SLOVENSKI STANDARD
SIST EN 62559-2:2015

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Odločitveni postopki - 2. del: Opredelitev odločitvenih postopkov s seznamom zahtev in pripadajočih uporabnikov (IEC 62559-2:2015)

Use case methodology - Part 2: Definition of use case template, actor list and requirement list

Anwendungsfallmethodik - Teil 2: Definition der Anwendungsfallvorlage, Akteurliste und der Anforderungsliste

Méthodologie des cas d'utilisation - Partie 2: Définition du formulaire type de modèle de cas d'utilisation, de la liste d'acteurs et de la liste d'exigences

Ta slovenski standard je istoveten z: **EN 62559-2:2015**

ICS:

29.020	Elektrotehnika na splošno	Electrical engineering in general

SIST EN 62559-2:2015 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62559-2

June 2015

ICS 29.020

English Version

Use case methodology - Part 2: Definition of the template for use cases, actor list and requirements list (IEC 62559-2:2015)

Méthodologie des cas d'utilisation - Partie 2: Définition du formulaire type de modèle de cas d'utilisation, de la liste d'acteurs et de la liste d'exigences
(IEC 62559-2:2015)

Anwendungsfallmethodik - Teil 2: Definition der Anwendungsfallvorlage, Akteurliste und der Anforderungsliste
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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 8/1389/FDIS, future edition 1 of IEC 62559-2, prepared by IEC TC 8, "Systems aspects for electrical energy supply" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62559-2:2015.

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)	2016-03-04
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-06-04

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Endorsement notice

The text of the International Standard IEC 62559-2:2015 was approved by CENELEC as a European Standard without any modification.

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

IEC 61850 (Series)	NOTE	Harmonized as EN 61850 (Series).
IEC 61968-1	NOTE	Harmonized as EN 61968-1.
IEC 61968-11	NOTE	Harmonized as EN 61968-11.
IEC 61968-100:2013	NOTE	Harmonized as EN 61968-100:2013.
IEC 61970-301	NOTE	Harmonized as EN 61970-301.
IEC 62056 (Series)	NOTE	Harmonized as EN 62056 (Series).
IEC 62325-301	NOTE	Harmonized as EN 62325-301.
IEC 62507-1:2010	NOTE	Harmonized as EN 62507-1:2011.

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.

Publication	Year	Title	EN/HD	Year
IEC 60870-5-10x		Telecontrol equipment and systems -- Part 5: Transmission protocols	EN 60870-5-10x	series
IEC 61850	series	Communication networks and systems for power utility automation -- Part 3: General requirements	EN 61850	series
IEC 61968-1	-	Application integration at electric utilities - System interfaces for distribution management -- Part 1: Interface architecture and general requirements	EN 61968-1	-
IEC 61968-11	-	Application integration at electric utilities - System interfaces for distribution management -- Part 11: Common information model (CIM) extensions for distribution	EN 61968-11	-
IEC 61968-100	2013	Application integration at electric utilities - System interfaces for distribution management -- Part 100: Implementation profiles	EN 61968-100	2013
IEC 61970-301	-	Energy management system application program interface (EMS-API) - Part 301: Common information model (CIM) base	EN 61970-301	-
IEC 62056	series	Electricity metering - Data exchange for meter reading, tariff and load control -- Part 47: COSEM transport layers for IPv4 networks	EN 62056	series
IEC 62325-301	-	Framework for energy market communications -- Part 301: Common Information Model (CIM) extensions for markets	EN 62325-301	-
IEC 62507-1	2010	Identification systems enabling unambiguous information interchange - Requirements -- Part 1: Principles and methods	EN 62507-1	2011

IEC 62559-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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Part 2: Definition of the templates for use cases, actor list and requirements list

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USE CASE METHODOLOGY –

Part 2: Definition of the templates for use cases, actor list and requirements list

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62559-2 has been prepared by IEC technical committee 8: Systems aspects for electrical energy supply.

