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Field Device Tool (FDT) Interface Specification - Part 2: Concepts and detailed Description

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/17

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March 2017

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Supersedes EN 62453-2:2009

English Version

**Field Device Tool (FDT) Interface Specification - Part 2:  
Concepts and detailed Description  
(IEC 62453-2:2016)**

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 2: Concepts et description détaillée  
(IEC 62453-2:2016)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 2:  
Konzept und grundlegende Beschreibung  
(IEC 62453-2:2016)

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## European foreword

The text of document 65E/334/CDV, future edition 2 of IEC 62453-2, prepared by SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62453-2:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-10-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-01-20

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC/TR 62453-41

NOTE Harmonized as CLC/TR 62453-41

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61131	series	Programmable controllers	EN 61131	series
IEC 62453-1	2016	Field Device Tool (FDT) interface specification -- Part 1: Overview and guidance	FprEN 62453-1	2013
IEC 62453-3xy	series	Field device tool (FDT) interface specification	EN 62453-3xy	series
IEC/TR 62390	2005	Common automation device - Profile guideline	-	-



# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Field device tool (FDT) interface specification –  
Part 2: Concepts and detailed description**

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –  
Partie 2: Concepts et description détaillée**





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# NORME INTERNATIONALE



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Part 2: Concepts and detailed description**

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –  
Partie 2: Concepts et description détaillée**

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## CONTENTS

FOREWORD.....	10
INTRODUCTION.....	12
1 Scope.....	13
2 Normative references .....	13
3 Terms, definitions, symbols, abbreviated terms and conventions .....	13
3.1 Terms and definitions.....	13
3.2 Symbols and abbreviated terms .....	14
3.3 Conventions.....	14
3.3.1 Use of UML .....	14
3.3.2 State availability statement.....	14
3.3.3 Data type names and references to data types .....	14
4 Fundamentals.....	14
4.1 General.....	14
4.2 Abstract FDT model .....	14
4.2.1 FDT model overview .....	14
4.2.2 Frame Application (FA).....	18
4.2.3 Device Type Manager (DTM) .....	19
4.2.4 Channel object .....	26
4.3 Modularity.....	28
4.4 Bus categories .....	29
4.5 Identification .....	29
4.5.1 DTM instance identification.....	29
4.6 System and FDT topology.....	30
4.7 FDT Communication .....	32
4.7.1 General .....	32
4.7.2 Handling of communication requests .....	33
4.7.3 Handling of communication errors.....	33
4.7.4 Handling of loss of connection .....	33
4.7.5 Point-to-point communication.....	33
4.7.6 Nested communication .....	34
4.8 DTM, DTM Device Type and Hardware Identification Information .....	35
4.8.1 DTM and DTM Device Type .....	35
4.8.2 Supported hardware identification.....	36
4.8.3 Connected Hardware Identification .....	37
4.9 DTM data persistence and synchronization .....	37
4.10 DTM device parameter access .....	38
4.11 DTM state machine .....	39
4.11.1 DTM states .....	39
4.11.2 'Communication allowed' sub-states .....	40
4.12 Basic operation phases.....	41
4.12.1 Roles and access rights.....	41
4.12.2 Operation phases .....	41
4.13 FDT version interoperability .....	42
4.13.1 Version interoperability overview .....	42
4.13.2 DTM and device versions.....	43
4.13.3 Persistence .....	43
4.13.4 Nested communication .....	43



