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Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services; Part 1: Framework and architecture

Táto norma obsahuje anglickú verziu európskej normy.
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Foreword

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

The present document is part 1 of a multi-part deliverable covering Registered Electronic Mail (REM) Services, as identified below:

- Part 1: "Framework and architecture";**
- Part 2: "Semantic contents";
- Part 3: "Formats";
- Part 4: "Interoperability profiles".

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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).

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Introduction

Business and administrative relationships among companies, public administrations and private citizens are more and more implemented electronically. Trust is essential for their success and continued development of electronic services. It is therefore important that any entity using electronic services have suitable security controls and mechanisms in place to protect their transactions and to ensure trust and confidence with their partners.

Electronic signatures are commonly used worldwide to ensure authenticity and integrity of electronic documents, making it possible to transform traditional paper-based processes into electronic ones providing a comparable or even higher level of assurance. As communication is becoming predominantly internet-based, secure and provable exchange of documents is essential to the full digital transformation.

An electronic registered delivery service (ERDS hereinafter) provides secure and reliable delivery of electronic messages between parties, producing evidence of the delivery process for legal accountability. Evidence can be seen as a declaration by a trusted party that a specific event related to the delivery process (submission of a message, relay of a message, delivery of a message, refusal of a message, etc.) happened at a certain time. Evidence can be immediately delivered to the interested party (together with the message or separately) or can be kept in a repository for later access. It is common practice to implement evidence as digitally signed data. Registered electronic mail (REM hereinafter) is a specific type of electronic registered delivery, which builds on the formats, protocols and mechanisms used in ordinary e-mail messaging.

In a number of national, regional or sector-specific communities electronic registered delivery and registered electronic mail services are already in place, and even more are being developed. Without the definition of common standards there will be no consistency in the services provided, making it difficult for users to compare them. Under these circumstances, users might be prevented from easily changing to alternative providers, damaging free competition. Lack of standardization might also adversely affect interoperability between implementations which are based on different models.

The present document is one of a set of interrelated documents (framework of ERDS standards hereinafter) ETSI has produced to facilitate a consistent form of electronic registered delivery service inside and outside Europe, especially with regard to the form of evidence provided, in order to maximize interoperability even between domains governed by different policy rules. This set of documents includes the following deliverables:

- ETSI EN 319 522 [i.16]: a multi-part deliverable providing technical specifications for Electronic Registered Delivery Services.
- ETSI EN 319 532 [i.17]: a multi-part deliverable providing technical specifications for Registered Electronic Mail Services.
- ETSI EN 319 521 [i.18]: providing Policy and Security Requirements for Electronic Registered Delivery Service Providers.
- ETSI EN 319 531 [i.19]: providing Policy and Security Requirements for Registered Electronic Mail Service Providers.
- ETSI TS 119 524 [i.20]: a multi-part deliverable providing requirements for Testing Conformance and Interoperability of Electronic Registered Delivery Services.
- ETSI TS 119 534 [i.21]: a multi-part deliverable providing requirements for Testing Conformance and Interoperability of Registered Electronic Mail Services.

The documents covering ERDS contain the general concepts and requirements which apply to all kinds of electronic registered delivery services. Since REM is a specific type of electronic registered delivery, the documents covering REM service build on the corresponding documents covering ERDS by referencing the necessary provisions, and define the interpretation and specific requirements which apply only to registered electronic mail.

Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC [i.4] (Regulation (EU) No 910/2014, or Regulation hereinafter) provides a legal framework to facilitate cross-border recognition between existing national legal systems related to electronic registered delivery services. That framework aims to open new market opportunities for European Union trust service providers to offer new pan-European electronic registered delivery services. The Regulation defines the so-called qualified electronic registered delivery service (QERDS hereinafter), which is a special type of ERDS, where both the service and its provider need to meet a number of additional requirements that the regular ERDSs and their providers do not need to meet.

The framework of ERDS standards aims to cover the common and worldwide-recognized requirements to address electronic registered delivery in a secure and reliable way, independent of the applicable legislative framework. The documents contain generic requirements which can be applied in any geographic region. At the same time, the framework of ERDS standards aims to support demonstrating compliance to the Regulation (EU) No 910/2014 [i.4] (and related secondary legislation), both for non-qualified and qualified electronic registered delivery services. Specific clauses are included defining requirements for qualified services only, especially in the documents covering policy and security requirements. However, the legal effects of services implemented according to the framework of ERDS standards are outside the scope of the documents [i.16] to [i.21].

The present document is part 1 of ETSI EN 319 532 [i.17], which is a multi-part deliverable covering Registered Electronic Mail (REM) Services, as detailed in the Foreword. ETSI EN 319 522 contains the general concepts and requirements which apply to all kinds of ERDSs. Since registered electronic mail is a specific type of electronic registered delivery, the general provisions given in ETSI EN 319 522 apply to registered electronic mail as well. Hence, parts 1 and 2 of ETSI EN 319 532 are aligned with ETSI EN 319 522, and they reference the necessary provisions of the corresponding part.

1 Scope

The present document specifies the logical model and basic concepts of registered electronic mail (REM) service.

The present document relies on ETSI EN 319 522-1 [1] for all concepts and requirements which are generally applicable to all electronic registered delivery services, and defines the interpretation and specific requirements which apply only to registered electronic mail.

2 References

2.1 Normative references

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

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

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.

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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] ETSI EN 319 532-2: "Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services; Part 2: Semantic Contents".
- [i.2] ETSI EN 319 532-3: "Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services; Part 3: Formats".
- [i.3] ETSI EN 319 532-4: "Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services; Part 4: Interoperability profiles".
- [i.4] Regulation (EU) No 910/2014 of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC.
- [i.5] ETSI EN 319 522-2: "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services; Part 2: Semantic Contents".
- [i.6] ETSI TS 119 612: "Electronic Signatures and Infrastructures (ESI); Trusted Lists".
- [i.7] IETF RFC 5751: "Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification".

- [i.8] IETF RFC 5321: "Simple Mail Transfer Protocol".
- [i.9] IETF RFC 1939: "Post Office Protocol - Version 3".
- [i.10] IETF RFC 3501: "Internet Message Access Protocol - Version 4rev1".
- [i.11] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".
- [i.12] IETF RFC 4422: "Simple Authentication and Security Layer (SASL)".
- [i.13] IETF RFC 3207: "SMTP Service Extension for Secure SMTP over Transport Layer Security".
- [i.14] IETF RFC 2595: "Using TLS with IMAP, POP3 and ACAP".
- [i.15] IETF RFC 7817: "Updated Transport Layer Security (TLS) Server Identity Check Procedure for Email-Related Protocols".
- [i.16] ETSI EN 319 522 (all parts): "Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services".
- [i.17] ETSI EN 319 532 (all parts): "Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail (REM) Services".
- [i.18] ETSI EN 319 521: "Electronic Signatures and Infrastructures (ESI); Policy and security requirements for Electronic Registered Delivery Service Providers".
- [i.19] ETSI EN 319 531: "Electronic Signatures and Infrastructures (ESI); Policy and security requirements for Registered Electronic Mail Service Providers".
- [i.20] ETSI TS 119 524 (all parts): "Electronic Signatures and Infrastructures (ESI); Testing Conformance and Interoperability of Electronic Registered Delivery Services".
- [i.21] ETSI TS 119 534 (all parts): "Electronic Signatures and Infrastructures (ESI); Testing Conformance and Interoperability of Registered Electronic Mail Services".

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