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# INTERNATIONAL STANDARD



**Field Device Integration (FDI®) –  
Part 7: Communication Devices**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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# CONTENTS

FOREWORD.....	6
<del>INTRODUCTION.....</del>	<del>6</del>
1 Scope.....	9
2 Normative references .....	10
3 Terms, definitions, abbreviated terms, <b>acronyms</b> and conventions.....	10
3.1 Terms and definitions.....	10
3.2 Abbreviated terms and <b>acronyms</b> .....	11
3.3 Conventions.....	11
3.3.1 EDDL syntax.....	11
3.3.2 Capitalizations.....	11
3.3.3 Graphical notation .....	11
4 <del>General</del> Overview .....	11
5 FDI® Communication Package .....	13
5.1 General.....	13
5.2 EDD.....	13
5.2.1 General rules.....	13
5.2.2 Device component .....	14
5.2.3 CommunicationDevice component .....	15
5.2.4 Communication service provider component .....	17
5.2.5 Connection Point component .....	18
5.2.6 Connection Point collection.....	18
5.2.7 Network component.....	19
5.2.8 ValidateNetwork .....	20
5.2.9 ValidateModules .....	21
5.2.10 UIP specifics .....	21
5.2.11 Deployment .....	22
6 Communication relations .....	22
7 FDI® Communication Server definition .....	23
7.1 General.....	23
7.2 General characteristics .....	23
7.3 Information Model.....	23
7.3.1 General .....	23
7.3.2 CommunicationServerType.....	27
7.3.3 ServerCommunicationDeviceType .....	31
7.3.4 ServerCommunicationServiceType .....	36
7.4 OPC UA Server Profile for FDI® Communication Server .....	39
7.5 Mapping the FDI® Server Information Model to the FDI® Communication Server IM.....	40
7.5.1 General .....	40
7.5.2 Information Model differences.....	40
7.6 Installer.....	42
7.7 FDI® Communication Package .....	42
7.7.1 General .....	42
7.7.2 EDD for lightweight Communication Server.....	42
7.7.3 EDD for multi-channel Communication Server .....	42
7.7.4 COMMANDs in EDDs for FDI® Communication Servers .....	43

7.7.5	Documentation .....	44
7.8	Handling and behaviour .....	44
7.8.1	General .....	44
7.8.2	Deployment .....	45
7.8.3	Server configuration .....	45
7.8.4	Start up .....	46
7.8.5	Shutdown .....	46
7.8.6	Watchdog .....	46
7.8.7	Establish the OPC UA connection.....	46
7.8.8	Instantiate the Communication Server .....	47
7.8.9	Configure the communication hardware .....	47
7.8.10	Configure the Network .....	47
7.8.11	Parameterize .....	47
7.8.12	Initialize .....	47
7.8.13	Create the communication service object.....	47
7.8.14	Communication relation .....	48
7.8.15	Connect.....	48
7.8.16	Disconnect .....	48
7.8.17	Abort indication .....	49
7.8.18	Scan.....	49
7.8.19	SetAddress.....	49
8	FDI® Communication Gateway definition.....	49
8.1	General.....	49
8.2	Information Model .....	49
8.2.1	General .....	49
8.2.2	CommunicationGatewayType .....	50
8.2.3	GatewayCommunicationDeviceType .....	51
8.2.4	GatewayCommunicationServiceType .....	54
8.3	FDI® Communication Package .....	58
8.3.1	General .....	58
8.3.2	EDD .....	59
8.4	Handling and behaviour .....	60
8.4.1	General .....	60
8.4.2	Deployment .....	61
8.4.3	Start up .....	61
8.4.4	Configure the communication hardware .....	61
8.4.5	Configure the Network .....	61
8.4.6	Parameterize .....	61
8.4.7	Communication relation .....	62
8.4.8	Connect.....	62
8.4.9	Disconnect .....	62
8.4.10	Abort indication .....	62
8.4.11	Scan.....	62
8.4.12	Communication Error Handling .....	63
Annex A (informative)	Layered protocols.....	64
A.1	General.....	64
A.2	Convention for protocol specific annex creation .....	64
A.2.1	General .....	64
A.2.2	Connection Point .....	64

A.3	FDI® Communication Package definition .....	66
A.3.1	Communication services .....	66
A.3.2	Connection Point .....	66
A.3.3	Network .....	66
A.4	Representation in the Information Model .....	66
Annex B (normative)	Namespace and Mappings .....	67
Figure 1	– FDI® architecture diagram .....	9
Figure 2	– FDI® communication infrastructure architecture .....	12
Figure 3	– Communication relation .....	22
Figure 4	– Communication relation state chart .....	23
Figure 5	– FDI® Communication Server AddressSpace .....	26
Figure 6	– CommunicationServerType .....	27
Figure 7	– ServerCommunicationDeviceType .....	32
Figure 8	– ServerCommunicationServiceType .....	36
Figure 9	– Information Model differences (example) .....	41
Figure 10	– FDI® Communication Server state machine .....	45
Figure 11	– Communication relation state chart .....	48
Figure 12	– Gateway information model .....	50
Figure 13	– CommunicationGatewayType .....	51
Figure 14	– GatewayCommunicationDeviceType .....	52
Figure 15	– GatewayCommunicationServiceType .....	55
Figure 16	– Nested Communication .....	61
Table 1	– ValidateNetwork Action arguments .....	21
Table 2	– ValidateModules Action arguments .....	21
Table 3	– CommunicationServerType definition .....	27
Table 4	– MethodSet of CommunicationServerType .....	27
Table 5	– Reset Method arguments .....	28
Table 6	– Reset Method AddressSpace definition .....	28
Table 7	– Initialize Method arguments .....	29
Table 8	– Initialize Method AddressSpace definition .....	29
Table 9	– AddComponent Method arguments .....	30
Table 10	– AddComponent Method AddressSpace definition .....	30
Table 11	– RemoveComponent Method arguments .....	31
Table 12	– RemoveComponent Method AddressSpace definition .....	31
Table 13	– ServerCommunicationDeviceType definition .....	32
Table 14	– MethodSet of ServerCommunicationDeviceType .....	32
Table 15	– Scan Method arguments .....	33
Table 16	– Scan Method AddressSpace definition .....	33
Table 17	– Scan Method arguments .....	34
Table 18	– Scan Method AddressSpace definition .....	34
Table 19	– ResetScan Method arguments .....	34
Table 20	– ResetScan Method AddressSpace definition .....	35