5	FDT session model and use cases .....	44
5.1	Session model overview.....	44
5.2	Actors .....	45
5.3	Use cases .....	47
5.3.1	Use case overview.....	47
5.3.2	Observation.....	47
5.3.3	Operation .....	47
5.3.4	Maintenance.....	50
5.3.5	Planning .....	55
5.3.6	OEM service.....	58
5.3.7	Administration.....	58
6	General concepts .....	59
6.1	Address management .....	59
6.2	Scanning and DTM assignment.....	60
6.2.1	Scanning overview.....	60
6.2.2	Scanning .....	60
6.2.3	DTM assignment.....	61
6.2.4	Manufacturer specific device identification.....	61
6.2.5	Scan for communication hardware .....	62
6.3	Configuration of Fieldbus Master or Communication Scheduler.....	62
6.4	PLC tool support.....	63
6.4.1	General .....	63
6.4.2	Process image modifications while PLC is running.....	64
6.5	Slave redundancy .....	65
6.5.1	Redundancy overview.....	65
6.5.2	Redundancy support in Frame Application.....	66
6.5.3	Parent component for redundant fieldbus.....	66
6.5.4	Redundancy support in Device DTM .....	66
6.5.5	Scan and redundant slaves.....	67
7	FDT service specification.....	67
7.1	Service specification overview .....	67
7.2	DTM services.....	68
7.2.1	General services.....	68
7.2.2	DTM services related to installation .....	70
7.2.3	DTM services related to DTM/device information .....	70
7.2.4	DTM services related to the DTM state machine .....	73
7.2.5	DTM services related to functions .....	75
7.2.6	DTM services related to channel objects – service GetChannels .....	78
7.2.7	DTM services related to documentation – service GetDocumentation .....	79
7.2.8	DTM services to access the instance data .....	79
7.2.9	DTM services to evaluate the instance data.....	80
7.2.10	DTM services to access the device data .....	81
7.2.11	DTM services related to network management information .....	83
7.2.12	DTM services related to online operation .....	84
7.2.13	DTM services related to data synchronization .....	85
7.2.14	DTM services related to import and export.....	87
7.3	Presentation object services .....	88
7.4	Channel object service.....	88
7.4.1	Channel object service overview.....	88

7.4.2	Service ReadChannelInformation.....	88
7.4.3	Service WriteChannelInformation.....	88
7.5	Process Channel object services – services for I/O related information.....	89
7.5.1	Service ReadChannelData.....	89
7.5.2	Service WriteChannelData.....	89
7.6	Communication Channel object services.....	90
7.6.1	Services related to communication.....	90
7.6.2	Services related to sub-topology management.....	93
7.6.3	Services related to GUI and functions.....	96
7.6.4	Service Scan.....	96
7.7	Frame Application services.....	97
7.7.1	General state availability.....	97
7.7.2	FA services related to general events.....	97
7.7.3	FA services related to topology management.....	98
7.7.4	FA services related to redundancy.....	101
7.7.5	FA services related to storage of DTM data.....	102
7.7.6	FA services related to DTM data synchronization.....	103
7.7.7	FA service related to process image validation – service ValidateProcessImage.....	104
7.7.8	FA services related to presentation.....	105
7.7.9	FA Services related to audit trail – service RecordAuditTrailEvent.....	106
8	FDT dynamic behavior.....	107
8.1	Generate FDT topology.....	107
8.1.1	FDT topology generation triggered by the Frame Application.....	107
8.1.2	FDT topology generation triggered by the DTM.....	107
8.2	Address setting.....	108
8.2.1	Address setting overview.....	108
8.2.2	Set or modify device address – with user interface.....	108
8.2.3	Set or modify device address – without user interface.....	109
8.2.4	Display or modify all child device addresses with user interface.....	109
8.3	Communication.....	110
8.3.1	Communication overview.....	110
8.3.2	Point-to-point communication.....	110
8.3.3	Nested communication.....	111
8.3.4	Device initiated data transfer.....	112
8.4	Scanning and DTM assignment.....	113
8.5	Multi-user scenarios.....	114
8.5.1	General.....	114
8.5.2	Synchronized and non-synchronized locking mechanism for DTMs.....	116
8.5.3	Additional rules.....	118
8.6	Notification of changes.....	118
8.7	DTM instance data state machines.....	118
8.7.1	Instance data set overview.....	118
8.7.2	Modifications state machine.....	119
8.7.3	Persistence state machine.....	120
8.7.4	Modification in device.....	120
8.7.5	Storage life cycle.....	121
8.8	Parent component handling redundant slave.....	122
8.9	DTM upgrade.....	124