This first edition cancels and replaces IEC PAS 62559:2008 which had been published together with EPRI. Main content of the former PAS will be transferred to the new IEC 62559-4.

IEC 62559-1 to IEC 62559-3 are now more related to the application of the use case methodology in standardisation. In this document, a revised and updated template is provided.

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

FDIS	Report on voting
8/1389/FDIS	8/1395/RVD

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 in the IEC 62559 series, published under the general title *Use case methodology*, 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

For complex systems, the use case methodology supports a common understanding of functionalities, actors and processes across different technical committees or even different organizations. Developed as software engineering tool, the methodology can be used to support the development of standards as it facilitates the analysis of requirements in relation to new or existing standards. Further arguments for the use case methodology and background information are available in IEC 62559-1.

Figure 1 provides an overview of the intended first parts of the IEC 62559, mainly describing the relation between IEC 62559-2 and IEC 62559-3.

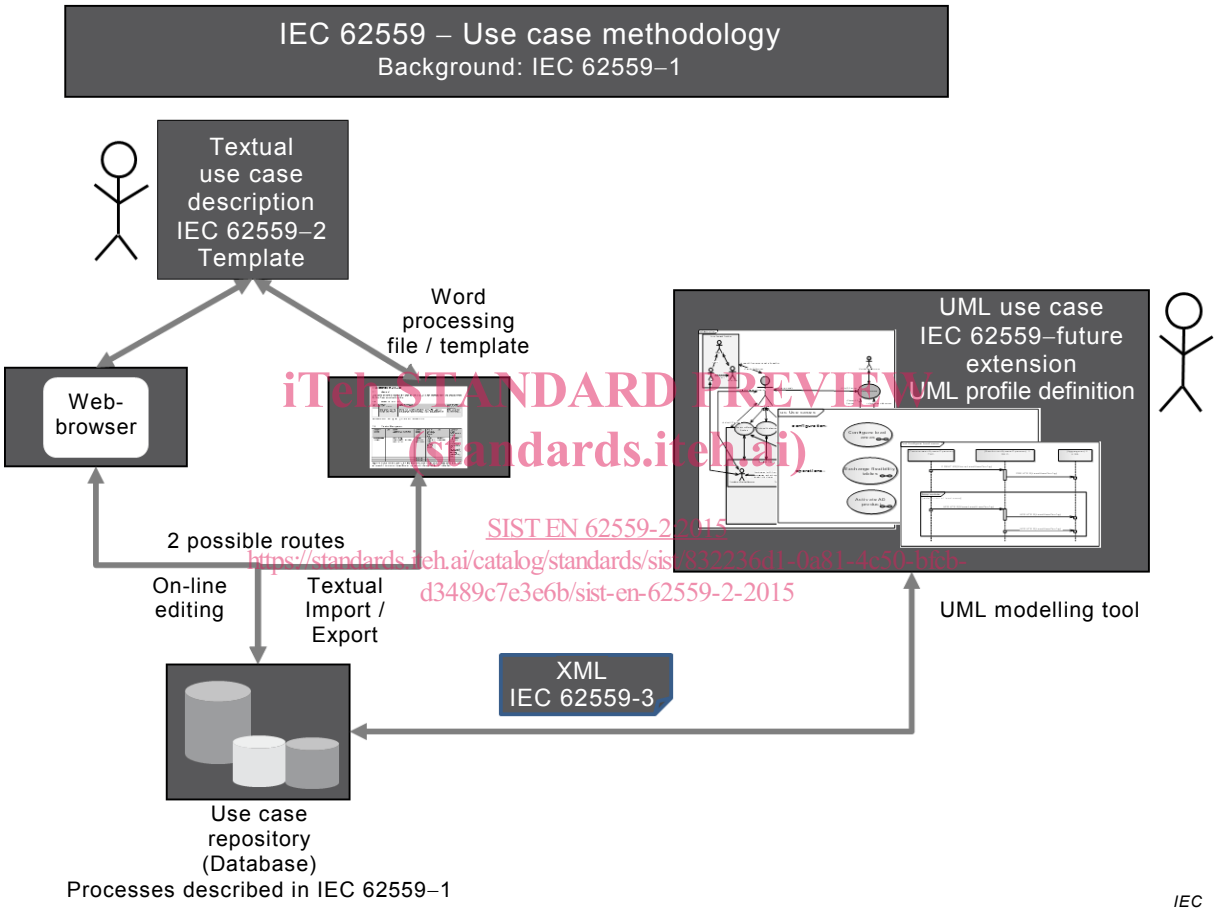

Figure 1 – IEC 62559 standard series

IEC 62559-1 – Concept and processes in standardization

IEC 62559-1 is the basis for a common use case repository in order to gather use cases within IEC on a common collaborative platform. This repository will also be used to organize a harmonization of use cases in order to provide broadly accepted generic use cases as basis for the further standardization work. It describes processes and provides basics for the use case methodology like terms or use case types.

IEC 62559-2 – Definition of the templates for use cases, actor list and requirements list

IEC 62559-2 defines the structure of a use case template, an actor list and a list for requirements. The document is mainly based on the previous IEC PAS 62559 specification and shall be read together with IEC 62559-1.

IEC 62559-3 – Definition of use case template artefacts into an XML serialized format

Based on IEC 62559-2, IEC 62559-3 defines the required core concepts and their serialization into an XML format of a use case template, an actor list and a list for detailed requirements. The XML format is used to transfer the content of the template to other engineering systems (e.g. UML modelling tools). These documents are developed using the energy system and Smart Grids as examples, but they are general enough to be transferred to other domains and systems. It is intended to develop a UML profile definition based on this part in the future.

