 6 – Access Rights MS2	56
Table 7 – SCL matching rules	57
Table 8 – Read	57
Table 9 – Write	59
Table 10 – Data transport	60
Table 11 – Format (simple input data description).....	64
Table 12 – Consistency (simple input data description).....	64
Table 13 – Format (simple output data).....	66
Table 14 – Consistency (simple output data).....	66
Table 15 – Format (extended input data)	67
Table 16 – Consistency (extended input data)	68

Table 17 – Format (extended output data)	69
Table 18 – Consistency (extended output data)	70
Table 19 – Set Input	71
Table 20 – Read Input	71
Table 21 – Get Input	73
Table 22 – New Input.....	74
Table 23 – Set Output.....	75
Table 24 – Final.....	76
Table 25 – Read Output.....	76
Table 26 – Get Output	77
Table 27 – Clear Flag	77
Table 28 – New Flag	78
Table 29 – New Output	78
Table 30 – Clear Flag	78
Table 31 – Global Control	79
Table 32 – Clear Command	79
Table 33 – Sync Command	79
Table 34 – Freeze Command	80
Table 35 – New publisher data.....	80
Table 36 – Get publisher data	81
Table 37 – New Flag	81
Table 38 – SYNCH	82
Table 39 – SYNCH Delayed	82
Table 40 – DX Finished	83
Table 41 – SYNCH Event.....	83
Table 42 – Status	83
Table 43 – Primitives issued by the AL to the PLL state machine	92
Table 44 – Primitives issued by the user to the PLL state machine	92
Table 45 – Allowed values of Status	93
Table 46 – Primitives issued by the user to the input state machine	93
Table 47 – Primitives issued by the user to the output state machine	93
Table 48 – Primitives issued by the PLL to the output state machine	93
Table 49 – Primitives issued by the output to the PLL state machine	93
Table 50 – Primitives issued by the PLL to the input state machine	94
Table 51 – Primitives issued by the output to the input state machine	94
Table 52 – Primitives issued by the output state machine to the AL	94
Table 53 – Primitives issued by the AL to the output state machine	94
Table 54 – Primitives issued by the input state machine to the AL	94
Table 55 – Primitives issued by the AL to the input state machine	95
Table 56 – PLL state table	97
Table 57 – OUTPUT state table	101
Table 58 – INPUT state table	105
Table 59 – Identifier status	107

Table 60 – Channel type	108
Table 61 – IO type	109
Table 62 – Status type	109
Table 63 – Status specifier	110
Table 64 – Status specifier	111
Table 65 – Module status	111
Table 66 – Status specifier	112
Table 67 – Link status	112
Table 68 – Link error	113
Table 69 – Set Slave Diag	114
Table 70 – Ext Diag Flag	115
Table 71 – Get Slave Diag	117
Table 72 – Read Slave Diag	126
Table 73 – New Slave Diag	136
Table 74 – Alarm type	138
Table 75 – Add Ack	139
Table 76 – Alarm specifier	139
Table 77 – Alarm notification	140
Table 78 – Alarm Ack	141
Table 79 – Prm data type	146
Table 80 – Supported feature	156
Table 81 – Supported profile feature IEC 61158-5-3:2014 https://standards.iteh.ai/catalog/standards/sist/480e34a9-5241-4ed1-a82a-b556bb9d575/iec-61158-5-3-2014	156
Table 82 – Role	157
Table 83 – Check user Prm	159
Table 84 – Prm structure	160
Table 85 – MS1 Command	162
Table 86 – Check user Prm result	164
Table 87 – Status values	165
Table 88 – Check Ext user Prm	166
Table 89 – Check Ext user Prm result	169
Table 90 – Status values	170
Table 91 – Check Cfg	170
Table 92 – Check Cfg result	171
Table 93 – Status values	172
Table 94 – Set Cfg	172
Table 95 – Get Cfg	173
Table 96 – Set Slave Add	174
Table 97 – Initiate	175
Table 98 – Abort	178
Table 99 – Instance	178
Table 100 – MS0 init DP-slave	179
Table 101 – MS1 init DP-slave	179
Table 102 – MS2 init DP-slave	180

