



IEC 62769-4

Edition 2.0 2021-02

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



Field device integration (FDI) –  
**ITEH STANDARD PREVIEW**  
Part 4: FDI Packages  
(standards.iteh.ai)

Intégration des appareils de terrain (FDI) –  
**IEC 62769-4:2021**  
Partie 4: Paquetages FDI  
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Part 4: FDI Packages ([standards.iteh.ai](https://standards.iteh.ai))

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This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

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

- a) support for Package Developers to build EDDs targeted for today's EDD bases system under a single development tool;
- b) digital signature now includes trusted timestamping for long-term validation of FDI Package;
- c) time stamp for device package signature.

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

FDIS	Report on voting
65E/761/FDIS	65E/771/RVD

Full information on the voting for the approval of this International Standard 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.

A list of all parts in the IEC 62769 series, published under the general title *Field Device Integration (FDI)*, 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

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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
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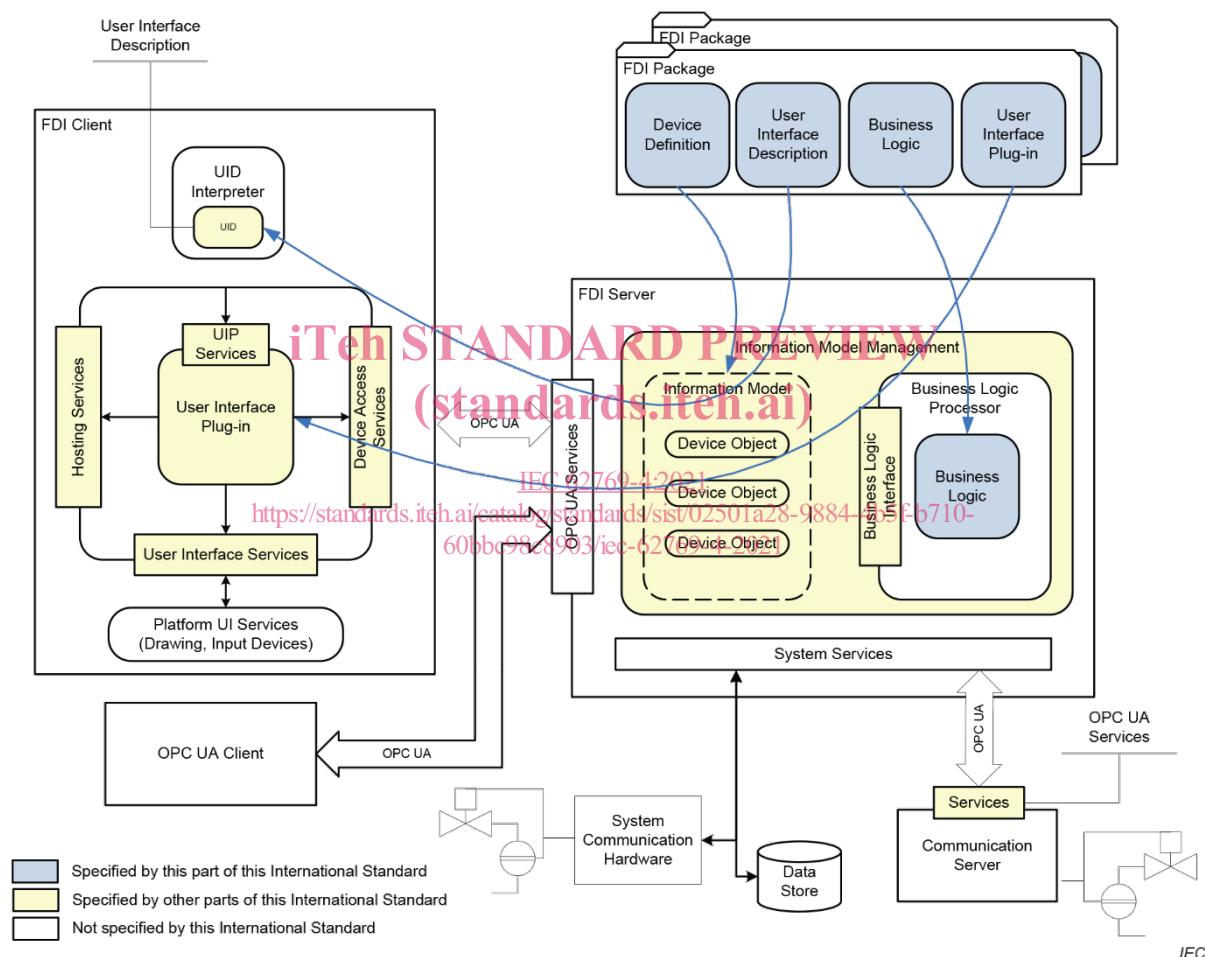
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## FIELD DEVICE INTEGRATION (FDI) –