Table 21 – SetAddress Method arguments..... 35

Table 22 – ServerCommunicationServiceType definition..... 36

Table 23 – MethodSet of ServerCommunicationServiceType ..... 36

Table 24 – Connect Method arguments..... 37

Table 25 – Disconnect Method arguments ..... 38

Table 26 – Transfer Method arguments..... 38

Table 27 – GetPublishedData Method arguments..... 39

Table 28 – FDI®CommunicationServer\_Facet definition ..... 40

Table 29 – CommunicationGatewayType definition ..... 51

Table 30 – GatewayCommunicationDeviceType definition..... 52

Table 31 – MethodSet of GatewayCommunicationDeviceType ..... 52

Table 32 – Scan Method arguments..... 53

Table 33 – Scan Method AddressSpace definition..... 53

Table 34 – ScanNext Method arguments..... 54

Table 35 – ScanNext Method AddressSpace definition ..... 54

Table 36 – GatewayCommunicationServiceType definition..... 55

Table 37 – MethodSet of GatewayCommunicationServiceType ..... 56

Table 38 – Connect Method arguments..... 57

Table 39 – Transfer Method arguments..... 58

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## FIELD DEVICE INTEGRATION (FDI®) –

### Part 7: Communication Devices

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IEC 62769-7 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.

This third edition cancels and replaces the second edition published in 2021. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) added ScanExtended Method.

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

Draft	Report on voting
65E/859/CDV	65E/916/RVC

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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## INTRODUCTION

The IEC 62769 series has the general title *Field Device Integration (FDI)* and the following parts:

- Part 1: Overview
- Part 2: FDI Client
- Part 3: FDI Server
- Part 4: FDI Packages
- Part 5: FDI Information Model
- Part 6: FDI Technology Mapping
- Part 7: FDI Communication Devices
- Part 100: Profiles — Generic Protocol Extensions
- Part 101-1: Profiles — Foundation Fieldbus H1
- Part 101-2: Profiles — Foundation Fieldbus HSE
- Part 103-1: Profiles — PROFIBUS
- Part 103-4: Profiles — PROFINET
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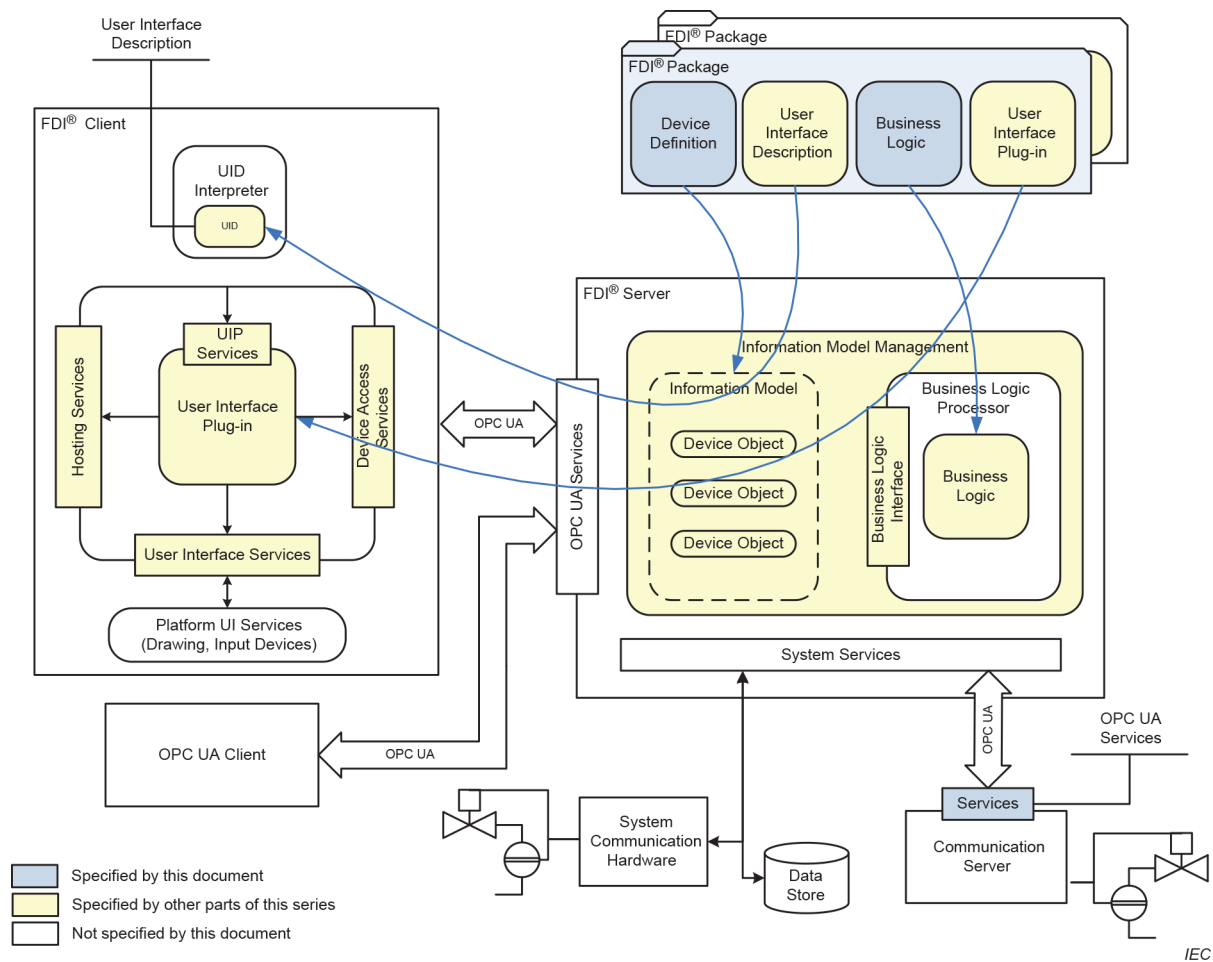
# FIELD DEVICE INTEGRATION (FDI®) –

