

INTERNATIONAL STANDARD

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Application integration at electric utilities – System interfaces for distribution management – Part 1: Interface architecture and general requirements

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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CONTENTS

FOREWORD	4
INTRODUCTION	6
1 Scope	7
2 General	7
2.1 Overview of the IEC 61968 series	7
2.2 An example using the IEC 61968 series	8
2.3 Overview of IEC 61968-1	9
3 Interface reference model	10
3.1 Domain	10
3.2 Business functions	10
3.3 Interface reference model	11
4 Interface architecture	17
4.1 General	17
4.2 Requirements analysis methodology	18
5 Interface profile	18
5.1 Components	18
5.2 Component adapters	19
5.3 Interface specification	20
5.4 Middleware adapter	21
5.5 Middleware services	22
5.6 Communication services	23
5.7 Platform environment	23
6 Information exchange model	23
6.1 General requirements	23
6.2 IEM management related services	24
7 Component reporting and error handling	25
7.1 General	25
7.2 Error message handling	25
8 Security and authentication	26
8.1 General	26
8.2 Security threats	26
8.3 Security functions	27
8.4 Management of integrity and security	28
8.5 Security agent	28
9 Maintenance aspects	29
Annex A (informative) Distribution management domain	30
Annex B (informative) IEC 61968 series development process	33
Annex C (informative) Inter-application integration performance considerations	58
Annex D (informative) Views of data in a conventional electric utility	60
Annex E (informative) Business functions	63

Figure 1 – Distribution management system with IEC 61968 compliant interface architecture	6
Figure 2 – Example utility implementation of the IEC 61968 series	9
Figure 3 – Typical applications mapped to interface reference model	11
Figure 4 – Overview of the interface profile and corresponding subclause numbers	18
Figure A.1 – Hierarchy of complexity in a system environment	30
Figure A.2 – General utility structure	31
Figure B.1 – Process 1A: IEC Technical Committee 57 Working Group 14 process for developing future parts of the IEC 61968 series	34
Figure B.2 – Process 1B: (Continuation) IEC Technical Committee 57 Working Group 14 process for developing future parts of the IEC 61968 series	35
Figure B.3 – Process 2A: Typical business subfunctions of DMS and external systems	36
Figure B.4 – Process 2B: (continuation) an overview of an utility's application of the IEC 61968 standard	37
Figure B.5 – Typical components of major DMS business functions – Part 1	39
Figure B.6 – Typical components of major DMS business functions – Part 2	40
Figure B.7 – Integration scenario example (from: data acquisition for external EMS).....	47
Figure B.8 – Message data model example (from use case 46: data acquisition for external EMS)	55
Figure B.9 – CIM top level package.....	56
Figure D.1 – Database views depend on the time and user	61
Figure E.1 – Map of typical utility systems to the business functions of the IRM	63
Table 1 – Document overview for IEC 61968-1	9
Table 2 – Interface reference model	12
Table A.1 – Examples of data exchange in a company environment.....	31
Table A.2 – Data categories	32
Table B.1 – Use case template.....	42
Table B.2 – Example steps in a Use Case (From: Data Acquisition for External EMS).....	45
Table B.3 – Information model (from: data acquisition for external EMS).....	48
Table B.4 – Commonly used verbs	50
Table B.5 – OAG verbs	53
Table C.1 – Typical load scenario	58
Table C.2 – Example of typical transaction volume for DMS	59
Table E.1 – Typical information exchanged among business functions of the IRM	64

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: Interface architecture and general requirements

FOREWORD

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International Standard IEC 61968-1 has been prepared by IEC technical committee 57: Power system control and associated communications.

The text of this standard is based on the following documents:

FDIS	Report on voting
57/650/FDIS	57/668/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.

