Application integration at electric utilities - System interfaces for distribution management - Part 100: IEC Implementation profiles for application integration

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61968-100:2022 sisaldab Euroopa standardi EN IEC 61968-100:2022 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61968-100:2022 consists of the English text of the European standard EN IEC 61968-100:2022.
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ICS 33.200

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61968-100

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English Version

Application integration at electric utilities - System interfaces for distribution management - Part 100: IEC Implementation profiles for application integration (IEC 61968-100:2022)

Intégration d'applications pour les services électriques - Interfaces système pour la gestion de la distribution - Partie 100: Profils de mise en oeuvre IEC pour l'intégration d'application (IEC 61968-100:2022)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 57/2446/FDIS, future edition 2 of IEC 61968-100, 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 IEC 61968-100:2022.

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) 2022-12-23
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow) 2025-03-23

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Endorsement notice

The text of the International Standard IEC 61968-100:2022 was approved by CENELEC as a European Standard without any modification.

IEC 61968-100

Edition 2.0 2022-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Application integration at electric utilities – System interfaces for distribution management –
Part 100: IEC implementation profiles for application integration

Intégration d'applications pour les services électriques – Interfaces système pour la gestion de la distribution –
Partie 100: Profils de mise en œuvre IEC pour l'intégration d'application

IEC 61968-100:2022-02(en-fr)

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INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 100: IEC implementation profiles for application integration

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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Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

This IEC 61968-100:2022 edition cancels and replaces the IEC 61968-100:2013 edition published in 2013. This edition constitutes a technical revision.

a) This edition includes the following significant technical changes with respect to the previous edition: IEC 61968-100:2022 has been refined to remove ambiguities and redundancies. Informative and normative clauses are marked as such and, in the latter case, appropriate verbal forms of language are used;
b) The messages defined by IEC 61968-100:2022 are in general not backwards compatible with those of IEC 61968-100:2013. Annex I lists the significant technical changes introduced since the publication of IEC 61968-100:2013 and provides appropriate suggestions for migrating to IEC 61968-100:2022.

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

Draft	Report on voting
57/2446/FDIS	57/2455/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 61968 series, published under the general title *Application integration at electric utilities – System interfaces for distribution management*, can be found on the IEC website.

NOTE

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- reconfirmed,
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- amended.

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INTRODUCTION

This document specifies how implementations of IEC 61968 may be made interoperable using common enterprise integration technologies. In particular, it describes how message payloads defined in IEC 61968 (Parts 3 to 9 and Part 13), IEC 61970 and IEC 62325 are to be exchanged between systems using transport mechanisms such as web services and the Java Message Service.

This document may also find usage beyond information exchanges defined for these International Standards such as for the integration of market systems or for general enterprise integration.

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

Part 100: IEC implementation profiles for application integration

1 Scope

1.1 General

This part of IEC 61968 defines how messages may be exchanged between cooperating systems in order to facilitate the transfer of application-specific data. Such application-specific data include but are not limited to the message payloads defined in IEC 61968 (Parts 3 to 9 and Part 13), IEC 61970 and IEC 62325.

1.2 About this document

This document provides normative definitions for:

- a set of message archetypes (Clause 5);
- a set of message exchange patterns that both sending and receiving systems are expected to implement (Clause 6);
- the exact format of the messages that are to be transmitted over the various integration technologies including a precise description of the information that each message must contain (Clause 7);
- a set of constraints and conventions to which applications must adhere in order to facilitate message exchange using IEC 61968-100 (Clause 8);
- the details of how IEC 61968-100 messages should be implemented using various underlying transport mechanisms (Clause 9).

1.3 What is not covered by this document

Security considerations lie outside the scope of IEC 61968-100. This document defers to the IEC 62351 series for definitions and practices relating to the secure transmission of messages.

1.4 Future considerations

1.4.1 Choice of Encoding Mechanisms

This document prescribes XML as the normative encoding mechanism for all messages defined by this document.

Future editions of IEC 61968-100 may specify additional normative encoding methods including support for JSON (RFC 4627) documents whose semantics are defined by the IEC CIM and whose syntax is defined by an IETF JSON schema.

1.4.2 Choice of Web Service Technologies

This document provides normative definitions for the use of SOAP Web Services (9.2) and Java Message Service (9.3) for the transport of messages.

Future editions of IEC 61968-100 may specify additional normative web service technologies such as REST.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62325-301:2018, *Framework for energy market communications – Part 301: Common information model (CIM) extensions for markets*

IEC TS 61968-2:2011, *Application integration at electric utilities – System interfaces for distribution management – Part 2: Glossary*

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

IEC 61968-11:2013, *Application integration at electric utilities – System interfaces for distribution management – Part 11: Common information model (CIM) extensions for distribution*

IEC 61970-301:2020, *Energy management system application program interface (EMS-API) – Part 301: Common information model (CIM) base*

IEC 61970-552:2016, *Energy management system application program interface (EMS-API) – Part 552: CIMXML Model exchange format*

ISO IEC 21320-1:2015, *Information technology – Document Container File – Part 1: Core*

ISO 8601:2004, *Data elements and interchange formats – Information interchange – Representation of dates and times*

Java Message Service (version 1.0.2 November 9, 1999). Available from https://docs.oracle.com/cd/E19957-01/816-5904-10/816-5904-10.pdf

RFC 1952, GZIP file format specification version 4.3. Available from https://tools.ietf.org/html/rfc1952.

RFC 4122, A Universally Unique IDentifier (UUID) URN Namespace. Available from https://tools.ietf.org/html/rfc4122

RFC 4648, The Base16, Base32, and Base64 Data Encodings. Available from https://tools.ietf.org/html/rfc4648

SOAP (Simple Object Access Protocol). Available from http://www.w3.org/TR/2000/NOTE-SOAP-20000508/

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this specification, the terms and definitions given in IEC TS 61968-2:2011 apply.