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**Energy management system application program interface (EMS-API) –
Part 401: Profile framework**

**Interface de programmation d'application pour système de gestion d'énergie
(EMS-API) –
Partie 401: Cadre de profils**



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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms, definitions and abbreviated terms	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	10
4 Overview	11
4.1 Profiles and profiling	11
4.2 Relations between Canonical CIM, profiles and datasets	13
4.3 Profiles and business processes	14
5 Profile document structure.....	15
6 Profiling Use cases.....	15
6.1 Overview.....	15
6.2 Class in different profiles with no overlap.....	16
6.3 Include overlapping sets of attributes and roles from the same class in different profiles.....	17
6.4 Include a base class with different sets of attributes or roles.....	17
6.5 Extending an existing class.....	17
6.6 Extending an existing class used differently in different profiles	18
6.7 Different cardinalities	18
6.8 Add a new datatype	19
7 Profiling rules	19
7.1 Overview.....	19
7.2 R0101 Information model class, attribute, role and datatype names	19
7.3 Class rules for classes without stereotype.....	19
7.3.1 R0201 Including a class.....	19
7.3.2 R0202 Adding a new class.....	19
7.3.3 R0203 The description of a class	19
7.3.4 R0204 Name of a class.....	19
7.3.5 R0205 Cardinality of a class	19
7.3.6 R0206 Concrete class.....	20
7.4 Attribute rules	20
7.4.1 R0301 Including an attribute	20
7.4.2 R0302 Adding a new attribute.....	20
7.4.3 R0303 The description of an attribute	20
7.4.4 R0304 The name of an attribute.....	20
7.4.5 R0305 The cardinality of an attribute	20
7.4.6 R0306 The datatype of an attribute.....	20
7.4.7 R0307 Initial value of an attribute	20
7.5 Datatypes	21
7.5.1 R0401 Including a datatype	21
7.5.2 R0402 Adding a new datatype	21
7.5.3 R0403 Primitive datatype.....	21
7.5.4 R0405 CIMDatatype	21
7.5.5 R0405 Compound datatype	21

7.5.6	R0406 Enumeration	21
7.5.7	R0407 The description of a datatype	21
7.5.8	R0408 The name of a datatype	21
7.6	Association rules	22
7.6.1	R0501 Including an association	22
7.6.2	R0502 Adding a new association	22
7.6.3	R0503 The names of the two roles in an association	22
7.6.4	R0504 The cardinality of an association role	22
7.6.5	R0505 Association navigability	22
7.6.6	R0506 The description of an association	22
7.7	Attribute and association restrictions	22
7.7.1	R0601 Overlap between profiles	22
7.7.2	R0602 Same base class with different sets of attributes and associations in different profiles	23
7.8	R0701 Inheritance structure	23
7.9	R0801 Constraints	23
8	Extending Canonical CIM	24
9	Requirements for a profiling tool	24
9.1	Minimum requirements	24
9.2	Extended requirements for OCL rules	25
Annex A (informative)	26
A.1	Mapping of UML to OWL	26
A.2	Units and multipliers issue	26
A.2.1	Description of issue	26
A.2.2	Long term solution	30
A.2.3	Medium term solution	30
A.2.4	Temporary solution by flattening the profiles	31
A.2.5	Temporary solution by fattening the CIMXML data	31
A.2.6	Maintaining information for a flattened profile	32
Figure 1	– Relations between standards and profiling	12
Figure 2	– Relation between Canonical CIM, profiles and datasets	13
Figure 3	– Class in different profiles with no overlap	16
Figure 4	– Class in different profiles with overlap	17
Figure 5	– Same base class with different sets of attributes or roles	17
Figure 6	– Extending a class the same way in all applicable profiles	18
Figure 7	– Extending an existing class used differently in different profiles	18
Figure A.1	– CIMDatatype example in Canonical CIM and SSH profile	27
Figure A.2	– ActivePower from IEC 61970-452:2021 (CIM16)	28
Figure A.3	– Profile for ActivePower including CIMDatatype attributes	28
Figure A.4	– CIMXML example with an ActivePower instance as an identified node	29
Figure A.5	– CIMXML example with an ActivePower blank node serialisation example	29
Figure A.6	– Profile for ActivePower based on CIM version 9 (CIM9)	29

Figure A.7 – CIMXML example with an ActivePower instance according to the original serialisation 29

Figure A.8 – Example of Flattened profile for ActivePower 31

Table 1 – Abbreviated terms 11

Table A.1 – UML and ontology languages 26

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**ENERGY MANAGEMENT SYSTEM APPLICATION
PROGRAM INTERFACE (EMS-API) –****Part 401: Profile framework**

FOREWORD

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IEC 61970-401 has been prepared by IEC technical committee 57: Power systems management and associated information exchange. It is an International Standard.

This first edition cancels and replaces IEC TS IEC 61970-401 published in 2005. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The previous edition of IEC TS 61970-401:2005 provided an overview of the Component Interface Specifications (CIS) IEC 61970-402, IEC 61970-403, IEC 61970-404, IEC 61970-405, and IEC 61970-407. IEC 61970-402 to IEC 61970-407 are duplicates of existing OPC interfaces from OPC Foundation and the DAIS/HDA interfaces from OMG. Hence IEC 61970-402 to IEC 61970-407 have been withdrawn and IEC TS 61970-401:2005 no longer serves a purpose.

- b) IEC 61970-401 (this document) does not contain an overview of Component Interface Specifications (CIS) but instead a description of how to create profile specifications that describes dataset contents (or message contents). Hence it has been renamed "Profile framework". The profile specifications IEC 61970-450 (all parts) and IEC 61970-600 (all parts) describe dataset contents. The purpose of this document is to define the rules to be followed in the process of creating profile specifications.

The text of this International Standard is based on the following documents:

Draft	Report on voting
57/2482/FDIS	57/2494/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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INTRODUCTION

This document is one of the IEC 61970 series that defines message interfaces for network application data exchange.

The IEC 61970-300 series of documents specify a canonical Common Information Model (CIM) describing network application data. The CIM is an information model that represents all the major objects in an electric utility enterprise needed to describe data used by power network applications. The Canonical CIM provides the semantics for IEC 61970-450 (all parts) and IEC 61970-600 (all parts) profile specifications dedicated to specific data exchanges.

This document describes the framework in which profile specifications are created from the Canonical CIM. It describes the structure of profile documents and the rules for selection of information from the Canonical CIM to be included in profile specifications.

The reasons for creating this document are

- 1) The IEC 61970 profiles have for a long time been created using a profiling method not described by an IEC 61970 document.
- 2) The IEC 61970 profiling method has issues that need resolution. Issues and solutions are described in Annex A.