

TECHNICAL REPORT



**Field device tool (FDT) interface specification –
Part 51-31: Communication implementation for common object model –
IEC 61784 CP 3/1 and CP 3/2**



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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions, symbols, abbreviated terms and conventions	7
3.1 Terms and definitions.....	7
3.2 Symbols and abbreviated terms	8
3.3 Conventions.....	8
3.3.1 Data type names and references to data types	8
3.3.2 Vocabulary for requirements	8
4 Bus category	8
5 Access to instance and device data	8
6 Protocol specific behaviour	8
6.1 General.....	8
6.2 Representing modularity	9
6.2.1 Monolithic DTMs.....	9
6.2.2 Composite Device DTMs	10
6.3 Interfaces and information related to Bus Master Configuration.....	13
6.4 Configuration changes in a device	13
6.5 Error behaviour: DTM refuses new BMCP	14
7 Protocol specific usage of general data types	15
8 Network management data types	15
8.1 General.....	15
8.2 PROFIBUS device address	15
8.3 Master-bus parameter set	15
8.4 Slave bus parameter set	15
8.5 Module and channel data	15
9 Communication data types.....	17
9.1 General.....	17
9.2 DPV0 communication – FDTPProfibusDPV0CommunicationSchema	18
9.3 DPV1 communication – FDTPProfibusDPV1CommunicationSchema	19
10 Channel parameter data types	22
11 Device identification	23
11.1 Device type identification data types – FDTPProfibusIdentSchema	23
11.2 Topology scan data types – DTMPProfibusDeviceSchema	24
11.3 Scan identification data types – FDTPProfibusScanIdentSchema	25
11.4 Device type identification data types – FDTPProfibusDeviceIdentSchema	27
11.5 XSLT Transformation	29
Annex A (informative) Example documents for a DTM representing a remote I/O	40
Bibliography.....	43
Figure 1 – Part 51-31 of the IEC 62453 series	6
Figure 2 – Device DTM	9
Figure 3 – Gateway DTM	10
Figure 4 – Composite Device DTM.....	11

Figure 5 – Modular Gateway DTM.....	12
Figure 6 – Interfaces and information related to bus master configuration.....	13
Figure 7 – Changes by the user to the configuration of a device in the DTM user interface	14
Figure 8 – Error case – DTM refuses the new BMCP from the Frame Application.....	14
Table 1 – Protocol specific usage of general data types.....	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

**Part 51-31: Communication implementation for common object model –
IEC 61784 CP 3/1 and CP 3/2**

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IEC TR 62453-51-31, which is a technical report, has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process management, control and automation.

This document cancels and replaces IEC TR 62453-503-1 published in 2009. This edition constitutes a technical revision. The main changes consist of updates in accordance with IEC 62453-2 in regard to the description of “Composite Device DTM”.

Each part of the IEC 62453-51-xy series is intended to be read in conjunction with its corresponding part in the IEC 62453-3xy series. This document corresponds to IEC 62453-303-1.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
65E/440/DTR	65E/514/RVC

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

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

The 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 document will remain unchanged until the stability date indicated on the IEC website under "<http://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.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

This part of IEC 62453 is an interface specification for developers of Field Device Tool (FDT) 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, called Device Type Manager (DTM), is supplied by the field device manufacturer with its device. The DTM is integrated into engineering tools via the FDT interfaces defined in this specification. The approach to integration is in general open for all kind of fieldbuses and thus meets the requirements for integrating different kinds of devices into heterogeneous control systems.

Figure 1 shows how this part of IEC 62453-51-xy series is aligned in the structure of the IEC 62453 series.

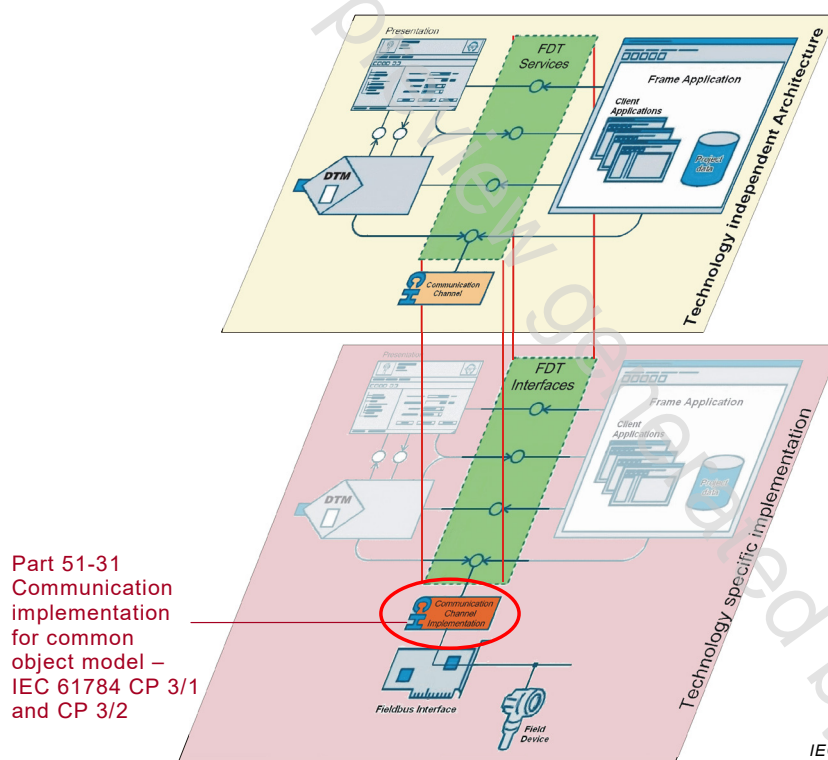


Figure 1 – Part 51-31 of the IEC 62453 series

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 51-31: Communication implementation for common object model – IEC 61784 CP 3/1 and CP 3/2

1 Scope

This part of the IEC 62435-51-xy series, which is a Technical Report, provides information for integrating the PROFIBUS¹ protocol into the COM-based implementation of FDT interface specification (IEC TR 62453-41).

This part of IEC 62453 specifies implementation of communication and other services based on IEC 62453-303-1.

This document neither contains the FDT specification nor modifies it.

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 61158 (all parts), *Industrial communication networks – Fieldbus specifications*

IEC 61784-1:2014, *Industrial communication networks – Profiles – Part 1: Fieldbus profiles*

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

IEC 62453-2:2016, *Field device tool (FDT) interface specification – Part 2: Concepts and detailed description*

IEC TR 62453-41:2016, *Field device tool (FDT) interface specification – Part 41: Object model integration profile – Common object model*

IEC 62453-303-1:2009, *Field device tool (FDT) interface specification – Part 303-1: Communication profile integration – IEC 61784 CP 3/1 and CP 3/2*
IEC 62453-303-1:2009/AMD1:2016

3 Terms, definitions, symbols, abbreviated terms and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62453-1, IEC 62453-2, IEC TR 62453-41 and IEC 62453-303-1 apply.

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