8.9.1	General rules.....	124
8.9.2	Saving data from a DTM to be upgraded.....	124
8.9.3	Loading data in the replacement DTM.....	125
Annex A (normative) FDT data types definition .....		126
A.1	General.....	126
A.2	Basic data types .....	126
A.3	General data types.....	127
A.4	User information data types .....	144
A.5	DTM information data type .....	145
A.6	BTM data types.....	146
A.7	Device and Scan identification data types .....	147
A.8	Function data types .....	151
A.9	AuditTrail data types .....	154
A.10	Documentation data types.....	155
A.11	DeviceList data type .....	156
A.12	Network management data types .....	158
A.13	Instance data types.....	159
A.14	DeviceStatus data types .....	164
A.15	OnlineCompare data types.....	164
A.16	UserInterface data types .....	165
A.17	Fieldbus-specific data types.....	166
Bibliography.....		168
Figure 1 – Part 2 of the IEC 62453 series .....		12
Figure 2 – Abstract FDT model .....		15
Figure 3 – Frame Application with integrated Communication Channel .....		19
Figure 4 – Device Type Manager (DTM).....		19
Figure 5 – Communication DTM.....		20
Figure 6 – Device DTM .....		21
Figure 7 – Gateway DTM .....		21
Figure 8 – Composite Device DTM.....		22
Figure 9 – Module DTM .....		23
Figure 10 – Block Type Manager (BTM).....		24
Figure 11 – Presentation object .....		25
Figure 12 – Channel object.....		26
Figure 13 – Communication Channel .....		27
Figure 14 – Combined Process/Communication Channel .....		28
Figure 15 – Identification of connected devices.....		30
Figure 16 – FDT topology for a simple system topology .....		31
Figure 17 – FDT topology for a complex system topology .....		32
Figure 18 – Point-to-point communication .....		34
Figure 19 – Nested communication .....		35
Figure 20 – DTM, DTM Device Type and Device Identification Information.....		36
Figure 21 – Connected Hardware Identification.....		37
Figure 22 – FDT storage and synchronization mechanisms.....		38
Figure 23 – DTM state machine .....		39

Figure 24 – Substates of communication allowed .....	40
Figure 25 – Main use case diagram .....	45
Figure 26 – Observation use cases .....	47
Figure 27 – Operation use cases .....	48
Figure 28 – Maintenance use cases .....	51
Figure 29 – Planning use cases .....	55
Figure 30 – OEM service .....	58
Figure 31 – Administrator use cases .....	59
Figure 32 – Address setting via DTM Presentation object .....	60
Figure 33 – Fieldbus scanning .....	61
Figure 34 – Fieldbus master configuration tool as part of a DTM .....	63
Figure 35 – Process Image .....	64
Figure 36 – Transfer of layout information using ProcessImage services .....	64
Figure 37 – Redundancy scenarios .....	65
Figure 38 – FDT topology generation triggered by the Frame Applications .....	107
Figure 39 – FDT topology generation triggered by a DTM .....	108
Figure 40 – Set or modify device address – with user interface .....	108
Figure 41 – Set or modify device address – without user interface .....	109
Figure 42 – Set or modify all device addresses – with user interface .....	110
Figure 43 – Point-to-point communication .....	111
Figure 44 – Nested communication .....	112
Figure 45 – Device initiated data transfer .....	113
Figure 46 – Scanning and DTM assignment .....	114
Figure 47 – Multi-user system .....	115
Figure 48 – General synchronized locking mechanism .....	116
Figure 49 – General non-synchronized locking mechanism .....	117
Figure 50 – Parameterization in case of synchronized locking mechanism .....	117
Figure 51 – Modifications state machine of instance data .....	119
Figure 52 – Persistence state machine of instance data .....	120
Figure 53 – Management of redundant topology .....	123
Figure 54 – Associating data to a dataSetId .....	124
Figure 55 – Loading data for a supported dataSetId .....	125
Table 1 – Description of FDT objects .....	16
Table 2 – Description of associations between FDT objects .....	17
Table 3 – Transitions of DTM states .....	40
Table 4 – Transitions of DTM 'communication allowed' sub states .....	40
Table 5 – Operation phases .....	42
Table 6 – Actors .....	46
Table 7 – Operation use cases .....	49
Table 8 – Maintenance use cases .....	52
Table 9 – Planning use cases .....	56
Table 10 – Administrator use cases .....	59

