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

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ISA
67 Alexander Drive
P. O. Box 12277
Research Triangle Park, North Carolina 27709
USA

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NOTE All text of IEC 62453-2 is included. U.S. National Deviations are shown by ~~strikeout~~ through text deleted and <u>underline</u> under text added. There is one annex included in this standard.

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INTRODUCTION

This part of ~~IEC~~ ISA-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 fieldbusses 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 fieldbusses and enables integration variety of devices into heterogeneous systems.

Figure 1 shows how ~~IEC~~ ISA-62453-2 is aligned in the structure of the ~~IEC~~ ISA-62453 series.

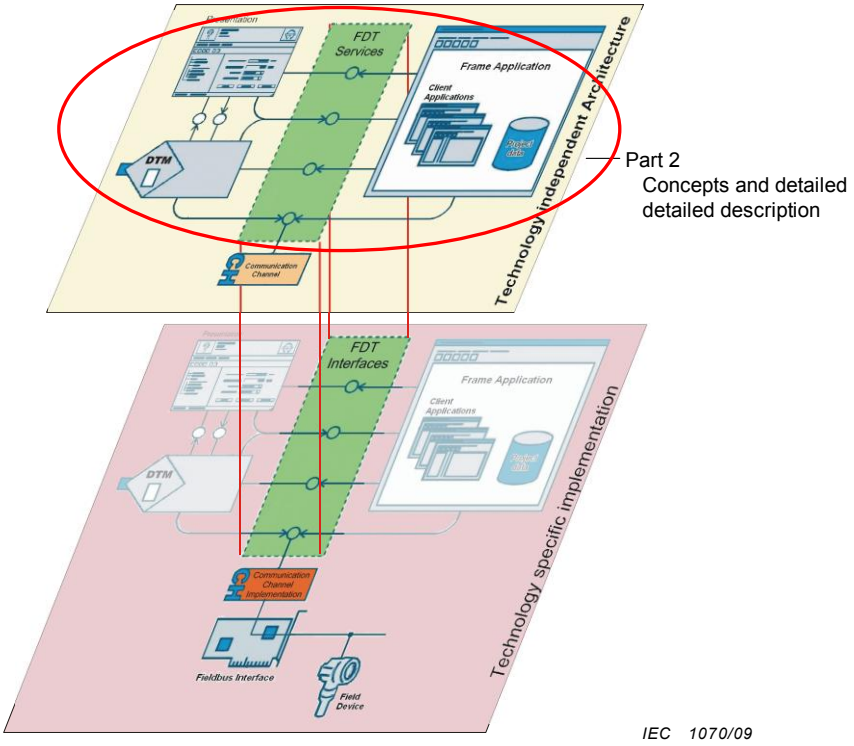

Figure 1 – Part 2 of the ~~IEC~~ ISA 62453 series

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FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 2: Concepts and detailed description

1 Scope

This part of ~~IEC~~ ISA-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 referenced documents are indispensable for the application of this specification. 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, *Common automation device – Profile guideline*

IEC 62453-1:2009, *Field Device Tool (FDT) interface specification – Part 1: Overview and guidance*

IEC 62453-3xy (all parts):2009, *Field Device Tool (FDT) interface specification – Part 3xy: Communication profile integration*

IEC/TR 62453-41:2009, *Field Device Tool (FDT) interface specification – Part 41: Object model integration profile – Common object model*

ISO/IEC 19501:2005, *Information technology – Open Distributed Processing – Unified Modeling Language (UML)* Version 1.4.2

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~~ ISA-62453-1 and the following apply.

3.1.1
FDT version
implementation version defined by the related technology specific organization

NOTE The FDT version is specified in IEC/TR 62453-41.