ENTAKSISOLUTIONS

CERTIFIED MANAGEMENT SYSTEM
ISO 9001 | ISO 20000-1 | ISO 22301 | ISO 37001
ISO 27001 | ISO 27017 | ISO 27018 | ISO 27035
QUALIFIED TRUST SERVICES
ETSI 319 401 | ETSI 319 411-1 and 2 | ETSI 319 421 | ETSI 119 511
ELECTRONIC SIGNATURES AND SEALS - TIME STAMPS
LONG-TERM PRESERVATION

Manual

MAN eIDAS 20210628 Signature Validation Policy EN

Entaksi Solutions SpA

Table of contents

Document information

Project	Integrated Management System
Type	Manual
Document ID	MAN eCON 20210628 Signature Validation Policy EN
Version	1.1.0
Creation Date	28/06/2021
Last Revision	11/12/2023
Author	Alessia Soccio
Status	Released
Classification	Public

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Revisions and releases

Date	Version	Name	Mansion	Action	Release
28/06/2021	0.0.1	Alessia Soccio	IMSM	Draft creation.	Internal
01/12/2021	1.0.0	Alessia Soccio	IMSM	Review and release.	Public
11/12/2023	1.1.0	Alessia Soccio	IMSM	Periodic update, issue of new signature validation policy, review of company presentation, formal review of definitions and regulatory references, minor corrections.	Public

Document approval

Date	Employee	Role	Signature
11/12/2023	Alessandro Geri	Sole Manager	*Digitally signed*

1. Introduction

This document is the **Signature Validation Policies regarding the eCON Preservation Service provided by Entaksi Solutions SpA - Irish Branch** (hereinafter "Entaksi"), a branch of the Italian company with VAT-ID IT01621900479 Entaksi Solutions SpA, operating in Ireland with National Trade Register number 909882.

Entaksi is a **Trust Service Provider** for:

- **Issuing of qualified certificates for electronic signatures and seals**;
- **Creation of electronic time stamps**;
- **Long-term preservation of electronic signatures and seals**.

The eCON Preservation Service is a trust service providing long-term preservation of digital signatures and general data using digital signature techniques, as defined by EU Regulation 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 (hereinafter "eIDAS").

1.1. Document identification

This document is identified by the following OID:

Table 1. Document name and identification.

OID	Description	Permanent Link
1.3.6.1.4.1.57823.1.4	MAN eIDAS 20210628 Signature Validation Policy	https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.1.4

The OIDs identifying the specific signature validation policies are identified within the document.

1.2. Document maintenance

Entaksi has defined a review process for all the internal documents, including policies, statements and practices.

The documents are periodically reviewed under the responsibility of Entaksi management, in order to assess their compliance with national and international requirements, standards, mandatory legislation, regulations in force, particular needs imposed by the technical and technological evolution, evolution of the business context.

The review and any update take place at least once a year, or whenever one of the following circumstances occurs:

- internal organizational changes that impact on the system;
- major changes to the hardware or software architecture;
- regulatory updates;
- changes in procedures, methodologies or business context.

1.3. Approval and publication

This document and all the internal policies and practices mentioned in it have been approved by Entaksi's Management, published and communicated to employees and, as regards those classified as "public", published on the company website at the following link: https://www.entaksi.eu/en/documentation.html.
The website is available on 24x7 basis.

Entaksi makes available to all customers of trust services and relying parties any update of this document and other relevant documentation as soon as the update is approved and revised on the basis of what is described in the revision procedure.

Entaksi, will communicate any change that might affect the acceptance of the service by the subject, subscriber or relying parties through the communication channel established in the terms and conditions of the service.

2. Definitions and abbreviations

2.1. Definitions

Certificate Status Authority

authority providing certificate status information.

Container

Data object, which contains a set of data objects and optional additional information, which describes the contained data objects and optionally its content and its interrelationships.

Data Object

Actual binary/octet data being operated on (e.g. transformed, digested, or signed) by an application and which may be associated with additional information like an identifier, the encoding, size or type.

Delta Preservation Object Container

Special preservation object container describing the difference to an already existing preservation object container.

EU qualified preservation service

Preservation service that meets the requirements for qualified preservation service for qualified electronic signatures and/or for qualified electronic seals as laid down in EU Regulation no. 910/2014 - eIDAS.

Evidence record

Unit of data, which can be used to prove the existence of an archived data object or an archived data object group at a certain time.

Expected Evidence Duration

For a preservation service with temporary storage or without storage, duration during which the preservation service expects that the preservation evidence can be used to achieve the preservation goal long-term: time period during which technological changes may be a concern.

Metadata

Data about other data.

Notification interface

Interface provided by the preservation client supporting the notification protocol.

Notification Protocol

Protocol used by a preservation service to notify the preservation client.

Preservation Client

Component or a piece of software which interacts with a preservation service via the preservation protocol.

Preservation Evidence

Evidence produced by the preservation service which can be used to demonstrate that one or more preservation goals are met for a given preservation object.

Preservation Evidence Policy

Set of rules that specify the requirements and the internal process to generate or how to validate a preservation evidence.