## Part 7: Communication Devices

### 1 Scope

This part of IEC 62769 specifies the elements implementing communication capabilities called Communication Devices ~~(IEC 62769-5)~~.

The overall FDI®<sup>1</sup> architecture is illustrated in Figure 1. The architectural components that are within the scope of this document have been highlighted in this illustration. The document scope with respect to FDI® Packages is limited to Communication Devices. The Communication Server shown in Figure 1 is an example of a specific Communication Device.



**Figure 1 – FDI® architecture diagram**

<sup>1</sup> FDI® is a registered trademark of the non-profit organization Fieldbus Foundation, Inc. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance does not require use of the trade name. Use of the trade name requires permission of the trade name holder.

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IEC 61804-3, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 3: EDDL syntax and semantics*

IEC 61804-4, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 4: EDD interpretation*

~~IEC 62541 (all parts), OPC Unified Architecture~~

IEC TR 62541-1, *OPC Unified Architecture – Part 1: Overview and concepts*

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-6, *OPC Unified Architecture – Part 6: Mappings*

IEC 62541-7, *OPC unified architecture – Part 7: Profiles*

IEC 62541-100, *OPC Unified Architecture – Part 100: Device Interface*

IEC 62769-1, *Field Device Integration (FDI®) – Part 1: Overview*

IEC 62769-2, *Field Device Integration (FDI®) – Part 2: ~~FDI~~ Client*

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IEC 62769-4: ~~2020~~2023, *Field Device Integration (FDI®) – Part 4: FDI® Packages*

IEC 62769-5, *Field Device Integration (FDI®) – Part 5: FDI® Information Model*

# INTERNATIONAL STANDARD

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**Field Device Integration (FDI®) –  
Part 7: Communication Devices**

**Intégration des appareils de terrain (FDI®) –  
Partie 7: Appareils de Communication**

## CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references .....	9
3 Terms, definitions, abbreviated terms, acronyms and conventions.....	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms and acronyms .....	9
3.3 Conventions.....	10
3.3.1 EDDL syntax.....	10
3.3.2 Capitalizations .....	10
3.3.3 Graphical notation .....	10
4 Overview .....	10
5 FDI® Communication Package .....	12
5.1 General.....	12
5.2 EDD.....	12
5.2.1 General rules.....	12
5.2.2 Device component .....	13
5.2.3 CommunicationDevice component .....	14
5.2.4 Communication service provider component .....	15
5.2.5 Connection Point component .....	17
5.2.6 Connection Point collection.....	17
5.2.7 Network component.....	18
5.2.8 ValidateNetwork .....	19
5.2.9 ValidateModules .....	20
5.2.10 UIP specifics .....	20
5.2.11 Deployment .....	21
6 Communication relations .....	21
7 FDI® Communication Server definition .....	22
7.1 General.....	22
7.2 General characteristics .....	22
7.3 Information Model .....	22
7.3.1 General .....	22
7.3.2 CommunicationServerType.....	25
7.3.3 ServerCommunicationDeviceType .....	29
7.3.4 ServerCommunicationServiceType .....	33
7.4 OPC UA Server Profile for FDI® Communication Server .....	37
7.5 Mapping the FDI® Server Information Model to the FDI® Communication Server IM .....	38
7.5.1 General .....	38
7.5.2 Information Model differences.....	38
7.6 Installer.....	39
7.7 FDI® Communication Package .....	39
7.7.1 General .....	39
7.7.2 EDD for lightweight Communication Server.....	40
7.7.3 EDD for multi-channel Communication Server .....	40
7.7.4 COMMANDs in EDDs for FDI® Communication Servers .....	40
7.7.5 Documentation .....	41

