SLOVENSKI STANDARD
SIST EN 61968-6:2016

01-maj-2016

Združevanje aplikacij v elektropodjetjih - Sistemski vmesniki za upravljanje distribucije - 6. del: Priključki za vzdrževanje in konstrukcijo

Application integration at electric utilities - System interfaces for distribution management - Part 6: Interfaces for maintenance and construction

Ta slovenski standard je istoveten z: EN 61968-6:2016

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 61968-6:2016 **en**

EUROPEAN STANDARD

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English Version

Application integration at electric utilities - System interfaces for distribution management - Part 6: Interfaces for maintenance and construction (IEC 61968-6:2015)

Intégration d'applications pour les services électriques - Interfaces système pour la gestion de distribution - Partie 6 : Interfaces de maintenance et de construction (IEC 61968-6:2015)

Integration von Anwendungen in Anlagen der Elektrizitätsversorgung - Systemschnittstellen für Netzführung - Teil 6: Schnittstellen für Wartung und Konstruktion (IEC 61968-6:2015)

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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

Ref. No. EN 61968-6:2015 E

European foreword

The text of document 57/1566/FDIS, future edition 1 of IEC 61968-6, 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 61968-6:2016.

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)	2016-07-15
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-08-11

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Endorsement notice

The text of the International Standard IEC 61968-6:2015 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 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

Publication	Year	Title	EN/HD	Year
IEC 60050	series	International electrotechnical vocabulary	-	-
IEC 61968-1	-	Application integration at electric utilities - System interfaces for distribution management -- Part 1: Interface architecture and general requirements	EN 61968-1	-
IEC/TS 61968-2	-	Application integration at electric utilities - System interfaces for distribution management -- Part 2: Glossary	-	-
IEC 61968-4	-	Application integration at electric utilities - System interfaces for distribution management -- Part 4: Interfaces for records and asset management	EN 61968-4	-
IEC 61968-9	2013	Application integration at electric utilities - System interfaces for distribution management -- Part 9: Interfaces for meter reading and control	EN 61968-9	2014
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 61970-301	-	Energy management system application program interface (EMS-API) - Part 301: Common information model (CIM) base	EN 61970-301	-
IEC/TR 62051	-	Electricity metering - Glossary of terms	-	-
IEC 62055-31	-	Electricity metering - Payment systems -- Part 31: Particular requirements - Static payment meters for active energy (classes 1 and 2)	EN 62055-31	-

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colour inside

Application integration at electric utilities – System interfaces for distribution management – Part 6: Interfaces for maintenance and construction

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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APPLICATION INTEGRATION AT ELECTRIC UTILITIES – SYSTEM INTERFACES FOR DISTRIBUTION MANAGEMENT –

Part 6: Interfaces for maintenance and construction

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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This part of International Standard IEC 61968 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
57/1566/FDIS	57/1586/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 61968 series, published under the general title *Application integration at electric utilities – System interfaces for distribution management*, 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
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The IEC 61968 standard, taken as a whole, defines interfaces for the major elements of an interface architecture for Distribution Management Systems (DMS). IEC 61968-1, *Interface architecture and general recommendations*, identifies and establishes requirements for standard interfaces based on an Interface Reference Model (IRM). IEC 61968-3 to 9 of this standard define interfaces relevant to each of the major business functions described by the Interface Reference Model.

As used in IEC 61968, a DMS consists of various distributed application components for the utility to manage electrical distribution networks. These capabilities include monitoring and control of equipment for power delivery, management processes to ensure system reliability, voltage management, demand-side management, outage management, work management, automated mapping and facilities management.

This set of standards is limited to the definition of interfaces and is implementation independent. They provide for interoperability among different computer systems, platforms, and languages. Methods and technologies used to implement functionality conforming to these interfaces are considered outside of the scope of these standards; only the interface itself is specified in these standards.

The purpose of this part of IEC 61968 is to define a standard for the integration of Maintenance and Construction Systems (MC), which would include Work Management Systems, with other systems and business functions within the scope of IEC 61968. The scope of this standard is the exchange of information between Maintenance and Construction Systems and other systems within the utility enterprise. The specific details of communication protocols those systems employ are outside the scope of this standard. Instead, this standard will recognize and model the general capabilities that can be potentially provided by maintenance and construction systems including planned, unplanned and conditional maintenance. In this way, this standard will not be impacted by the specification, development and/or deployment of next generation maintenance systems, either through the use of standards or proprietary means.

