

TECHNICAL SPECIFICATION



**Framework for energy market communications –
Part 504: Utilization of web services for electronic data interchanges on the
European energy market for electricity**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –**Part 504: Utilization of web services for
electronic data interchanges on the European
energy market for electricity**

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62325-504, which is a technical specification, has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
57/1520/DTS	57/1567/RVC

Full information on the voting for the approval of this technical specification 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 62325 series, published under the general title *Framework for energy market communications*, 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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 504: Utilization of web services for electronic data interchanges on the European energy market for electricity

1 Scope

This part of IEC 62325, which is a technical specification, defines the services needed to support the electronic data interchanges between different actors on the European Energy Market for Electricity (EME) in a fast (near-realtime), and secure way. At the same time, this Technical Specification can also be applied to integration problems outside the scope of IEC 62325-451, such as to the integration of gas market systems or general enterprise integration.

Web Services (in WSDL) will be specified for the defined services, applying the Basic Web Service Pattern implementation profile from IEC 61968-100.

The services needed to support the electronic data interchange on the European energy market for electricity are:

- List Messages. This service is used by a client application identified with the credentials of an EME Actor to request a list of messages available on the server for retrieval.
- Get Message. This service is used by a client application identified with the credentials of an EME Actor to request a specific message available on the server.
- Put Message. This service is used by a client application to send a message, usually providing data related to a Market Participant in the energy market for electricity, to the server for processing.

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 61968-100, *Application integration at electric utilities – System interfaces for distribution management – Part 100: Implementation profiles*

IEC 62325-451-1, *Framework for energy market communications – Part 451-1: Acknowledgement business process and contextual model for CIM European market*

ISO/IEC 40210, *Information technology – W3C SOAP Version 1.2 Part 1: Messaging Framework* (Second Edition)

WSDL, *Web Services Description Language (WSDL) 1.1*

XML Schema 1.0, XML Schema Language Part 1: Structure, W3C Recommendation 28 October 2004; XML Schema Language Part 2: Data Types, W3C Recommendation 28 October 2004

XML Signature Syntax and Processing (Second Edition) <http://www.w3.org/TR/xmlsig-core>

RFC 6176, *Prohibiting SSL 2.0* <http://tools.ietf.org/html/rfc6176>

RFC 5280, *Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile* <http://tools.ietf.org/rfc/rfc5280>

RFC 6818, *Updates to the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile* <http://tools.ietf.org/rfc/rfc6818>

RFC 4346, *The Transport Layer Security (TLS) Protocol V1.1* <http://www.ietf.org/rfc/rfc4346>

3 Terms, definitions and namespaces

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and definitions

3.1.1

message identification

alphanumeric string that represents the name of a message in the system

3.1.2

version

number that represents the message version

Note 1 to entry: The range of values is from 1 to 999.

3.1.3

application time interval

time interval when the message payload applies

3.1.4

server timestamp

date when the message is received by the server (input messages) or when it is made available by the server (output messages).

3.1.5

message type

type of the message payload as defined in IEC 62325-451-n (Schedule_MarketDocument, Acknowledgement_MarketDocument, etc.)

Note 1 to entry: As a general rule the message type is the local name of xml root element.

3.1.6

message code

number identifying a message in the server in a unique way

Note 1 to entry: For a given pair of message codes "x" and "y", if "y" > "x" then "y" is a newer message. If "y" < "x" then "y" is an older message. Finally if "y" = "x", then both messages are the same.

3.1.7

data owner

person or entity that is responsible for the information contained in the message (payload)

Note 1 to entry: Usually corresponds with the sender_MarketParticipant.mRID field in the IEC 62325-451-n series.

3.1.8

data provider

person or entity that is responsible for establishing a connection with the server and sending the message (payload)