7.8	Handling and behaviour .....	41
7.8.1	General .....	41
7.8.2	Deployment .....	42
7.8.3	Server configuration .....	42
7.8.4	Start up .....	43
7.8.5	Shutdown .....	43
7.8.6	Watchdog .....	43
7.8.7	Establish the OPC UA connection .....	43
7.8.8	Instantiate the Communication Server .....	44
7.8.9	Configure the communication hardware .....	44
7.8.10	Configure the Network .....	44
7.8.11	Parameterize .....	44
7.8.12	Initialize .....	44
7.8.13	Create the communication service object .....	44
7.8.14	Communication relation .....	45
7.8.15	Connect .....	45
7.8.16	Disconnect .....	45
7.8.17	Abort indication .....	46
7.8.18	Scan .....	46
7.8.19	SetAddress .....	46
8	FDI® Communication Gateway definition .....	46
8.1	General .....	46
8.2	Information Model .....	46
8.2.1	General .....	46
8.2.2	CommunicationGatewayType .....	47
8.2.3	GatewayCommunicationDeviceType .....	48
8.2.4	GatewayCommunicationServiceType .....	51
8.3	FDI® Communication Package .....	55
8.3.1	General .....	55
8.3.2	EDD .....	56
8.4	Handling and behaviour .....	57
8.4.1	General .....	57
8.4.2	Deployment .....	58
8.4.3	Start up .....	58
8.4.4	Configure the communication hardware .....	58
8.4.5	Configure the Network .....	58
8.4.6	Parameterize .....	58
8.4.7	Communication relation .....	59
8.4.8	Connect .....	59
8.4.9	Disconnect .....	59
8.4.10	Abort indication .....	59
8.4.11	Scan .....	59
8.4.12	Communication Error Handling .....	60
Annex A (informative)	Layered protocols .....	61
A.1	General .....	61
A.2	Convention for protocol specific annex creation .....	61
A.2.1	General .....	61
A.2.2	Connection Point .....	61
A.3	FDI® Communication Package definition .....	63

A.3.1	Communication services .....	63
A.3.2	Connection Point .....	63
A.3.3	Network .....	63
A.4	Representation in the Information Model .....	63
Annex B (normative)	Namespace and Mappings .....	64
Figure 1	– FDI® architecture diagram .....	8
Figure 2	– FDI® communication infrastructure architecture .....	11
Figure 3	– Communication relation .....	21
Figure 4	– Communication relation state chart .....	22
Figure 5	– FDI® Communication Server AddressSpace .....	24
Figure 6	– CommunicationServerType .....	25
Figure 7	– ServerCommunicationDeviceType .....	29
Figure 8	– ServerCommunicationServiceType .....	34
Figure 9	– Information Model differences (example) .....	38
Figure 10	– FDI® Communication Server state machine .....	42
Figure 11	– Communication relation state chart .....	45
Figure 12	– Gateway information model .....	47
Figure 13	– CommunicationGatewayType .....	48
Figure 14	– GatewayCommunicationDeviceType .....	49
Figure 15	– GatewayCommunicationServiceType .....	52
Figure 16	– Nested Communication .....	58
Table 1	– ValidateNetwork Action arguments .....	20
Table 2	– ValidateModules Action arguments .....	20
Table 3	– CommunicationServerType definition .....	25
Table 4	– MethodSet of CommunicationServerType .....	25
Table 5	– Reset Method arguments .....	26
Table 6	– Reset Method AddressSpace definition .....	26
Table 7	– Initialize Method arguments .....	27
Table 8	– Initialize Method AddressSpace definition .....	27
Table 9	– AddComponent Method arguments .....	28
Table 10	– AddComponent Method AddressSpace definition .....	28
Table 11	– RemoveComponent Method arguments .....	29
Table 12	– RemoveComponent Method AddressSpace definition .....	29
Table 13	– ServerCommunicationDeviceType definition .....	30
Table 14	– MethodSet of ServerCommunicationDeviceType .....	30
Table 15	– Scan Method arguments .....	31
Table 16	– Scan Method AddressSpace definition .....	31
Table 17	– Scan Method arguments .....	32
Table 18	– Scan Method AddressSpace definition .....	32
Table 19	– ResetScan Method arguments .....	32
Table 20	– ResetScan Method AddressSpace definition .....	33
Table 21	– SetAddress Method arguments .....	33

Table 22 – ServerCommunicationServiceType definition ..... 34

Table 23 – MethodSet of ServerCommunicationServiceType ..... 34

Table 24 – Connect Method arguments ..... 35

Table 25 – Disconnect Method arguments ..... 36

Table 26 – Transfer Method arguments ..... 36

Table 27 – GetPublishedData Method arguments ..... 37

Table 28 – FDI®CommunicationServer\_Facet definition ..... 37

Table 29 – CommunicationGatewayType definition ..... 48

Table 30 – GatewayCommunicationDeviceType definition ..... 49

Table 31 – MethodSet of GatewayCommunicationDeviceType ..... 49

Table 32 – Scan Method arguments ..... 50

Table 33 – Scan Method AddressSpace definition ..... 50

Table 34 – ScanNext Method arguments ..... 51

Table 35 – ScanNext Method AddressSpace definition ..... 51

Table 36 – GatewayCommunicationServiceType definition ..... 52

Table 37 – MethodSet of GatewayCommunicationServiceType ..... 53

Table 38 – Connect Method arguments ..... 54

Table 39 – Transfer Method arguments ..... 55

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## FIELD DEVICE INTEGRATION (FDI®) –

### Part 7: Communication Devices

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65E/859/CDV	65E/916/RVC

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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## Part 7: Communication Devices

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The overall FDI®<sup>1</sup> architecture is illustrated in Figure 1. The architectural components that are within the scope of this document have been highlighted in this illustration. The document scope with respect to FDI® Packages is limited to Communication Devices. The Communication Server shown in Figure 1 is an example of a specific Communication Device.