### Part 4: FDI Packages

## 1 Scope

This part of IEC 62769 specifies the FDI Packages. The overall FDI architecture is illustrated in Figure 1. The architectural components that are within the scope of this document have been highlighted in Figure 1.



**Figure 1 – FDI architecture diagram**

## 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 (all parts), *Function blocks (FB) for process control and electronic device description language (EDDL)*

IEC 61804-5:2015, *Function blocks (FB) for process control and electronic device description language (EDDL) – Part 5: EDDL Builtin library*

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

IEC 62769-6, *Field Device Integration (FDI) – Part 6: FDI Technology Mapping*

ISO/IEC 29500-2:2016, *Information technology – Document description and processing languages – Office Open XML File Formats – Part 2: Open Packaging Conventions*

ISO 639-1, *Codes for the representation of names of languages – Part 1: Alpha-2 code*

ISO 32000-1, *Document management – Portable document format – Part 1: PDF 1.7*

*Extensible Markup Language (XML) 1.0, W3C Recommendation, available at <<http://www.w3.org/TR/REC-xml/>>*

*XML Schema Definition Language (XSD) 1.1, W3C Recommendation, available at <<http://www.w3.org/TR/xmlschema11-1/>>*

ETSI EN 319 132-1, *Electronic Signatures and Infrastructures (ESI); XAdES digital signatures; Part 1: Building blocks and XAdES baseline signatures*

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### 3 Terms, definitions, abbreviated terms and conventions

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62769-1, ISO/IEC 29500-2, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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##### 3.1.1

##### Attachment

device and protocol-specific support files that are not directly used to integrate the Device into the system

##### 3.1.2

##### FDI Communication Package

FDI Package that provides information to integrate an FDI Communication Server to an FDI Server

##### 3.1.3

##### FDI Device Package

FDI Package that provides one or more device types to an FDI Server

**3.1.4****FDI Package Model**

description of the structure and elements of an FDI Package

**3.1.5****FDI Profile Package**

FDI Package that provides information for creating a device type node that can be associated with a class of devices

**3.1.6****FDI Registration Authority**

entity that has the right and the ability to perform FDI conformance tests on FDI Packages and to issue registration certificate documents

**3.1.7****FDI UIP Package**

FDI Package that provides one or more UIPs to an FDI Server

**3.1.8****Package Catalog**

file that describes the contents of an FDI Package

**3.1.9****UIP Catalog**

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

**3.1.10****UIP Variant**

platform-specific element of a User Interface Plug-in

<https://standards.iteh.ai/catalog/standards/sist/02501a28-9884-4b5f-b710-60bbc98c8903/iec-62769-4-2021>

Note 1 to entry: A UIP is composed of one or more variants. For example, one variant may be optimized for portable devices while another variant is optimized for large-screen devices.

## 3.2 Abbreviated terms

For the purposes of this document, the abbreviated terms given in IEC 62769-1 as well as the following apply.