Table 103 – DP-slave started.....	180
Table 104 – Alarm limit	181
Table 105 – DP-slave stopped	181
Table 106 – Reset DP-slave	182
Table 107 – DP-slave fault.....	182
Table 108 – Application ready DP-slave.....	182
Table 109 – Start subscriber.....	183
Table 110 – Stop subscriber	183
Table 111 – Publisher active.....	184
Table 112 – Status.....	185
Table 113 – Init DP-master CI1	185
Table 114 – DP-master CI1 started	186
Table 115 – Alarm limit	187
Table 116 – DP-master CI1 stopped	187
Table 117 – Reset DP-master CI1	187
Table 118 – DP-master CI1 fault	188
Table 119 – DP-master CI1 reject	188
Table 120 – Set mode DP-master CI1	189
Table 121 – DP-master CI1 mode changed	190
Table 122 – Load bus Par DP-master CI1	191
Table 123 – Mark DP-master CI1	192
Table 124 – Abort DP-master CI1	192
Table 125 – Read value DP-master CI1	193
Table 126 – Delete SC DP-master CI1	193
Table 127 – DP-master CI1 event	194
Table 128 – Init DP-master CI2	195
Table 129 – Reset DP-master CI2	196
Table 130 – DP-master CI2 fault	196
Table 131 – DP-master CI2 reject	196
Table 132 – DP-master CI2 closed.....	197
Table 133 – DP-master CI2 event	197
Table 134 – USIF state	198
Table 135 – Data rate	202
Table 136 – USIF state	203
Table 137 – Isochronous mode	203
Table 138 – Slave type	206
Table 139 – Alarm mode	207
Table 140 – Get Master Diag	210
Table 141 – MDiag identifier	210
Table 142 – Start Seq	211
Table 143 – Area code (start seq).....	212
Table 144 – Download	213
Table 145 – Upload.....	214

Table 146 – End Seq	215
Table 147 – Act Para Brct.....	216
Table 148 – Area code (Act Para Brct).....	216
Table 149 – Act param.....	217
Table 150 – Area code (Act param)	218
Table 151 – Activate	218
Table 152 – Access rights MS1.....	220
Table 153 – Access rights MS2.....	221
Table 154 – Load region state	221
Table 155 – Initiate load	223
Table 156 – Default values for the parameter Intersegment Request Timeout	224
Table 157 – Push segment	225
Table 158 – Pull segment	227
Table 159 – Terminate load	229
Table 160 – Primitives issued by the user to the Load Region state machine	231
Table 161 – Primitives issued by the Load Region state machine to the user	232
Table 162 – Primitives issued by the Function Invocation to the Load Region state machine.....	232
Table 163 – Primitives issued by the Load Region to the Function invocation state machine.....	233
Table 164 – Load Region state definitions	233
Table 165 – Load Region function table	234
Table 166 – Load Region state table for erasable memory <small>IEC 61158-5-3:2014 h556hb9d575/iec-61158-5-3-2014</small>	237
Table 167 – Load Region state table for non-erasable memory	249
Table 168 – Access rights MS1.....	254
Table 169 – Access rights MS2.....	254
Table 170 – Function Invocation state.....	255
Table 171 – Load Region object in use	255
Table 172 – Access rights MS1.....	256
Table 173 – Access rights MS2.....	257
Table 174 – Load Region object in use	257
Table 175 – Start	258
Table 176 – Stop	259
Table 177 – Resume	260
Table 178 – Reset	261
Table 179 – Get FI state	262
Table 180 – Call	263
Table 181 – Primitives issued by the user to the Function Invocation state machine	265
Table 182 – Primitives issued by the Function Invocation state machine to the user	266
Table 183 – Primitives issued by the Load Region to the Function Invocation state machine.....	266
Table 184 – Primitives issued by the Function Invocation to the Load Region state machine.....	267
Table 185 – Function Invocation state definitions.....	267

Table 186 – Function definitions	268
Table 187 – Function Invocation state table	269
Table 188 – CS status	285
Table 189 – Summertime	285
Table 190 – Synchronization active.....	286
Table 191 – Announcement hour	286
Table 192 – Summertime	287
Table 193 – Accuracy	287
Table 194 – Set time.....	288
Table 195 – Sync interval violation	289
Table 196 – Parameter of Initiate service without inter-network addressing.....	301
Table 197 – Parameter of Initiate service with inter-network addressing (first example)	302
Table 198 – Parameter of Initiate service with inter-network addressing (second example).....	303
Table 199 – AR type	309
Table 200 – Sync supported	310
Table 201 – Freeze supported	311
Table 202 – Group identifier	313
Table 203 – DPV1 enabled.....	313
Table 204 – Fail safe	314
Table 205 – WD Base	314
Table 206 – No Add change.....	316
Table 207 – Alarm mode supported.....	319
Table 208 – Isochronous mode supp.....	323
Table 209 – Isochronous mode	323
Table 210 – Alarm mode	324
Table 211 – Time device type	325
Table 212 – S_SAP_index	328
Table 213 – D_addr	329
Table 214 – Service_activate	330
Table 215 – Role_in_service	331
Table 216 – Indication_mode	331
Table 217 – Max_DLSDU_length_req_low	332
Table 218 – Max_DLSDU_length_req_high.....	333
Table 219 – Max_DLSDU_length_ind_low	333
Table 220 – Max_DLSDU_length_ind_high	334
Table 221 – S_SAP_index	339
Table 222 – D_SAP_index	339
Table 223 – D_addr	340
Table 224 – Service_activate.....	340
Table 225 – Role_in_service	341
Table 226 – Indication_mode	341
Table 227 – Max_DLSDU_length_req_low	342

