



# SLOVENSKI STANDARD SIST EN 62325-451-4:2015

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**Okvir za komunikacije na trgu z električno energijo - 451- 4. del: Poslovni proces za dogovor in uskladitev, kontekstni in združevalni modeli evropskega trga (IEC 62325-451-4:2014)**

Framework for energy market communications - Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

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33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetry

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EUROPEAN STANDARD

**EN 62325-451-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2015

ICS 33.200

English Version

Framework for energy market communications - Part 451-4:  
Settlement and reconciliation business process, contextual and  
assembly models for European market  
(IEC 62325-451-4:2014)

Cadre pour les communications pour le marché de l'énergie  
- Partie 451-4: Processus métier de règlement des écarts et  
de réconciliation, modèles contextuels et modèles  
d'assemblage pour le marché européen  
(IEC 62325-451-4:2014)

Kommunikation im Energiemarkt - Teil 451-4: Abwicklungs-  
und Abstimmungsgeschäftsprozesse, kontextbezogene  
Modelle und Einbindungsmodelle für den europäischen  
Markt  
(IEC 62325-451-4:2014)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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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

## Foreword

The text of document 57/1449/CDV, future edition 1 of IEC 62325-451-4, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62325-451-4:2015.

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) 2015-09-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-12-25

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## Endorsement notice

The text of the International Standard IEC 62325-451-4:2014 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 61968-11	NOTE	Harmonized as EN 61968-11
IEC 61970-301	NOTE	Harmonized as EN 61970-301.

## 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 62325-301	-	Framework for energy market communications -- Part 301: Common Information Model (CIM) extensions for markets	EN 62325-301	-
IEC 62325-351	-	Framework for energy market communications -- Part 351: CIM European market model exchange profile	EN 62325-351	-
IEC 62325-450	2013	Framework for energy market communications -- Part 450: Profile and context modelling rules	EN 62325-450	2013
IEC 62325-451-1	-	Framework for energy market communications -- Part 451-1: Acknowledgement business process and contextual model for CIM European market	EN 62325-451-1	-
IEC 62325-451-2	-	Framework for energy market communications -- Part 451-2: Scheduling business process and contextual models for European market	EN 62325-451-2	-
IEC 62361-100	-	Power systems management and associated information exchange - Interoperability in the long term -- Part 100: CIM profiles to XML schema mapping	EN 62361-100	-
IEC/TS 61970-2	-	Energy management system application program interface (EMS-API) -- Part 2: Glossary	CLC/TS 61970-2	-

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IEC 62325-451-4

Edition 1.0 2014-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Framework for energy market communications –  
Part 451-4: Settlement and reconciliation business process, contextual and  
assembly models for European market**

**Cadre pour les communications pour le marché de l'énergie –  
Partie 451-4: Processus métier de règlement des écarts et de réconciliation,  
modèles contextuels et modèles d'assemblage pour le marché européen**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –****Part 451-4: Settlement and reconciliation business process,  
contextual and assembly models for European market**

## FOREWORD

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International Standard IEC 62325-451-4 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

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

CDV	Report on voting
57/1449/CDV	57/1501/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 in the IEC 62325 series, published under the general title *Framework for energy market communications*, 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 website 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
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## INTRODUCTION

This standard is one of the IEC 62325 series which define protocols for deregulated energy market communications.

The principal objective of the IEC 62325 series of standards is to produce standards which facilitate the integration of market application software developed independently by different vendors into a market management system, between market management systems and market participant systems. This is accomplished by defining message exchanges to enable these applications or systems access to public data and exchange information independent of how such information is represented internally.

The common information model (CIM) specifies the basis for the semantics for this message exchange.

The European style market profile is based on different parts of the CIM IEC standard. The CIM is defined through a series of standards, i.e. IEC 62325-301, IEC 61970-301 and IEC 61968-11 standards.

This document provides for the European style market profile the settlement and reconciliation business process that can be used throughout a European style market. This standard was originally based upon the work of the European Transmission System Operators (ETSO) Task Force EDI (Electronic Data Interchange) and then on the work of the European Network of Transmission System Operators (ENTSO-E) Working Group EDI.

This document describes the settlement and reconciliation process for wholesale markets; it is brought to the attention of the reader that it is envisaged to initiate work on a combined reconciliation process for retail and wholesale markets.

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## FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

### Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

#### 1 Scope

Based on the European style market profile (IEC 62325-351), this part of IEC 62325-451 specifies a package for the settlement and reconciliation business process and the associated document contextual model, assembly model and XML schema for use within European style markets.

The relevant aggregate core components (ACCs) defined in IEC 62325-351 have been contextualised into aggregated business information entities (ABIEs) to satisfy the requirements of this business process. The contextualised ABIEs have been assembled into the relevant document contextual models. Related assembly models and XML schema for the exchange of information between market participants are automatically generated from the assembled document contextual models.

This International Standard provides a uniform layout for the transmission of aggregated data in order to settle the electricity market. It is however not the purpose of this International Standard to define the formula to be taken into account to settle or reconcile a market. The purpose of this standard is only to enable the information exchange necessary to carry out the computation of settlement and reconciliation.

The settlement process or reconciliation process is the way to compute the final position of each market participant as well as its imbalance amounts.

#### 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 TS 61970-2, *Energy management system application program interface (EMS-API) – Part 2: Glossary*

IEC 62325-301, *Framework for energy market communications – Part 301: Common information model (CIM) extensions for markets*

IEC 62325-351, *Framework for energy market communications – Part 351: CIM European market model exchange profile*

IEC 62325-450:2013, *Framework for energy market communications – Part 450: Profile and context modelling rules*

IEC 62325-451-1, *Framework for energy market communications – Part 451-1: Acknowledgement business process and contextual model for CIM European market*

IEC 62325-451-2, *Framework for energy market communications – Part 451-2: Scheduling business process and contextual model for CIM European market*

IEC 62361-100, *Power systems management and associated information exchange – Interoperability in the long term – Part 100: CIM profiles to XML schema mapping*<sup>1</sup>

### 3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC TS 61970-2 apply, as well as the following.

NOTE Refer to IEC 60050, *International Electrotechnical Vocabulary*, for general glossary definitions.

#### 3.1

##### **aggregate business information entity**

##### **ABIE**

aggregate business information entity is a re-use of an aggregate core component (ACC) in a specified business

[SOURCE: ISO/TS 15000-5:2005, Clause 9, modified (modification of the definition)]

#### 3.2

##### **aggregate core component**

##### **ACC**

collection of related pieces of business information that together convey a distinct business meaning, independent of any specific business context

Note 1 to entry: Expressed in modelling terms, this is the representation of an object class, independent of any specific business context.

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[SOURCE: ISO/TS 15000-5:2005, Clause 9, modified (modification of the definition)]

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#### 3.3

##### **application program interface**

##### **API**

set of public functions provided by an executable application component for use by other executable application components

#### 3.4

##### **assembly model**

assembly model is a model that prepares information in a business context for assembly into electronic documents for data interchange

#### 3.5

##### **based on or IsBasedOn**

use of an artefact that has been restricted according to the requirements of a specific business context

[SOURCE: IEC 62325-450:2013, 3.4]

#### 3.6

##### **business context**

formal description of a specific business circumstance as identified by the values of a set of context categories, allowing different business circumstances to be uniquely distinguished

[SOURCE: UN/Cefact, Unified Context Methodology Technical Specification]

<sup>1</sup> To be published.