CFF	Capabilities File for FOUNDATION Fieldbus
ID	Identifier
IDE	Integrated Development Environment
IM	Information Model
PNG	Portable network graphics
ZIP	Zipper (archive file format)

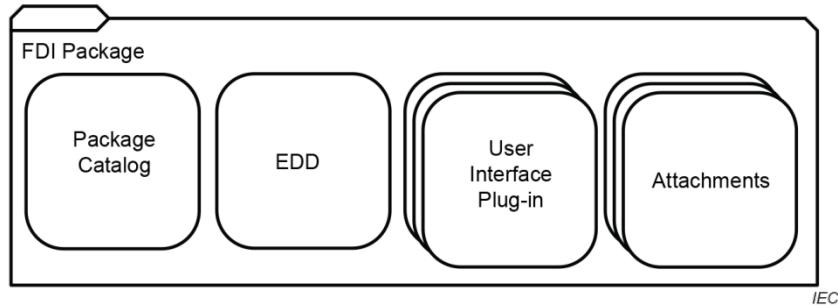
## 3.3 Conventions

For the purposes of this document, the conventions given in IEC 62769-1 apply.

## 4 FDI Package Model

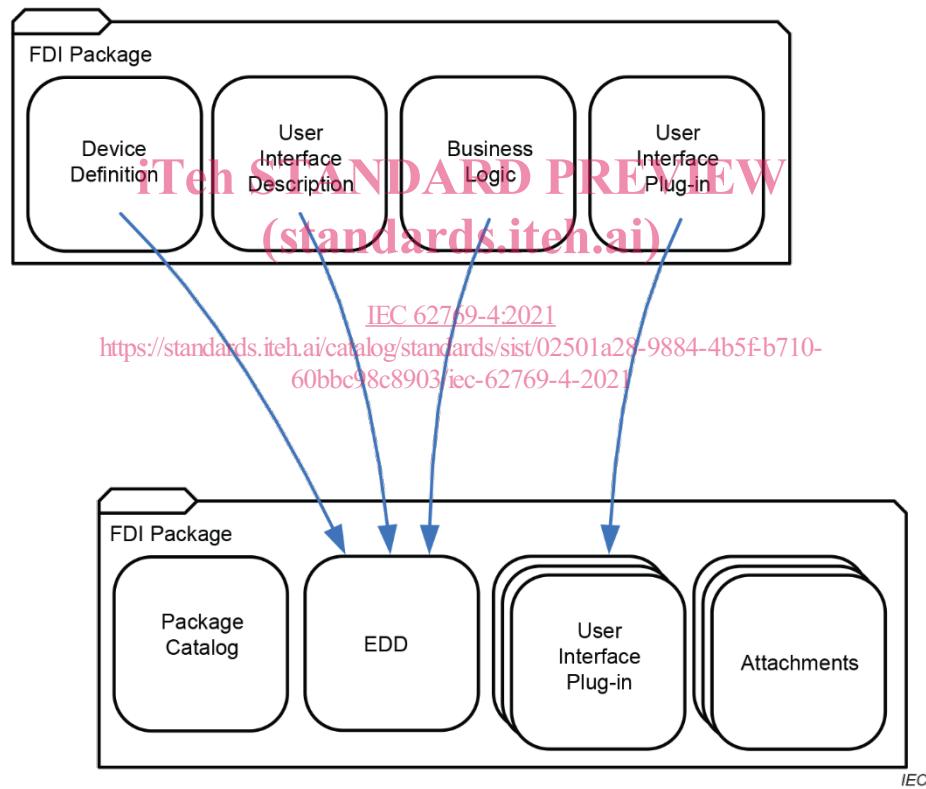
### 4.1 Overview

The FDI Package Model (see Figure 2) provides all the elements necessary to integrate devices, network components and FDI Communication Servers into a system.



**Figure 2 – FDI Package Model**

Figure 3 shows the mapping of the FDI Package functional elements, as specified in IEC 62769-1, to the physical elements in an actual FDI Package, as specified in this document.



**Figure 3 – Architectural mapping**

The Electronic Device Description (EDD) corresponds to the Device Definition, the User Interface Description, and the Business Logic functional elements. A set of physical User Interface Plug-ins corresponds to the User Interface Plug-in functional element.

The other physical elements in the FDI Package, the Package Catalog and Attachments, provide support for basic mechanisms such as identification, versioning and deployment, and distribution of manufacturer and/or protocol-specific information about the device and/or the User Interface Plug-ins.