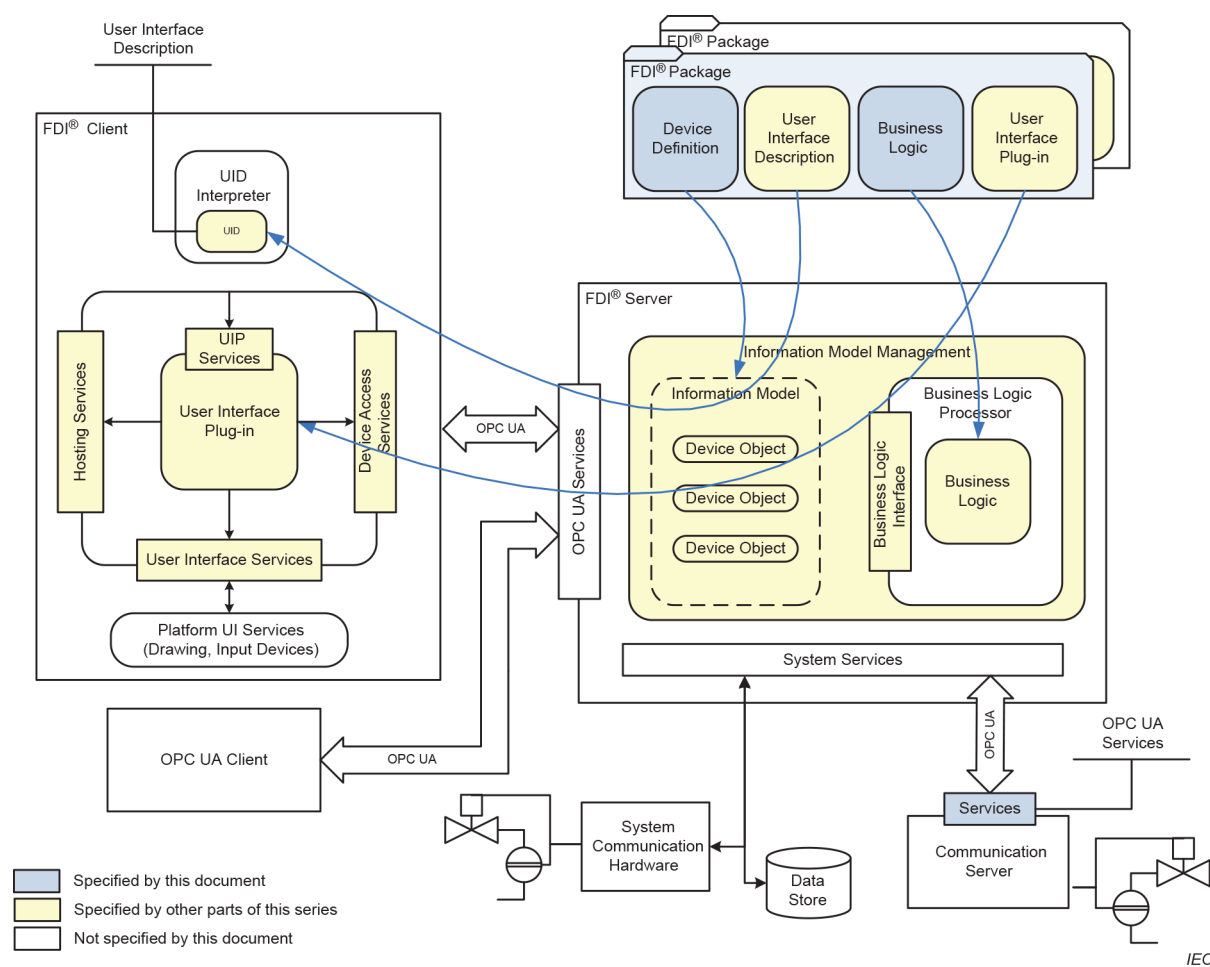


Figure 1 – FDI® architecture diagram

<sup>1</sup> FDI® is a registered trademark of the non-profit organization Fieldbus Foundation, Inc. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance does not require use of the trade name. Use of the trade name requires permission of the trade name holder.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61804-3, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 3: EDDL syntax and semantics*

IEC 61804-4, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 4: EDD interpretation*

IEC TR 62541-1, *OPC Unified Architecture – Part 1: Overview and concepts*

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-6, *OPC Unified Architecture – Part 6: Mappings*

