Framework for energy market communications - Part 450: Profile and context modelling rules (IEC 62325-450:2013)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62325-450

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Framework for energy market communications - Part 450: Profile and context modelling rules

(IEC 62325-450:2013)

Cadre pour les communications pour le marché de l'énergie - Partie 450: Règles de modélisation de profils et de contextes (CEI 62325-450:2013)

Kommunikation im Energiemarkt - Teil 450: Profil- und Kontext-Modellierungsregeln (IEC 62325-450:2013)

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Foreword

The text of document 57/1324/FDIS, future edition 1 of IEC 62325-450, 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 62325-450:2013.

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)	2014-03-03
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-06-03

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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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 62325-301	-	Framework for energy market communications - Part 301: Common Information Model (CIM) extensions for markets	EN 62325-301	-
IEC 62361-100	-	Harmonization of quality codes across TC 57 - Part 100: Naming and design rules for CIM profiles to XML schema mapping	EN 62361-100	-
ISO/IEC 11404	-	Information technology - General-Purpose Datatypes (GPD)	-	-

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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[1]) specifies the basis for the semantics for this message exchange.

The profile specifications specify the content of the messages exchanged. This document provides the profile and context modelling rules for these message profile specifications that support the design of all electricity markets.

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[1] Footnote 1 applies only to the French version.

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 450: Profile and context modelling rules

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1 Scope

This part of IEC 62325 defines how to create a profile from the common information model and the context modelling rules related to this task.

This standard is to be applied to IEC 62325 series. An harmonised standard, IEC 62361-101, is presently under development, which will supersede this current standard.

The common information model (CIM) is an abstract model that represents all the major objects in an electric utility enterprise. The CIM IEC 62325-301 caters for the introduction of the objects required for the operation of electricity markets.

It is important to note that the definition of a complete and detailed energy market model is beyond the scope of the IEC 62325 series standards since energy markets do not necessarily have the same approach to market operations.

However, in relation to information interchange, an extensible and adaptable core set of information model definitions in UML can be defined. The information model definitions can be used as a controlled vocabulary to enable utilities to interface with the market along with the use of standardised XML schema design rules to ensure consistent mapping between the UML model and the XML implementation schema as well as a uniform identification scheme.

By providing a standard way of representing all these components as object classes and attributes, along with their relationships, the CIM facilitates the integration of market management system (MMS[2]) applications developed independently by different vendors, between entire MMS systems, or between an MMS system and other systems concerned with different aspects of energy market operations. In particular, CIM enables the efficient integration of information interchanges between electricity market actors participating in various market business processes irrespective of the MMS system supplier for each independent business process.

The CIM facilitates integration by defining a common language (i.e. semantics and syntax) based on the CIM to enable these applications or systems to access public data and exchange information without depending on the internal representation of the information.

This document provides the modelling rules necessary to ensure that contextual models derived from the CIM are in conformity with the CIM model.

It ensures modelling consistency and avoids ambiguity between objects by providing a clear understanding on what they are based within the CIM.

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

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2 Footnote 2 applies only to the French version.

undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62325-301, *Framework for energy market communications – Part 301: Common Information Model (CIM) extensions for markets*[3]

IEC 62361-100, *Power systems management and associated information exchange – Interoperability in the long term – Part 100: Naming and design rules for CIM profiles to XML schema mapping*

ISO/IEC 11404, *General-Purpose Datatypes (GPD)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
aggregate business information entity
ABIE
re-use of an aggregate core component (ACC) in a specified business

Note 1 to entry: This note applies only to the French version.

[SOURCE: ISO 15000-5]

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.

Note 2 to entry: This note applies only to the French version.

[SOURCE: ISO 15000-5]

3.3
assembly model
model that prepares information in a business context for assembly into electronic documents for data interchange

3.4
based on
IsBasedOn
use of an artefact that has been restricted according to the requirements of a specific business context

3.5
business context
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]

[3] To be published.

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