Motivation

The International Standard IEC 62559 "Use case methodology" is needed to fulfill the SG3 decision 7 made by the SMB at its February 2010 meeting (SMB/4204/DL, Decision 137/10) requesting the urgent delivery of a generic use case repository for all Smart Grid applications. Nevertheless, the use case methodology described in this document is intended for a broader application within standardization exceeding Smart Grid systems.

More and more complex systems such as Smart Grids or Smart Cities are raising the question of managing system level requirements, which have to be fed by many domains of expertise (in standardization related to different Technical Committees (TCs)), and which have to be broken down further and shared by many TCs in charge of specifying standards to support these system level functions.

One way to handle this transversality efficiently is to set some common methods and terms. The use case methodology is the current state of art and supports further engineering activities.

The use case methodology offers a unique way for sharing ideas and requirements of new use cases or business cases between many experts/TC's with different backgrounds: e.g. domain experts with knowledge about energy systems or business processes on one hand and system-/IT-experts defining exchanged information and communication on the other hand. In the requirement development process, domain experts are providing general ideas and functional requirements. The main goal is for system experts to detail down these use cases to a level they can be used to specify interfaces, dedicated functionality, data and service model exchange. However, safety- or EMC-experts (as examples) may also make use of the described use cases, their terminology and identified requirements.

However, the starting point is to set up a frame for consistency within IEC helping IEC members to provide use cases in a consistent manner – this standard shall serve as basis for use case repositories in order to gather, administrate, maintain, and evaluate use cases.

Within IEC, a use case repository shall be used as common collaborative platform for use case elaboration and to organize a harmonization of use cases in order to provide broadly accepted generic use cases as basis for further standardization work.

But the use case template defined in this document may serve not only for the development of standards, but also – as it was the original purpose of the previous IEC PAS 62559:2008 (refer to IEC 62559-4) – as a helpful means for the realization of projects within the area of complex systems. Also other applications, which need the benefits of a structured requirements development and formalized description of functionality, may make use of the suggested template.

