

**Energy Management System Application Program
Interface (EMS-API) - Part 453: Diagram Layout Profile**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61970-453:2014 sisaldab Euroopa standardi EN 61970-453:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 61970-453:2014 consists of the English text of the European standard EN 61970-453:2014.
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English Version

Energy management system application program interface
(EMS-API) -
Part 453: Diagram layout profile
(IEC 61970-453:2014)

Interface de programmation d'application pour système de
gestion d'énergie (EMS-API) -
Partie 453: Profil de disposition du diagramme
(CEI 61970-453:2014)

Schnittstelle für Anwendungsprogramme für
Netzführungssysteme (EMS-API) -
Teil 453: Diagramm Entwurfsprofile
(IEC 61970-453:2014)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 57/1409/FDIS, future edition 2 of IEC 61970-453, 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 61970-453:2014.

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) 2015-01-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-04-01

This document supersedes EN 61970-453:2008.

EN 61970-453:2014 includes the following significant technical changes with respect to EN 61970-453:2008:

- a) The SVG elements and its data model have been replaced by the Diagram Layout Package, which is now an integral part of the IEC 61970-301 (CIM) model.
- b) The exchange is in accordance with and is a part of the IEC 61970 profile concept.
- c) A glue point object has been introduced to model explicit connections between graphics elements.

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.

Endorsement notice

The text of the International Standard IEC 61970-453:2014 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	Harmonised as EN 61968-11.
IEC 61970-1	NOTE	Harmonised as EN 61970-1.
IEC/TS 61970-2	NOTE	Harmonised as CLC/TS 61970-2.
IEC 61970-452	NOTE	Harmonised as EN 61970-452.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050	-	International Electrotechnical Vocabulary (IEV)	-	-
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	-
IEC/TR 62541-1	-	OPC unified architecture - Part 1: Overview and concepts	CLC/TR 62541-1	-

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INTRODUCTION

This standard is part of the IEC 61970 series that define an application program interface (API¹) for an Energy Management System (EMS²).

The IEC 61970-3x series specify a Common Information Model (CIM³): a logical view of the physical aspects of EMS information. The IEC 61970-3x series includes IEC 61970-301, *Common Information Model (CIM) Base*.

This standard is one of the IEC 61970-4x series that define utility control centre component interface specifications (CIS⁴). IEC 61970-4x specifies the functional requirements for interfaces that a component (or application) shall implement to exchange information with other components (or applications) and/or to access publicly available data in a standard way. The component interfaces describe the specific message contents and services that can be used by applications for this purpose. The implementation of these messages in a particular technology is described in the IEC 61970-5x series.

Energy Management Systems employ a variety of schematic and quasi-geographic presentations in their user interfaces. These are sometimes generated automatically, but more often are hand-drawn and require considerable labour to create and maintain. Most of this labour goes into the arrangement, or 'layout' of the power system elements within the overall diagram. When network models are exchanged, as defined in IEC 61970-452 and IEC 61968-13 standards, it is desirable to be able to exchange these layouts.

IEC 61970-453 specifies guidelines for the exchange of diagram layout information for schematic data that is encoded using IEC 61970-552.

¹ Footnote 1 applies to the French version only.

² Footnote 2 applies to the French version only.

³ Footnote 3 applies to the French version only.

⁴ Footnote 4 applies to the French version only.