Table 11 – Arguments for service PrivateDialogEnabled .....	68
Table 12 – Arguments for service SetLanguage .....	69
Table 13 – Arguments for service SetSystemGuiLabel .....	70
Table 14 – Arguments for service GetTypeInformation (for DTM) .....	71
Table 15 – Arguments for service GetTypeInformation (for BTM) .....	71
Table 16 – Arguments for service GetIdentificationInformation (for DTM) .....	71
Table 17 – Arguments for service GetIdentificationInformation (for BTM) .....	72
Table 18 – Arguments for service Hardware information (for DTM) .....	72
Table 19 – Arguments for service GetActiveTypeInfo .....	72
Table 20 – Arguments for service GetActiveTypeInfo (for BTM) .....	73
Table 21 – Arguments for service Initialize (for DTM) .....	73
Table 22 – Arguments for service Initialize (for BTM) .....	73
Table 23 – Arguments for service SetLinkedCommunicationChannel .....	74
Table 24 – Arguments for service EnableCommunication .....	74
Table 25 – Arguments for service ReleaseLinkedCommunicationChannel .....	75
Table 26 – Arguments for service ClearInstanceData .....	75
Table 27 – Arguments for service Terminate .....	75
Table 28 – Arguments for service GetFunctions .....	76
Table 29 – Arguments for service InvokeFunctions .....	77
Table 30 – Arguments for service GetGuiInformation .....	77
Table 31 – Arguments for service OpenPresentation .....	77
Table 32 – Arguments for service ClosePresentation .....	78
Table 33 – Arguments for service GetChannels .....	78
Table 34 – Arguments for service GetDocumentation .....	79
Table 35 – Arguments for service InstanceDataInformation .....	79
Table 36 – Arguments for service InstanceDataRead .....	80
Table 37 – Arguments for service InstanceDataWrite .....	80
Table 38 – Arguments for service Verify .....	81
Table 39 – Arguments for service CompareDataValueSets .....	81
Table 40 – Arguments for service DeviceDataInformation .....	81
Table 41 – Arguments for service DeviceDataRead .....	82
Table 42 – Arguments for service DeviceDataWrite .....	82
Table 43 – Arguments for service NetworkManagementInfoRead .....	83
Table 44 – Arguments for service NetworkManagementInfoWrite .....	83
Table 45 – Arguments for service DeviceStatus (for DTM) .....	84
Table 46 – Arguments for service CompareInstanceDataWithDeviceData (for DTM) .....	84
Table 47 – Arguments for service WriteDataToDevice (for DTM) .....	85
Table 48 – Arguments for service ReadDataFromDevice (for DTM) .....	85
Table 49 – Arguments for service OnLockInstanceData .....	86
Table 50 – Arguments for service OnUnlockInstanceData .....	86
Table 51 – Arguments for service OnInstanceDataChanged .....	86
Table 52 – Arguments for service OnInstanceChildDataChanged .....	87
Table 53 – Arguments for service Export .....	87