The use case methodology has to be seen as a process which starts with the definition of business ideas, goals and requirements, detailing these in use case descriptions. This information can be used as a basis to identify/link reference architectures describing the types of components used, and going further down to an analysis for the further standardization process.

Further developments regarding the use case template are expected. These developments are mainly related to information, which is required in the use case description for further analysis, and which can be mapped to other information (e.g. to a reference architecture, IT security methods, standards and data models). Partly this is considered in the suggested template of this standard. Further relations will be described separately as they are still under development and they might be considered for the further development of the IEC use case repository.

USE CASE METHODOLOGY –

Part 2: Definition of the templates for use cases, actor list and requirements list

1 Scope

This part of IEC 62559 “Use case methodology” defines the structure of a use case template, template lists for actors and requirements, as well as their relation to each other. In this document, a standardized template for the description of use cases is defined for various purposes like the use in standardization organizations for standards development or within development projects for system development.

This document was developed for general application in various domains and systems. The energy system/smart grid is used as example in this document as it was one of the first usage areas for this use case template, but this general template can be applied in other usage areas different from energy systems as well (e.g. smart home or electro-mobility).

The motivation, background information on use cases, recommendations for the handling of use cases and the processes for the description of use cases inside standardization and in relation to a central use case repository is described in IEC 62559-1.

2 Normative references

Void.

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions given in IEC 62559-1and the following apply.

3.1
use case
specification of a set of actions performed by a system, which yields an observable result that is, typically, of value for one or more actors or other stakeholders of the system

[SOURCE: ISO/IEC 19505-2:2012, 16.3.6]

3.2
actor
entity that communicates and interacts

Note 1 to entry: These actors can include people, software applications, systems, databases, and even the power system itself.

[SOURCE: Based on IEC PAS 62559:2008]

3.3
role
role played by an actor in interaction with the system under discussion

Note 1 to entry: Alternative: A role represents the external intended behavior of a party. A party cannot share a role.

EXAMPLES A legally defined market participant (e.g. grid operator, customer), a generic role which represents a bundle of possible roles (e.g. flexibility operator) or an artificially defined body needed for generic process and use case descriptions.

Note 2 to entry: Legally or generically defined external actors may be named and identified by their roles.

[SOURCE: SG-CG/M490/E:2012-12, definition 3.17]

3.4
use case template
a form which allows the structured description of a use case in predefined fields

[SOURCE: SG-CG/M490/E:2012-12, definition 3.2]

3.5
repository
here used for a place where information like use cases can be stored, usually as a database (refer to use case repository)

[SOURCE: based on SG-CG/M490/E:2012-12, definition 3.12]

3.6
use case repository
UCR
database, based on a given use case template, for editing, maintenance and administration of use cases, actors and requirements including their interrelations

Note 1 to entry: The UCR is designed as collaborative platform for standardization bodies, inter alia equipped with export functionalities as UML model or text template.

[SOURCE: based on SG-CG/M490/E:2012-12, definition 3.13]

3.7
system
set of interrelated elements considered in a defined context as a whole and separated from their environment

Note 1 to entry: A system is generally defined with the view of achieving a given objective, for example by performing a definite function.

[SOURCE: IEC 60050-351:2013, 351-42-08]

3.8
area
major usage area for use cases supporting of grouping, filtering and administration of use cases within a common use cases database

EXAMPLE Energy Systems/Smart Grid, Smart Home.

Note 1 to entry: Might be used in combination with domain which further divides an area.

3.9
domain
area of knowledge or activity characterized by a set of concepts and terminology understood by the practitioners in that area

EXAMPLE Taken from Smart Grid/energy system area: Generation, transmission, distribution, customer.

Note 1 to entry: Major area of similar technologies and organisational background, for the energy system some domains are suggested in this document as examples thoughout this document.

[SOURCE: ISO/IEC 19501:2005: Unified Modeling Language Specification]