SLOVENSKI STANDARD
SIST EN 61970-552:2014

01-maj-2014

Sistem za upravljanje energije - aplikacijski programski vmesnik (EMS-API) - 552. del: Format XML za izmenjavo skupnega informacijskega modela (IEC 61970-552:2013)

Energy Management System Application Program Interface (EMS-API) - Part 552: CIM XML Model Exchange Format

Interface de programmation d'application pour système de gestion d'énergie (EMS-API) - Partie 552: Format d'échange de modèle CIM XML

Ta slovenski standard je istoveten z: EN 61970-552:2014

ICS:

29.240.30	Krmilna oprema za elektroenergetske sisteme	Control equipment for electric power systems
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

SIST EN 61970-552:2014   **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61970-552

March 2014

ICS 33.200

English version

Energy Management System Application Program Interface (EMS-API) - Part 552: CIMXML Model Exchange Format
(IEC 61970-552:2013)

Interface de programmation d'application pour système de gestion d'énergie (EMS-API) -
Partie 552: Format d'échange de modèle CIMXML
(CEI 61970-552:2013)

Schnittstelle für Anwendungsprogramme für Netzführungssysteme (EMS-API) -
Teil 552: CIM-XML-Modell Austauschformat
(IEC 61970-552:2013)

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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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CENELEC

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

Ref. No. EN 61970-552:2014 E

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Foreword

The text of document 57/1386/FDIS, future edition 1 of IEC 61970-552, 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 61970-552:2014.

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) 2014-09-21

- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-12-03

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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The text of the International Standard IEC 61970-552:2013 was approved by CENELEC as a European Standard without any modification.

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 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
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/TS 61970-2	-	Energy management system application program interface (EMS-API) - Part 2: Glossary	CLC/TS 61970-2	-
IEC 61970-301	-	Energy management system application program interface (EMS-API) - Part 301: Common information model (CIM) base	EN 61970-301	-
IEC 61970-501	-	Energy management system application program interface (EMS-API) - Part 501: Common Information Model Resource Description Framework (CIM RDF) schema	EN 61970-501	-
W3C	-	Document Object Model (DOM)	-	-
W3C	-	RDF/XML Syntax Specification	-	-
W3C	-	Extensible Markup Language (XML) 1.0	-	-
W3C	-	XSL Transformations (XSLT)	-	-

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colour inside

Energy management system application program interface (EMS-API) –
Part 552: CIMXML Model exchange format

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Interface de programmation d'application pour système de gestion d'énergie (EMS-API) –
Partie 552: Format d'échange de modèle CIMXML

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ENERGY MANAGEMENT SYSTEM APPLICATION PROGRAM INTERFACE (EMS-API) –

Part 552: CIMXML Model exchange format

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 61970-552 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:

FDIS	Report on voting
57/1386/FDIS	57/1402/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 61970 series, published under the general title *Energy management system application program interface (EMS-API)*, can be found on the IEC website.

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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.

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INTRODUCTION

This International standard is part of the IEC 61970 series that define an Application Program Interface (API) for an Energy Management System (EMS).

IEC 61970-301 specifies a Common Information Model (CIM): a logical view of the physical aspects of an electric utility operations. The CIM is described using the Unified Modelling Language (UML), a language used to specify, visualize, and document systems in an object-oriented manner. UML is an analysis and design language; it is not a programming language. In order for software programs to use the CIM, it must be transformed into a schema form that supports a programmable interface.

IEC 61970-501 describes the translation of the CIM in UML form into a machine readable format as expressed in the Extensible Markup Language (XML) representation of that schema using the Resource Description Framework (RDF) Schema specification language.

IEC 61970-552 specifies how the CIM RDF schema specified in IEC 61970-501 is used to exchange power system models using XML (referred to as CIMXML) defined in the 61970-45x series of profile standards, such as the CIM Transmission Network Model Exchange Profile described in IEC 61970-452.

ENERGY MANAGEMENT SYSTEM APPLICATION PROGRAM INTERFACE (EMS-API) –

Part 552: CIMXML Model exchange format

1   Scope

This International Standard specifies a Component Interface Specification (CIS) for Energy Management Systems Application Program Interfaces. This part specifies the format and rules for exchanging modelling information based upon the CIM. It uses the CIM RDF Schema presented in IEC 61970-501 as the meta-model framework for constructing XML documents of power system modelling information. The style of these documents is called CIMXML format.

Model exchange by file transfer serves many useful purposes. Profile documents such as IEC 61970-452 and other profiles in the 61970-45x series of standards explain the requirements and use cases that set the context for this work. Though the format can be used for general CIM-based information exchange, specific profiles (or subsets) of the CIM are identified in order to address particular exchange requirements. The initial requirement driving the solidification of this specification is the exchange of transmission network modelling information for power system security coordination.

This standard supports a mechanism for software from independent suppliers to produce and consume CIM described modelling information based on a common format. The proposed solution:

- is both machine readable and human readable, although primarily intended for programmatic access,

- can be accessed using any tool that supports the Document Object Model (DOM) and other standard XML application program interfaces,

- is self-describing,

- takes advantage of current World Wide Web Consortium (W3C) recommendations.

This document is the Level 2 Component Interface Specification document that describes in narrative terms (with text and examples based on the CIM) the detailed definition of the CIMXML format.

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 60050 series, *International Electrotechnical Vocabulary*

IEC 61968-11, *Application integration at electric utilities – System interfaces for distribution management – Part 11: Common information model (CIM) extensions for distribution*

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

IEC 61970-301, *Energy management system application program interface (EMS-API) – Part 301: Common information model (CIM) base*