Table 54 – Arguments for service Import.....	88
Table 55 – Arguments for service ReadChannelInformation .....	88
Table 56 – Arguments for service WriteChannelInformation .....	89
Table 57 – Arguments for service ReadChannelData .....	89
Table 58 – Arguments for service WriteChannelData .....	89
Table 59 – Arguments for service GetSupportedProtocols.....	90
Table 60 – Arguments for service Connect.....	90
Table 61 – Arguments for service Disconnect .....	91
Table 62 – Arguments for service AbortRequest .....	91
Table 63 – Arguments for service AbortIndication .....	92
Table 64 – Arguments for service Transaction .....	92
Table 65 – Arguments for service SequenceDefine .....	93
Table 66 – Arguments for service SequenceStart.....	93
Table 67 – Arguments for service ValidateAddChild .....	94
Table 68 – Arguments for service ChildAdded.....	94
Table 69 – Arguments for service ValidateRemoveChild .....	94
Table 70 – Arguments for service ChildRemoved .....	95
Table 71 – Arguments for service SetChildrenAddresses .....	95
Table 72 – Arguments for service GetChannelFunctions .....	96
Table 73 – Arguments for service GetGuiInformation .....	96
Table 74 – Arguments for service Scan.....	97
Table 75 – Arguments for service OnErrorMessage .....	97
Table 76 – Arguments for service OnProgress .....	97
Table 77 – Arguments for service OnOnlineStatusChanged .....	98
Table 78 – Arguments for service OnFunctionsChanged .....	98
Table 79 – Arguments for service GetDtmInfoList .....	99
Table 80 – Arguments for service CreateChild (DTM) .....	99
Table 81 – Arguments for service CreateChild (BTM).....	99
Table 82 – Arguments for service DeleteChild.....	100
Table 83 – Arguments for service MoveChild .....	100
Table 84 – Arguments for service GetParentNodes .....	100
Table 85 – Arguments for service GetChildNodes .....	101
Table 86 – Arguments for service GetDtm.....	101
Table 87 – Arguments for service ReleaseDtm.....	101
Table 88 – Arguments for service OnAddedRedundantChild .....	102
Table 89 – Arguments for service OnRemovedRedundantChild.....	102
Table 90 – Arguments for service SaveInstanceData .....	102
Table 91 – Arguments for service LoadInstanceData .....	103
Table 92 – Arguments for service GetPrivateDtmStorageInformation .....	103
Table 93 – Arguments for service LockInstanceData.....	103
Table 94 – Arguments for service UnlockInstanceData.....	104
Table 95 – Arguments for service OnInstanceDataChanged.....	104
Table 96 – Arguments for service ValidateProcessImage .....	105

Table 97 – Arguments for service OpenPresentationRequest .....	105
Table 98 – Arguments for service ClosePresentationRequest .....	105
Table 99 – Arguments for service UserDialog .....	106
Table 100 – Arguments for service RecordAuditTrailEvent .....	106
Table 101 – Modifications state machine of instance data .....	119
Table 102 – Persistence state machine of instance data .....	120
Table 103 – Example life cycle of a DTM .....	122
Table A.1 – Basic data types .....	127
Table A.2 – Simple general data types .....	128
Table A.3 – Definition of classificationId enumeration values .....	135
Table A.4 – General structured data types .....	137
Table A.5 – Simple user information data types .....	145
Table A.6 – Structured user information data type .....	145
Table A.7 – Structured DTM information data type .....	146
Table A.8 – Simple BTM data types .....	146
Table A.9 – Structured BTM data types .....	147
Table A.10 – Simple device identification data types .....	148
Table A.11 – Structured device identification data types .....	149
Table A.12 – Simple function data types .....	152
Table A.13 – Structured function data types .....	153
Table A.14 – Simple auditTrail data types .....	154
Table A.15 – Structured auditTrail data types .....	155
Table A.16 – Simple documentation data types .....	155
Table A.17 – Structured documentation data types .....	156
Table A.18 – Simple deviceList data type .....	157
Table A.19 – Structured deviceList data type .....	157
Table A.20 – Simple network management data types .....	158
Table A.21 – Structured network management data types .....	159
Table A.22 – Simple instance data types .....	160
Table A.23 – Structured instance data types .....	162
Table A.24 – Simple device status data types .....	164
Table A.25 – Structured device status data types .....	164
Table A.26 – Simple online compare data types .....	164
Table A.27 – Structured online compare data types .....	165
Table A.28 – Simple user interface data types .....	165
Table A.29 – Structured user interface data types .....	166
Table A.30 – Fieldbus data types .....	167

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

### Part 2: Concepts and detailed description

#### FOREWORD

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International Standard IEC 62453-2 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2009. This edition constitutes a technical revision.

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

- Clarification for categories of DTMs (e.g. new category ‘Composite Device DTM’)
- Clarification: Command functions
- New concept: Static function
- Clarification for Communication Channel and communication
- Clarifications for identification



- Clarifications for scanning and DTM assignment
- New concept: PLC tool support

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

CDV	Report on voting
65E/334/CDV	65E/334/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62453 series, under the general title *Field Device Tool (FDT) interface specification*, can be found on the IEC website.