Table 228 – Max_DLSDU_length_req_high	342
Table 229 – Max_DLSDU_length_ind_low	343
Table 230 – Max_DLSDU_length_ind_high	343
Table 231 – Sync	344
Table 232 – Freeze	345
Table 233 – DPV1 enabled	346
Table 234 – Fail safe	346
Table 235 – Enable publisher	347
Table 236 – WD Base	347
Table 237 – Alarm mode	348
Table 238 – Fail safe	358
Table 239 – S_SAP_index	365
Table 240 – D_SAP_index	366
Table 241 – D_addr	366
Table 242 – Service_activate	366
Table 243 – Role_in_service	367
Table 244 – Max_DLSDU_length_req_low	367
Table 245 – Max_DLSDU_length_req_high	367
Table 246 – Max_DLSDU_length_ind_low	368
Table 247 – Max_DLSDU_length_ind_high	368
Table 248 – DLL init DP-slave	369
Table 249 – Load ARL DP-slave	370
Table 250 – Get ARL DP-slave	376
Table 251 – Set ARL isochronous mode	382
Table 252 – Load ARL DP-master CI1	383
Table 253 – Get ARL DP-master CI1	386
Table 254 – ARL Slave update DP-master CI1	388
Table 255 – Load ARL DP-master CI2	390
Table 256 – Get ARL DP-master CI2	391
Table 257 – Load CRL DP-slave	392
Table 258 – Load CRL DXB link entries	394
Table 259 – Get CRL DP-slave	395
Table 260 – Load CRL DP-master CI1	397
Table 261 – Get CRL DP-master CI1	410
Table 262 – CRL Slave activate	423
Table 263 – CRL Slave new Prm	424
Table 264 – CRL Slave new Prm data	425
Table 265 – Load CRL DP-master CI2	427
Table 266 – Get CRL DP-master CI2	429
Table 267 – Fieldbus AL class summary	430
Table 268 – Assignment of the services to DP-masters and DP-slaves	432
Table 269 – Support of AR types in the different DP-device types	433
Table 270 – Support of services at the different AREPs respectively CREPs	434

Table 271 – Conformance classes DP-master (class 1)	436
Table 272 – Conformance classes DP-master (class 2)	436

iTeh STANDARD PREVIEW (standards.iteh.ai)

[IEC 61158-5-3:2014](#)

<https://standards.iteh.ai/catalog/standards/sist/480e34a9-5241-4ed1-a82a-bf556bb9d575/iec-61158-5-3-2014>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –
FIELDBUS SPECIFICATIONS –****Part 5-3: Application layer service definition –
Type 3 elements****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

Attention is drawn to the fact that the use of the associated protocol type is restricted by its intellectual-property-right holders. In all cases, the commitment to limited release of intellectual-property-rights made by the holders of those rights permits a layer protocol type to be used with other layer protocols of the same type, or in other type combinations explicitly authorized by its intellectual-property-right holders.

NOTE Combinations of protocol Types are specified in IEC 61784-1 and IEC 61784-2.

International Standard IEC 61158-5-3 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2010. This edition constitutes a technical revision.

The main change with respect to the previous edition is listed below:

- Correction of spelling and improved formating for a better reading.

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

FDIS	Report on voting
65C/763/FDIS	65C/773/RVD

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

A list of all parts of the IEC 61158 series, published under the general title *Industrial communication networks – Fieldbus specifications*, can be found on the IEC web site.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

iTeh STANDARD PREVIEW

IMPORTANT – The 'colour inside' logo on the cover page of this publication 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. <https://standards.iteh.ai/catalog/standards/sist/480e34a9-5241-4ed1-a82a-b1556bb9d575/iec-61158-5-3-2014>

INTRODUCTION

This part of IEC 61158 is one of a series produced to facilitate the interconnection of automation system components. It is related to other standards in the set as defined by the “three-layer” fieldbus reference model described in IEC 61158-1:2013.

The application service is provided by the application protocol making use of the services available from the data-link or other immediately lower layer. This standard defines the application service characteristics that fieldbus applications and/or system management exploit.

Throughout the set of fieldbus standards, the term “service” refers to the abstract capability provided by one layer of the OSI Basic Reference Model to the layer immediately above. Thus, the application layer service defined in this standard is a conceptual architectural service, independent of administrative and implementation divisions.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[IEC 61158-5-3:2014](#)

<https://standards.iteh.ai/catalog/standards/sist/480e34a9-5241-4ed1-a82a-bf556bb9d575/iec-61158-5-3-2014>