SLOVENSKI STANDARD
SIST EN 319 522-4-1 V1.2.1:2019

01-april-2019

Elektronski podpisi in infrastruktura (ESI) - Storitve elektronske priporočene dostave - 4. del: Zaveze - 1. poddel: Zaveze za dostavo sporočil

Electronic Signatures and Infrastructures (ESI) - Electronic Registered Delivery Services - Part 4: Bindings; Sub-part 1: Message delivery bindings

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: ETSI EN 319 522-4-1 V1.2.1 (2019-01)

SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

ICS:

35.040.01	Kodiranje informacij na splošno	Information coding in general

SIST EN 319 522-4-1 V1.2.1:2019 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

SIST EN 319 522-4-1 V1.2.1:2019

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

SIST EN 319 522-4-1 V1.2.1:2019

ETSI EN 319 522-4-1 V1.2.1 (2019-01)

Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 4: Bindings; Sub-part 1: Message delivery bindings

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

SIST EN 319 522-4-1 V1.2.1:2019

Reference
REN/ESI-0019522-4-1v121

Keywords
e-delivery services, registered e-delivery services, registered electronic mail

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.
The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2019.
All rights reserved.

DECT™, **PLUGTESTS**™, **UMTS**™ and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE**™ are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.
GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

SIST EN 319 522-4-1 V1.2.1:2019

Contents

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

SIST EN 319 522-4-1 V1.2.1:2019

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Electronic Signatures and Infrastructures (ESI).

The present document is part 4, sub-part 1 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.3].

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-be12-a3...-1-2019

National transposition dates	
Date of adoption of this EN:	24 January 2019
Date of latest announcement of this EN (doa):	30 April 2019
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 October 2019
Date of withdrawal of any conflicting National Standard (dow):	31 October 2019

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

SIST EN 319 522-4-1 V1.2.1:2019

1 Scope

The present document defines the binding of the ERD messages, whose semantics is defined in ETSI EN 319 522-2 [1] and whose format is defined in ETSI EN 319 522-3 [2], to the specific transmission protocol AS4 [4].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference/.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] ETSI EN 319 522-2: "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 2: Semantic Contents".

[2] ETSI EN 319 522-3: "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 3: Formats".

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[3] ETSI TS 119 312: "Electronic Signatures and Infrastructures (ESI); Cryptographic Suites".

SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d13-82d7-441d-be12-a2f895090492/sist-en-319-522-4-1-v1.2.1-2019

[4] OASIS Standard: "AS4 Profile of ebMS 3.0 Version 1.0", January 2013.

[5] W3C Recommendation: "XML Encryption Syntax and Processing Version 1.1", 11 April 2013.

[6] ETSI EN 319 522-4-2: "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 4: Bindings; Sub-part 2: Evidence and identification bindings".

[7] ETSI EN 319 532-3: "Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services; Part 3: Formats".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] IETF RFC 5322: "Internet Message Format".

[i.2] OASIS Standard: "Web Services Security X.509 Certificate Token Profile 1.1. OASIS Standard incorporating Approved Errata", 1 November 2006.

[i.3] ETSI EN 319 522-1: "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 1: Framework and Architecture".

SIST EN 319 522-4-1 V1.2.1:2019

[i.4] OASIS: "ebXML Messaging Services Version 3.0: Part 1, Core Features", Committee Specification, July 2007.

3 Definition of terms and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI EN 319 522-1 [i.3] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI EN 319 522-1 [i.3] apply.

4 Message delivery bindings - general concepts

The present document specifies the bindings of the interface ERDS-RI to specific protocols.

The bindings shall support the exchange of ERD messages (ERD dispatch, ERD payload, ERDS receipt, ERDS serviceInfo) through the ERDS-RI interface as defined in ETSI EN 319 522-2 [1]. Specific formats for these objects defined in ETSI EN 319 522-3 [2] shall be supported.

The protocol bindings define the packaging of ERD messages into protocol specific constructs.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Clause 5 defines the mapping of the abstract constructs to AS4 [4]. Clause 6 points to a different document which defines the binding to IETF RFC 5322 [i.1].

SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b96d15-82d7-441d-ba12-a3f489590492/sist-en-319-522-4-1-v1-2-1-2019

5 AS4 binding

5.1 Introduction

This clause provides a specification for the exchange of an **ERD message** between two ERDS, i.e. the implementation of the relay operation as defined in ETSI EN 319 522-2 [1], using the AS4 message exchange protocol [4]. This binding specification consists of four clauses for each of the defined constructs in ETSI EN 319 522-2 [1], clause 4 and one clause describing the generic requirements that apply to all bindings.