IEC 62541-7, *OPC unified architecture – Part 7: Profiles*

IEC 62541-100, *OPC Unified Architecture – Part 100: Device Interface*

IEC 62769-1, *Field Device Integration (FDI®) – Part 1: Overview*

IEC 62769-2, *Field Device Integration (FDI®) – Part 2: Client*

IEC 62769-3, *Field Device Integration (FDI®) – Part 3: Server*

IEC 62769-4:2023, *Field Device Integration (FDI®) – Part 4: FDI® Packages*

IEC 62769-5, *Field Device Integration (FDI®) – Part 5: FDI® Information Model*

## SOMMAIRE

AVANT-PROPOS .....	70
1 Domaine d'application .....	72
2 Références normatives .....	73
3 Termes, définitions, abréviations, acronymes et conventions .....	73
3.1 Termes et définitions .....	73
3.2 Abréviations et acronymes .....	74
3.3 Conventions .....	74
3.3.1 Syntaxe EDDL .....	74
3.3.2 Utilisation de majuscules .....	74
3.3.3 Notation graphique .....	74
4 Vue d'ensemble .....	74
5 Paquetage de Communication FDI® .....	76
5.1 Généralités .....	76
5.2 EDD .....	76
5.2.1 Règles générales .....	76
5.2.2 Composant Appareil .....	77
5.2.3 Composant CommunicationDevice .....	79
5.2.4 Composant fournisseur de services de communication .....	80
5.2.5 Composant Point de Connexion .....	81
5.2.6 Collection Point de Connexion .....	82
5.2.7 Composant réseau .....	82
5.2.8 ValidateNetwork .....	84
5.2.9 ValidateModules .....	84
5.2.10 Eléments spécifiques de l'UIP .....	85
5.2.11 Déploiement .....	85
6 Relations de communication .....	85
7 Définition du Serveur de Communication FDI® .....	87
7.1 Généralités .....	87
7.2 Caractéristiques générales .....	87
7.3 Modèle d'Information .....	87
7.3.1 Généralités .....	87
7.3.2 CommunicationServerType .....	89
7.3.3 ServerCommunicationDeviceType .....	93
7.3.4 ServerCommunicationServiceType .....	98
7.4 Profil de Serveur d'architecture unifiée OPC pour un Serveur de Communication FDI® .....	102
7.5 Mapping du Modèle d'Information du Serveur FDI® au Modèle d'Information du Serveur de Communication FDI® .....	103
7.5.1 Généralités .....	103
7.5.2 Différences des Modèles d'Information .....	103
7.6 Programme d'Installation .....	105
7.7 Paquetage de Communication FDI® .....	105
7.7.1 Généralités .....	105
7.7.2 EDD pour le Serveur de Communication léger .....	105
7.7.3 EDD pour un Serveur de Communication multivoie .....	106
7.7.4 COMMAND dans les EDD pour les Serveurs de Communication FDI® .....	106
7.7.5 Documentation .....	107

7.8	Traitement et comportement .....	107
7.8.1	Généralités .....	107
7.8.2	Déploiement .....	108
7.8.3	Configuration du Serveur .....	108
7.8.4	Démarrage .....	109
7.8.5	Arrêt .....	109
7.8.6	Chien de garde .....	109
7.8.7	Etablissement de la connexion OPC UA .....	109
7.8.8	Instanciation du Serveur de Communication .....	110
7.8.9	Configuration du matériel de communication.....	110
7.8.10	Configuration du Réseau .....	110
7.8.11	Paramétrage.....	110
7.8.12	Initialize .....	110
7.8.13	Création de l'objet de service de communication .....	111
7.8.14	Relation de communication.....	111
7.8.15	Connect.....	111
7.8.16	Disconnect .....	112
7.8.17	Indication d'Abandon .....	112
7.8.18	Scan.....	112
7.8.19	SetAddress.....	112
8	Définition de la Passerelle de Communication FDI® .....	112
8.1	Généralités .....	112
8.2	Modèle d'Information.....	112
8.2.1	Généralités .....	112
8.2.2	CommunicationGatewayType .....	113
8.2.3	GatewayCommunicationDeviceType .....	114
8.2.4	GatewayCommunicationServiceType.....	117
8.3	Paquetage de Communication FDI® .....	121
8.3.1	Généralités .....	121
8.3.2	EDD .....	122
8.4	Traitement et comportement .....	123
8.4.1	Généralités .....	123
8.4.2	Déploiement .....	124
8.4.3	Démarrage .....	124
8.4.4	Configuration du matériel de communication.....	124
8.4.5	Configuration du Réseau .....	124
8.4.6	Paramétrage.....	125
8.4.7	Relation de communication.....	125
8.4.8	Connect.....	125
8.4.9	Disconnect .....	125
8.4.10	Indication d'Abandon .....	125
8.4.11	Scan.....	125
8.4.12	Traitement des Erreurs de Communication .....	126
Annexe A (informative)	Protocoles hiérarchisés .....	127
A.1	Généralités .....	127
A.2	Convention applicable à la création d'annexes spécifiques au protocole .....	127
A.2.1	Généralités .....	127
A.2.2	Point de Connexion .....	127
A.3	Définition du Paquetage de Communication FDI®.....	129

