IEC 61850-8-2

Edition 1.0 2018-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Communication networks and systems for power utility automation – Part 8-2: Specific Communication Service Mapping (SCSM) – Mapping to Extensible Messaging Presence Protocol (XMPP)

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques – Partie 8-2: Mapping des services de communication spécifiques (SCSM) – Mapping avec le protocole XMPP (Extensible Messaging Presence Protocol)

IEC 61850-8-2:2018-12 (en-fr)

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

FDIS	Report on voting
57/2020/FDIS	57/2039/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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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

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- withdrawn,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

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INTRODUCTION

This part of IEC 61850 is part of a set of specifications which details layered utility communication architecture.

The usage of the IEC 61850 communication standard is largely spreading over all the domains connected to the smart grid, pushing the usage of technologies adapted to the connection of a very large number of applications and devices across the intra/inter-net. The involved domains use already well established protocols typically for exchanging data with IT level applications like resource planning, asset and maintenance management, etc. Therefore, it becomes imperative to provide an integration strategy that allows the integration of IEC 61850 into these various disparate protocols and information.

In this context, this part of IEC 61850 describes a specific communication service mapping (SCSM) over the Extensible Messaging and Presence Protocol (XMPP), providing detailed information on how to create and exchange concrete communication messages that implement abstract services and models specified in IEC 61850-7-4, IEC 61850-7-3, and IEC 61850-7-2.

This mapping is intended to be utilized between all kinds of utility Distributed Energy Resource devices and their related management systems, in particular over public networks.

NOTE This part of IEC 61850 does not provide tutorial material. For this purpose, IEC 61850-5 and IEC 61850-7-1 can be read in conjunction with IEC 61850-7-2.

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

Part 8-2: Specific Communication Service Mapping (SCSM) – Mapping to Extensible Messaging Presence Protocol (XMPP)

1 Scope

1.1 General

This part of IEC 61850 specifies a method of exchanging data through any kinds of network, including public networks. Among the various kinds of services specified in IEC 61850-7-2, only the client/server and time synchronization services are considered so far.

NOTE Client/server services of GOOSE and SMV models are mapped as well (see Table 1).

For the client/server services, the principle is to map the objects and services of the ACSI (Abstract Communication Service Interface defined in IEC 61850-7-2) to XML messages transported over XMPP. The mapping description includes mainly three aspects:

- The usage of the XMPP protocol itself, describing in details which features are really used and how they are used by the mapping (see Clause 6).
- How to achieve end-to-end secured communications (see Clause 7).
- The description of the XML payloads corresponding to each ACSI service thanks in particular to the XML Schema and XML message examples (starting at Clause 9).

NOTE 1 This document does not address the detailed usage of the XMPP protocol.

NOTE 2 This document does not address system management services.

NOTE 3 For the information of people familiar with the mapping defined in IEC 61850-8-1, the XML messages defined in the present document are derived from those defined in IEC 61850-8-1 but with an XML encoding instead of a binary one. In this way implementing gateways between IEC 61850-8-1 and IEC 61850-8-2 is very straightforward in both directions. However reading IEC 61850-8-1 is not necessary to understand the present document except when it is used in conjunction with one of the GOOSE mappings described in IEC 61850-8-1.

1.2 Namespace name and version

This new section is mandatory for any IEC 61850 namespace (as defined by IEC 61850-7-1).

The parameters which identify this release of the SCSM_8_2 namespace xmlns="http://www.iec.ch/61850/2018/SCSM_8_2" are:

- Namespace Version: 2018
- Namespace Revision: A
- Namespace Release: 1
- Namespace release date: 2018-12

Edition	Publication date	Webstore	Namespace
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