Preservation Evidence Retention Period

For a preservation service With Temporary Storage (WTS) the time period during which the evidences that are produced asynchronously can be retrieved from the preservation service.

Preservation Goal

One of the following objectives achieved during the preservation time frame: extending over long periods of time the validity status of digital signatures, providing proofs of existence of data over long periods of time, or augmentation of externally provided preservation evidences.

Preservation Interface

Component implementing the preservation protocol on the side of the preservation service preservation manifest: data object in a preservation object container referring to the preservation data objects or additional information and metadata in the preservation object container.

Preservation Mechanism

Mechanism used to preserve preservation objects and to maintain the validity of preservation evidences.

Preservation Object

Typed data object, which is submitted to, processed by or retrieved from a preservation service.

Preservation Object Container

Container which contains a set of data objects and optionally related metadata providing information about the data objects and optionally preservation manifest(s) specifying its content and relationships.

Preservation Object Identifier

Unique identifier of a (set of) preservation object(s) submitted to a preservation service.

Preservation Planning

Monitoring changes and risks e.g. concerning innovations in storage, access and preservation technologies, new design strategies, etc.

Preservation Period

For a preservation service with storage, duration during which the preservation service preserves the submitted preservation objects and the associated evidences.

Preservation Profile

Uniquely identified set of implementation details pertinent to a preservation storage model and one or more preservation goals which specifies how preservation evidences are generated and validated.

Preservation Protocol

Protocol to communicate between the preservation service and a preservation client.

Preservation Scheme

Generic set of procedures and rules pertinent to a preservation storage model and one or more preservation goals which outlines how preservation evidences are created and validated.

Preservation Service

Service capable of extending the validity status of a digital signature over long periods of time and/or of providing proofs of existence of data over long periods of time.

Preservation Storage Model

One of the following ways of implementing a preservation service: with storage, with temporary storage, without storage.

Preservation Submitter

Legal or natural person using the preservation client to submit the submission data object.

Preservation Subscriber

Legal or natural person bound by agreement with a preservation trust service provider to any subscriber obligations.

Proof of Existence

Evidence that proves that an object existed at a specific date/time.

Proof of Integrity

Evidence that data has not been altered since it was protected.

Signer

Entity being the creator of a digital signature.

Submission Data Object

Original data object provided by the client.

Time Stamp

data in electronic form which binds other electronic data to a particular time establishing evidence that these data existed at that time.

Time Stamping Authority

Trust service provider which issues time stamps using one or more time stamping units.

Time Stamping Service

Trust service for issuing time stamps.

Time Stamping Unit

Set of hardware and software which is managed as a unit and has a single time stamp signing key active at a time.

Trusted List

List that provides information about the status and the status history of the trust services from trust service providers regarding compliance with the applicable requirements and the relevant provisions of the applicable legislation.

Validation Data

Data that is used to validate a digital signature.

2.2. Abbreviations

AUG

Augmentation Goal.

PDS

Preservation of Digital Signatures.

PGD

Preservation of General Data.

PO

Preservation Object.

POC

Preservation Object Container.

PRP

Preservation Service Protocol.

PSP

Preservation Service Provider.

SigS

Digital Signature creation Service.

SubDO

Submission Data Object.

ValS

Validation Service.

WOS

Without Storage.

WST

With Storage.

WTS

With Temporary Storage.

3. References

In order to ensure the compliance of the eCON Conservation Service to rules and regulation, Entaksi defines the criteria and the processes of the Service according to the relevant Italian and European legislation, and, as well, implements international

standards that define the theoretical, operational and functional management of the system. Below are enlisted the normative and informative references the company is subject to.

This policy complies with the normative references enlisted below, as required by eIDAS and the Italian digital preservation regulation.

3.1. Normative references

3.1.1. Long-Term Preservation

EU Regulation no. 910/2014 of the European Parliament and of the Council - eIDAS

EU Regulation 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

3.1.2. Italian Digital Preservation Regulation

"Codice dell'Amministrazione Digitale (CAD)"

"Legislative Decree No 82/2005 Code for Digital Administration".

"Linee Guida sulla formazione, gestione e conservazione dei documenti informatici"

"Guidelines on the creation, management and preservation of IT documents", issued on 09 September 2020 by the Agenzia dell'Italia Digitale (AgID).

AgID Preservation Service Providers Regulation

"Determinazione" No 455/2021 of the Agenzia dell'Italia Digitale (AgID) of 25 June 2021 on the adoption of "Regolamento sui criteri per la fornitura dei servizi di conservazione dei documenti informatici" ("Regulation on the criteria for the provision of IT document preservation services").