A.3.1	Services de communication .....	129
A.3.2	Point de Connexion .....	129
A.3.3	Réseau .....	129
A.4	Représentation dans le Modèle d'Information .....	129
Annexe B (normative)	Espace de noms et Mappings .....	130
Figure 1	– Diagramme de l'architecture FDI® .....	72
Figure 2	– Architecture de l'infrastructure de communication FDI® .....	75
Figure 3	– Relation de communication .....	86
Figure 4	– Diagramme d'états-transitions de la relation de communication .....	86
Figure 5	– AddressSpace du Serveur de Communication FDI® .....	88
Figure 6	– CommunicationServerType .....	89
Figure 7	– ServerCommunicationDeviceType .....	94
Figure 8	– ServerCommunicationServiceType .....	99
Figure 9	– Différences entre les Modèles d'Information (exemple) .....	104
Figure 10	– Diagramme d'états du Serveur de Communication FDI® .....	108
Figure 11	– Diagramme d'états-transitions de la relation de communication .....	111
Figure 12	– Modèle d'information de la passerelle .....	113
Figure 13	– CommunicationGatewayType .....	114
Figure 14	– GatewayCommunicationDeviceType .....	115
Figure 15	– GatewayCommunicationServiceType .....	118
Figure 16	– Communication imbriquée .....	124
Tableau 1	– Arguments de l'Action ValidateNetwork .....	84
Tableau 2	– Arguments de l'Action ValidateModules .....	85
Tableau 3	– Définition de CommunicationServerType .....	89
Tableau 4	– MethodSet de CommunicationServerType .....	90
Tableau 5	– Arguments de la Méthode Reset .....	91
Tableau 6	– Définition de l'AddressSpace de la Méthode Reset .....	91
Tableau 7	– Arguments de la Méthode Initialize .....	92
Tableau 8	– Définition de l'AddressSpace de la Méthode Initialize .....	92
Tableau 9	– Arguments de la Méthode AddComponent .....	92
Tableau 10	– Définition de l'AddressSpace de la Méthode AddComponent .....	93
Tableau 11	– Arguments de la Méthode RemoveComponent .....	93
Tableau 12	– Définition de l'AddressSpace de la Méthode RemoveComponent .....	93
Tableau 13	– Définition de ServerCommunicationDeviceType .....	94
Tableau 14	– MethodSet de ServerCommunicationDeviceType .....	95
Tableau 15	– Arguments de la Méthode Scan .....	95
Tableau 16	– Définition de l'AddressSpace de la Méthode Scan .....	96
Tableau 17	– Arguments de la Méthode Scan .....	96
Tableau 18	– Définition de l'AddressSpace de la Méthode Scan .....	96
Tableau 19	– Arguments de la Méthode ResetScan .....	97
Tableau 20	– Définition de l'AddressSpace de la Méthode ResetScan .....	97
Tableau 21	– Arguments de la Méthode SetAddress .....	98

Tableau 22 – Définition de ServerCommunicationServiceType.....	99
Tableau 23 – MethodSet de ServerCommunicationServiceType.....	99
Tableau 24 – Arguments de la Méthode Connect.....	100
Tableau 25 – Arguments de la Méthode Disconnect.....	101
Tableau 26 – Arguments de la Méthode Transfer.....	101
Tableau 27 – Arguments de la Méthode GetPublishedData.....	102
Tableau 28 – Définition de FDI®CommunicationServer_Facet.....	103
Tableau 29 – Définition de CommunicationGatewayType.....	114
Tableau 30 – Définition de GatewayCommunicationDeviceType.....	115
Tableau 31 – MethodSet de GatewayCommunicationDeviceType.....	115
Tableau 32 – Arguments de la Méthode Scan.....	116
Tableau 33 – Définition de l'AddressSpace de la Méthode Scan.....	116
Tableau 34 – Arguments de la Méthode ScanNext.....	117
Tableau 35 – Définition de l'AddressSpace de la Méthode ScanNext.....	117
Tableau 36 – Définition de GatewayCommunicationServiceType.....	118
Tableau 37 – MethodSet de GatewayCommunicationServiceType.....	119
Tableau 38 – Arguments de la Méthode Connect.....	120
Tableau 39 – Arguments de la Méthode Transfer.....	121

## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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### INTÉGRATION DES APPAREILS DE TERRAIN (FDI®) –

#### Partie 7: Appareils de Communication

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Cette troisième édition annule et remplace la deuxième édition parue en 2021. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) ajout de la Méthode ScanExtended.



Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
65E/859/CDV	65E/916/RVC

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

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# INTÉGRATION DES APPAREILS DE TERRAIN (FDI®) –

## Partie 7: Appareils de Communication

### 1 Domaine d'application

La présente partie de l'IEC 62769 spécifie les éléments de mise en œuvre des fonctions de communication, appelés Appareils de Communication.

L'architecture FDI®<sup>1</sup> complète est représentée à la Figure 1. Les composants architecturaux qui relèvent du domaine d'application du présent document ont été mis en évidence dans cette représentation. Le domaine d'application du document relatif aux Paquetages FDI® est limité aux Appareils de Communication. Le Serveur de Communication représenté à la Figure 1 est un exemple d'Appareil de Communication spécifique.

