Power systems management and associated **information exchange – Data and communications** security - Part 11: Security for XML documents

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 62351-11:2017 sisaldab Euroopa standardi EN 62351-11:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 62351-11:2017 consists of the English text of the European standard EN 62351-11:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.02.2017.	Date of Availability of the European standard is 10.02.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.200

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 62351-11

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English Version

Power systems management and associated information exchange - Data and communications security - Part 11: Security for XML documents (IEC 62351-11:2016)

Gestion des systèmes de puissance et échanges d'informations associés - Sécurité des communications et des données - Partie 11: Sécurité des documents XML (IEC 62351-11:2016)

Energiemanagementsysteme und zugehöriger Datenaustausch - IT-Sicherheit für Daten und Kommunikation - Teil 11: Sicherheit für XML-Dateien (IEC 62351-11:2016)

This European Standard was approved by CENELEC on 2016-11-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 57/1753/FDIS, future edition 1 of IEC 62351-11, 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 62351-11:2017.

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) 2017-08-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-02-10

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62351-11:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61850-6	NOTE	Harmonized as EN 61850-6.
IEC 61970-552	NOTE	Harmonized as EN 61970-552.
IEC 62351-1	NOTE	Harmonized as EN 62351-1.
IEC 62351-3	NOTE	Harmonized as EN 62351-3.

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 62351-9	-	Power systems management and associated information exchange - Data and communications security - Part 9: Cyber security key management for power system equipment	-	-
IEC/TS 62351-2	-	Power systems management and associated information exchange - Data and communications security - Part 2: Glossary of terms	-	-
IEC/TS 62351-8	-	Power systems management and associated information exchange - Data and communications security - Part 8: Role-based access control	-	-
IETF RFC 6931	-	Additional XML Security Uniform Resource Identifiers (URIs)	-	-
W3C Recommended Canonical XML 1.0	-		-	-
W3C Required Canonical XML1.0	-		-	-
W3C XML 1.1	-	Signature Syntax and Processing – Version 1.1	-	-
W3C XML Signature	-	XML Signature Syntax and Processing	-	-

CONTENTS

POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATIONS SECURITY –

Part 11: Security for XML documents

1 Scope

This part of IEC 62351 specifies schema, procedures, and algorithms for securing XML documents that are used within the scope of the IEC as well as documents in other domains (e.g. IEEE, proprietary, etc.). This part is intended to be referenced by standards if secure exchanges are required, unless there is an agreement between parties in order to use other recognized secure exchange mechanisms.

This part of IEC 62351 utilizes well-known W3C standards for XML document security and provides profiling of these standards and additional extensions. The IEC 62351-11 extensions provide the capability to provide:

- Header: the header contains information relevant to the creation of the secured document such as the Date and Time when IEC 62351-11 was created.
- A choice of encapsulating the original XML document in an encrypted (Encrypted) or non-encrypted (nonEncrypted) format. If encryption is chosen, there is a mechanism provided to express the information required to actually perform encryption in an interoperable manner (EncryptionInfo).
- AccessControl: a mechanism to express access control information regarding information contained in the original XML document.
- Body: is used to contain the original XML document that is being encapsulated.
- Signature: a signature that can be used for the purposes of authentication and tamper detection.

The general structure is shown in Figure 1.

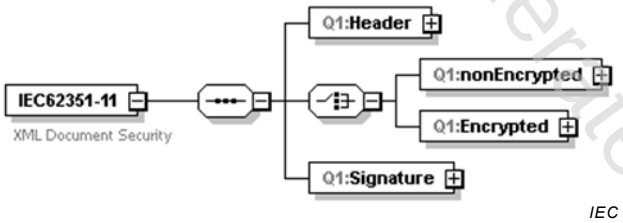

Figure 1 – Overview of IEC 62351-11 structure

For the measures described in this document to take effect, they must be accepted and referenced by the specifications themselves. This document is written to enable that process.

The subsequent audience for this part of IEC 62351 is intended to be the developers of products that implement these specifications.

Portions of this part of IEC 62351 may also be of use to managers and executives in order to understand the purpose and requirements of the work.