The IEC 61968 series of standards is intended to facilitate *inter-application integration* as opposed to *intra-application integration*. Intra-application integration is aimed at programs in the same application system, usually communicating with each other using middleware that is embedded in their underlying runtime environment, and tends to be optimised for close, real-time, synchronous connections and interactive request/reply or conversation communication models. IEC 61968, by contrast, is intended to support the inter-application integration of a utility enterprise that needs to connect disparate applications that are already built or new (legacy or purchased applications), each supported by dissimilar runtime environments. Therefore, these interface standards are relevant to loosely coupled applications with more heterogeneity in languages, operating systems, protocols and management tools. This series of standards is intended to support applications that need to exchange data every few seconds, minutes, or hours rather than waiting for a nightly batch run. This series of standards, which are intended to be implemented with middleware services that exchange messages among applications, will complement, not replace, utility data warehouses, database gateways, and operational stores.

As used in IEC 61968, a Distribution Management System (DMS) consists of various distributed application components for the utility to manage electrical distribution networks. These capabilities include monitoring and control of equipment for power delivery, management processes to ensure system reliability, voltage management, demand-side management, outage management, work management, automated mapping and facilities management. Standard interfaces are defined for each class of applications identified in the Interface Reference Model (IRM), which is described in IEC 61968-1, *Interface architecture and general recommendations*.

This part of IEC 61968 contains the clauses listed in Table 1.

Table 1 – Document overview for IEC 61968-6

Clause	Title	Purpose
1	Scope	The scope and purpose of the document are described.
2	Normative references	Documents that contain provisions which, through reference in this text, constitute provisions of this International Standard.
3	Reference and information models	Description of general approach to work management system, reference model, use cases, interface reference model, maintenance and construction functions and components, message type terms and static information model.
4	Maintenance and construction message types	Message types related to the exchange of information for documents related to maintenance and construction.
Annex A	Message type verbs	Description of the verbs that are used for the message types.
Annex B	XML schemas for message payloads	To provide xsd information for use by developers to create IEC 61968-9 messages.

APPLICATION INTEGRATION AT ELECTRIC UTILITIES – SYSTEM INTERFACES FOR DISTRIBUTION MANAGEMENT –

Part 6: Interfaces for maintenance and construction

1 Scope

This part of IEC 61968 specifies the information content of a set of message types that can be used to support business functions related to Maintenance and Construction. Typical uses of the message types defined in this part of IEC 61968 include planned maintenance, unplanned maintenance, conditional maintenance, work management, new service requests, etc. Message types defined in other parts of IEC 61968 may also be relevant to these use cases.

The mapping of these messages to specific technologies such as XML will be described at a later date.

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, *International Electrotechnical Vocabulary*

IEC 61968-1, *Application integration at electric utilities – System interfaces for distribution management – Part 1: Interface architecture and general recommendations*

IEC TS 61968-2, *Application integration at electric utilities – System interfaces for distribution management – Part 2: Glossary*

IEC 61968-4, *Application integration at electric utilities – System interfaces for distribution management – Part 4: Interfaces for records and asset management*

IEC 61968-9:2013, *Application integration at electric utilities – System interfaces for distribution management – Part 9: Interfaces for meter reading and control*

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

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

IEC TR 62051, *Electricity metering – Glossary of terms*

IEC 62055-31, *Electricity metering – Payment systems – Part 31: Particular requirements – Static payment meters for active energy (classes 1 and 2)*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this standard, the terms and definitions given in IEC 60050-300, IEC TS 61968-2, IEC TR 62051, IEC 62055-31 and the following terms apply.

Where there is a difference between the definitions in this standard and those contained in other referenced IEC standards, then those defined in IEC 61968-2 shall take precedence over the others listed, and those defined in IEC 61968-6 shall take precedence over those defined in IEC 61968-2.

3.2 Abbreviations

AM	Asset Management
CIM	Common Information Model
NO	Network Operations
OMS	Outage Management System
WM	Work Management
GINV	Geographical Inventory
MAI	Maintenance & Inspection
CON	Construction
DGN	Design
SCHD	Work Scheduling and Dispatching
FRD	Field Recording
NE	Network Extension Planning
TCM	Trouble Call Management
MR&C	Meter Read and Control
CS	Customer Services
HR	Human Resources
FIN	Financials

4 Reference and information models

4.1 General

The message types defined in this document are based on a logical partitioning of the DMS business functions and components called the IEC 61968 Interface Reference Model.

Figure 1 provides an overview diagram which puts Maintenance and Construction as well as Work Management in context of Enterprise Asset Management. The diagram demonstrates the relationship between asset and power system resource. It also relates Work to the construction process (when new asset is built) and to the maintenance process (when inspection or repair is performed on the existing asset).