IEC 61968 consists of the following parts under the general title *Application integration at electric utilities – System interfaces for distribution management*:

Part 1: Interface architecture and general requirements

Part 2: Glossary¹

Part 3: Interface standard for network operations¹

Part 4: Interface standard for records and asset management¹

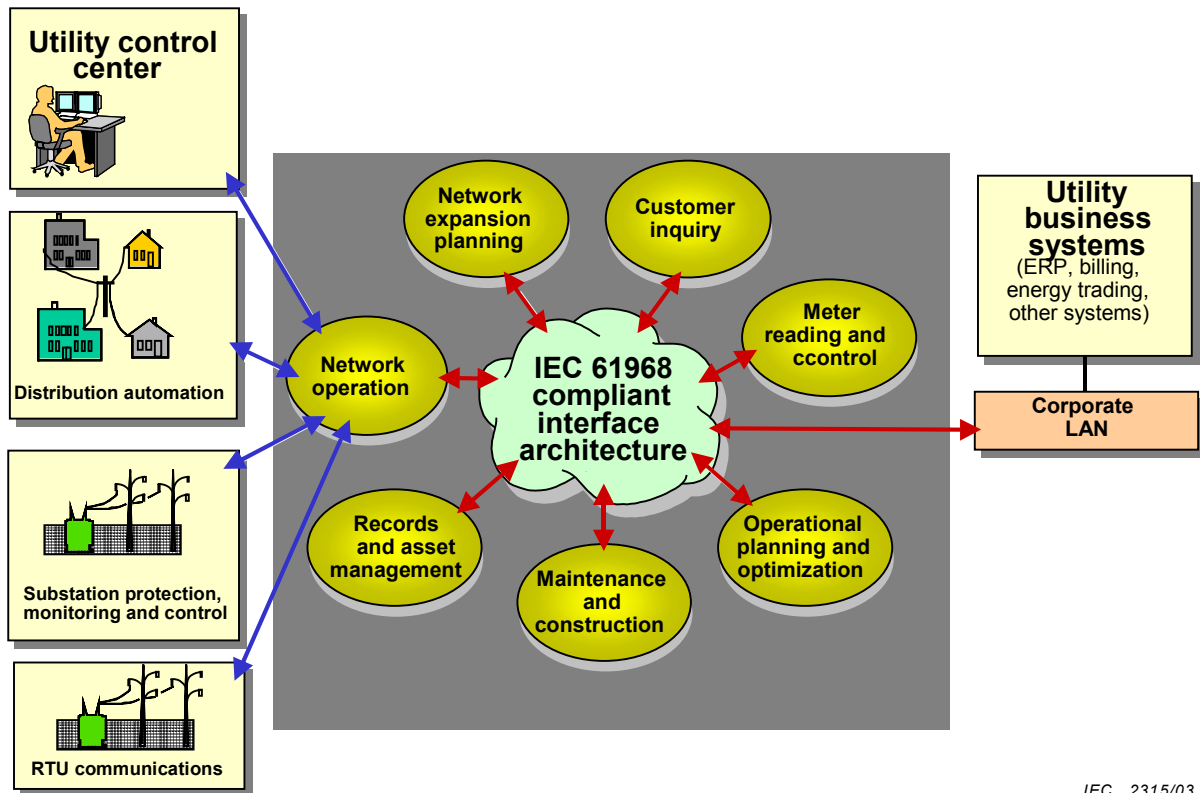
The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

¹ Under consideration.

INTRODUCTION

The IEC 61968 series is intended to facilitate inter-application integration, as opposed to intra-application integration, of the various distributed software application systems supporting the management of utility electrical distribution networks. 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 optimized 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, IEC 61968 is relevant to loosely coupled applications with more heterogeneity in languages, operating systems, protocols and management tools. IEC 61968 is intended to support applications that need to exchange data on an event driven basis. IEC 61968 is intended to be implemented with middleware services that broker messages among applications, and will complement, but not replace utility data warehouses, database gateways, and operational stores.



IEC 2315/03

Figure 1 – Distribution management system with IEC 61968 compliant interface architecture

Figure 1 clarifies the scope of IEC 61968-1 graphically in terms of business functions and shows a Distribution Management System with IEC 61968 compliant interface architecture.

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

Part 1: Interface architecture and general requirements

1 Scope

This part of IEC 61968 is the first in a series that, taken as a whole, defines interfaces for the major elements of an interface architecture for Distribution Management Systems (DMS). This part of IEC 61968 identifies and establishes requirements for standard interfaces based on an Interface Reference Model (IRM). Subsequent parts of this standard are based on each interface identified in the IRM. 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 the IEC 61968 series.

As used in the IEC 61968 series, 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. The IRM is specified in Clause 4.