The configuration of an ebMS V3/AS4 [4] message exchange is done using P-Modes, short for processing modes. A P-Mode, described in section 4 of the ebMS version 3 Core Specification [i.4], is a set of parameters each specifying a specific detail of the message exchange, e.g. the identifiers of the sender and receiver and the signing algorithm. When parties are going to set up a message exchange they need to agree on the P-Mode(s) to use.

To facilitate P-Mode creation and improve interoperability between parties, *profiles* can be created to predefine a set of values for certain P-Mode parameters. The next clauses define such a profile by defining constraints on and defaults for the values of certain P-Mode parameters to ensure interoperability of the message exchange between ERDS and to fulfil requirements put on the relay operation. Together with the meta-data mapping provided in ETSI EN 319 522-3 [2] this creates an "ERDS profile" of AS4.

NOTE: The present document does not prescribe how the actual P-Modes used in an ERDS are created, this is left to the implementations. Depending on the environment, e.g. the number of ERDS in a network and the volatility of changes, either statically or dynamically configured P-Modes may be used. For dynamic configuration the capability lookup mechanism of CSI (e.g. may be used to find the target ERDS and get the relevant meta-data for setting the P-Mode parameters).

SIST EN 319 522-4-1 V1.2.1:2019

5.2 Generic requirements

When using AS4 for the implementation of the relay operation ERDS shall conform to the *AS4 ebHandler Conformance Clause* and all related features as defined in section 6.1 of AS4 [4]. Additionally the following requirements as described in the next paragraphs and clauses apply.

Although the AS4 ebHandler Conformance Clause allows the use of two message exchange patterns, push and pull, for the relay of an **ERD message,** ERDS shall only use the push message exchange pattern.

ERD messages shall be packaged in User Messages. The user content, ERDS relay meta-data and ERDS evidence shall be included as ebMS payloads that are packaged as SOAP attachments, i.e. the SOAP Body shall not be used. The AS4 Compression Feature as defined in section 3.1 of the AS4 Profile [4] and which offers the option to compress payloads packaged in the SOAP attachments may be used by the ERDS. Alternatively, the ERDS may use the HTTP gzip transfer-encoding.

NOTE 1: When using the AS4 Compression Feature as defined in section 3.1 of the AS4 Profile [4], the user contents would be compressed prior to being signed and therefore the signature would not apply to the original user content. As it might be relevant for certain services to have the original data signed rather than the compressed data, whether the AS4 Compression Feature or HTTP compression is left to a specific agreement or registration in the common service infrastructures.

Each payload contained in the AS4 message shall have a part property, i.e. a `//PartInfo/Property` element shall be included in the message header that indicates the object type of the payload. The name of the property shall be *http://uri.etsi.org/19522/v1#as4binding/PayloadType* and the value shall be set according to table 1.

Table 1: Part property values

Object type	Value for part property
User Content	*UserContent*
ERDS Relay metadata	*ERDSRelayMetadata*
ERDS Evidence	*ERDSEvidence*

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 319 522-4-1 V1.2.1:2019
https://standards.iteh.ai/catalog/standards/sist/08b26115-83d7-441d-bc12-ba3f895f0492/sist-en-319-522-4-1-v1-2-1-2019

Since the ERDS Relay metadata is always included the AS4 message shall always include at least one payload containing the XML representation of the metadata as specified in clause 4 of ETSI EN 319 522-3 [2].

The PMode.Initiator and PMode.Responder parameters shall include the identifiers of the sending and receiving ERDSs respectively. Both the PMode.Initiator.Role and PMode.Responder.Role shall contain the value *http://uri.etsi.org/19522/v1#/as4binding/Roles/ERDS*.

PMode[1].BusinessInfo.Service shall be set to *http://uri.etsi.org/19522/v1#/as4binding/Relay*. The Service type shall not be used.

Signed Receipts shall be used to indicate the AS4 message was successfully sent by the receiving ERDS and the ERD message is ready for further processing, i.e. both PMode[1].Security.SendReceipt shall PMode[1].Security. SendReceipt.NonRepudiation have value true.

NOTE 2: This only indicates that the exchange of the ERD message was successful but provides no information on the actual consignment/handover of the user content to the final recipient.

Both the Receipt and Error Signal messages shall be sent back synchronously to the sending ERDS, i.e. PMode[1].Security.SendReceipt.ReplyPattern and PMode[1].ErrorHandling.Report.AsResponse shall have value true.

The AS4 Reception Awareness Feature as specified in section 3.2 of the AS4 specification [4] should be used. ERDS should use the duplicate elimination function to prevent redundant delivery of the same message to the user application.

NOTE 3: Using duplicate elimination on the AS4 exchange does not guarantee that the same ERD Message is only delivered once to the user application as the same message may be submitted multiple times by the sending user application (resulting in multiple AS4 messages).