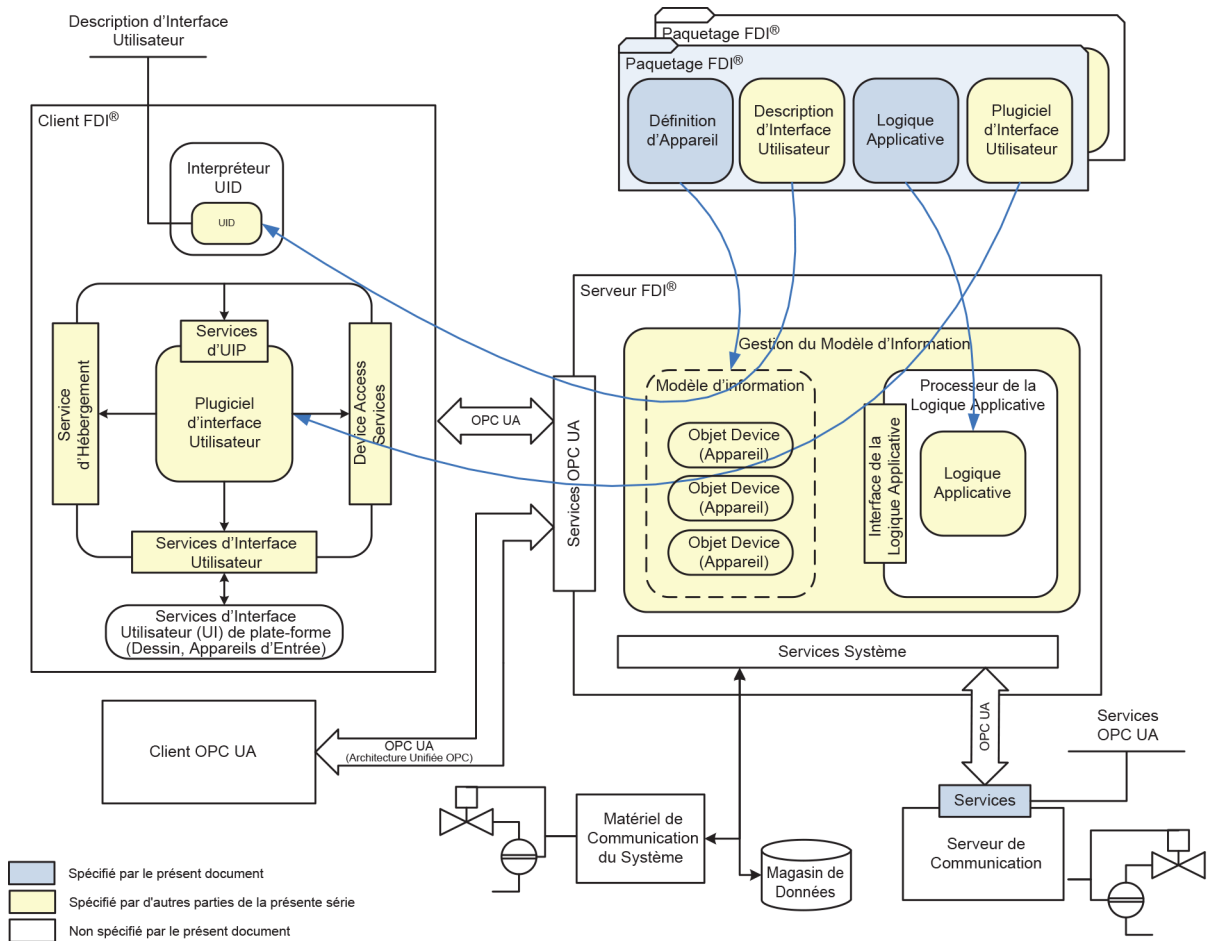


Figure 1 – Diagramme de l'architecture FDI®

<sup>1</sup> FDI® est une marque déposée de l'organisation à but non lucratif Fieldbus Foundation, Inc. Cette information est donnée à l'intention des utilisateurs du présent document et ne signifie nullement que l'IEC approuve le détenteur de la marque ou l'emploi de ses produits. La conformité n'exige pas l'utilisation de la marque. L'utilisation de la marque exige l'autorisation du détenteur de la marque.

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IEC 61804-3, *Les dispositifs et leur intégration dans les systèmes de l'entreprise – Blocs fonctionnels (FB) pour les procédés industriels et le langage de description électronique de produit (EDDL) – Partie 3: Sémantique et syntaxe EDDL*

IEC 61804-4, *Les dispositifs et leur intégration dans les systèmes de l'entreprise – Blocs fonctionnels (FB) pour les procédés industriels et le langage de description électronique de produit (EDDL) – Partie 4: Interprétation EDD*

IEC TR 62541-1, *OPC Unified Architecture – Part 1: Overview and concepts* (disponible en anglais seulement)

IEC 62541-4, *Architecture unifiée OPC – Partie 4: Services*

IEC 62541-6, *Architecture unifiée OPC – Partie 6: Mappings*

IEC 62541-7, *Architecture unifiée OPC – Partie 7: Profils*

IEC 62541-100, *Architecture unifiée OPC – Partie 100: Interface d'appareils*

IEC 62769-1, *Intégration des appareils de terrain (FDI®) – Partie 1: Vue d'ensemble*

IEC 62769-2, *Intégration des appareils de terrain (FDI®) – Partie 2: Client*

IEC 62769-3, *Intégration des appareils de terrain (FDI®) – Partie 3: Serveur*

IEC 62769-4:2023, *Intégration des appareils de terrain (FDI®) – Partie 4: Paquetages FDI®*

IEC 62769-5, *Intégration des appareils de terrain (FDI®) – Partie 5: Modèle d'Information FDI®*