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.

**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.**

## INTRODUCTION

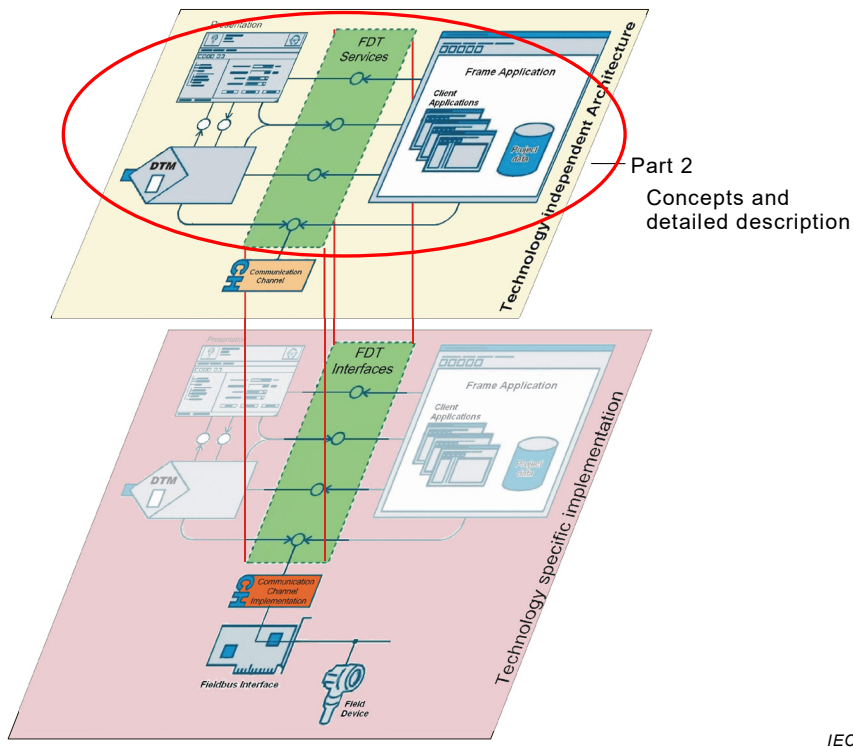
This part of IEC 62453 is an interface specification for developers of FDT (Field Device Tool) components for function control and data access within a client/server architecture. The specification is a result of an analysis and design process to develop standard interfaces to facilitate the development of servers and clients by multiple vendors that need to interoperate seamlessly.

With the integration of fieldbuses into control systems, there are a few other tasks which need to be performed. In addition to fieldbus- and device-specific tools, there is a need to integrate these tools into higher-level system-wide planning or engineering tools. In particular, for use in extensive and heterogeneous control systems, typically in the area of the process industry, the unambiguous definition of engineering interfaces that are easy to use for all those involved is of great importance.

A device-specific software component created according to this standard is called Device Type Manager (DTM). It integrates all device-specific data, functions and business rules into the system via the FDT services defined herein.

The FDT/DTM approach is open for all kind of fieldbuses and enables integration variety of devices into heterogeneous systems.

Figure 1 shows how this part of IEC 62453 is aligned in the structure of the IEC 62453 series.



IEC

**Figure 1 – Part 2 of the IEC 62453 series**

## FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

### Part 2: Concepts and detailed description

#### 1 Scope

This part of IEC 62453 explains the common principles of the field device tool concept. These principles can be used in various industrial applications such as engineering systems, configuration programs and monitoring and diagnostic applications.

This standard specifies the general objects, general object behavior and general object interactions that provide the base of FDT.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61131 (all parts), *Programmable controllers*

IEC/TR 62390:2005, *Common automation device – Profile guideline*

IEC 62453-1:2016, *Field Device Tool (FDT) interface specification – Part 1: Overview and guidance*

IEC 62453-3xy (all parts), *Field Device Tool (FDT) interface specification – Part 3xy: Communication profile integration*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**