3.1.3. Data Protection

General Data Protection Regulation (EU) 2016/679

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)

3.1.4. Certifications

Entaksi obtained the following certifications:

- **ISO 9001:2015**: Quality management systems - Requirements.
- **ISO/IEC 20000-1:2018**: Information technology - Service management - Part 1: Service management system requirements.
- **ISO/IEC 27001:2013**: Information technology - Security techniques - Information security management systems - Requirements.
- **ISO/IEC 27017:2015**: Information technology - Security techniques - Code of practice for information security controls based on ISO/IEC 27002 for cloud services.
- **ISO/IEC 27018:2019**: Information technology - Security techniques - Code of practice for protection of personally identifiable information (PII) in public clouds acting as PII processors.
- **ISO/IEC 27035:2016**: Information technology — Security techniques — Information security incident management.
- **ISO/IEC 22301:2019**: Security and resilience — Business continuity management systems — Requirements.
- **UNI ISO 37001:2016**: Anti-bribery management systems - Requirements with guidance for use.
- **eIDAS Regulation for Qualified Trust Service Providers**:
  - **ETSI EN 319 401**: Electronic Signatures and Infrastructures (ESI) - General Policy Requirements for Trust Service Providers.
  - **ETSI EN 319 411-1**: Electronic Signatures and Infrastructures (ESI) - Policy and security requirements for Trust Service Providers issuing certificates - Part 1: General requirements.
  - **ETSI EN 319 411-2**: Electronic Signatures and Infrastructures (ESI) - Policy and security requirements for Trust Service

Providers issuing certificates - Part 2: Requirements for trust service providers issuing EU qualified certificates.

- **ETSI EN 319 412-1,2,3,5**: Electronic Signatures and Infrastructures (ESI) - Certificate Profiles.
- **ETSI EN 319 421**: Electronic Signatures and Infrastructures (ESI) - Policy and Security Requirements for Trust Service Providers issuing Time-stamps.
- **ETSI EN 319 422**: Electronic Signatures and Infrastructures (ESI) - Time-Protocollo di marcatura temporale e profili di token di marcatura temporale.stamping protocol and time-stamp token profiles.
- **ETSI TS 119 511**: Electronic Signatures and Infrastructures (ESI) - Policy and security requirements for trust service providers providing long-term preservation of digital signatures or general data using digital signature techniques.

3.1.5. Other provisions

UNI 11386:2020

Supporting interoperability in preservation and retrieval of digital objects.

ISO/IEC 14721:2012

"Space data and information transfer systems - Open archival information system (OAIS) - Reference model", Reference model for an open archival information system for management and long-term preservation of information.

ISO 15489-1:2016

Information and documentation - Records management - Part 1: Concepts and principles.

ISO 15836-1:2017

Information and documentation - The Dublin Core metadata element set - Part 1: Core elements.

ISO 16363:2012

Space data and information transfer systems - Audit and certification of trustworthy digital repositories.

ISAD(G)

General International Standard Archival Description, description standard for archives intended for the registration of documents produced by organisations, individuals and families.

ETSI TS 119 512

Electronic Signatures and Infrastructures (ESI) - Protocols for trust service providers providing long-term data preservation services.

ETSI TS 119 312 V1.4.3 (2023-08)

Electronic Signatures and Infrastructures (ESI) - Cryptographic Suites.

ETSI EN 319 403-1 V2.3.1 (2020-06)

Electronic Signatures and Infrastructures (ESI) - Trust Service Provider - Conformity Assessment - Part 1: Requirements for conformity assessment bodies assessing Trust Service Providers.

ETSI EN 301 549 V2.1.2 (2018-08)

Accessibility requirements for ICT products and services.

ETSI TS 119 612 V2.2.1 (2016-04)

Electronic Signatures and Infrastructures (ESI) - Trusted Lists.

IETF RFC 3161

Internet X.509 Public Key Infrastructure - Time-Stamp Protocol (TSP) (2001).

IETF RFC 5280

Internet X.509 Public Key Infrastructure - Certificate and Certificate Revocation List (CRL) Profile (2008).

3.2. Informative references

Entaksi Qualified Long-Term Preservation Service is supported by the following policies, practice statements and manuals:

Table 2. eCON Preservation Service Documents.

Document name	Last version	Valid from
MAN eIDAS 20210628 Preservation Service Policy	1.1.0	01/12/2021
MAN eIDAS 20210628 Signature Validation Policy	1.1.0	01/12/2021
MAN eIDAS 20210628 Preservation Evidence Policy	1.1.0	01/12/2021
MAN eIDAS 20210628 Preservation Service Practice Statement	1.1.0	01/12/2021
MAN eCON 20151222 Conservazione	1.8.0	01/12/2021
MAN SIG 20200511 Politica per la sicurezza delle informazioni	1.2.0	01/12/2021

All the previous enlisted documents are classified as "public" and disclosed to the relying parties on the company website.

Furthermore, the subsequent documents illustrate some confidential topics about the eCON Preservation Service, mostly related system security procedures and technical questions.

Table 3. eCON Preservation Service Confidential Documents

Document name	Document version	Valid from
MAN eCON 20190918 Piano di cessazione	1.4.0	01/12/2021
MAN eCON 20151222 Piano della sicurezza	1.5.0	01/12/2021

Entaksi, due their confidential content, doesn't disclose these documents and any of its other internal manuals, procedures and security documents. However, according to the company's availability and commitment, it is available to undergo audits by its subscribers or other interested parties, upon signing an un-disclosure agreement.

4. Roles and responsibilities

The **designated community of eCON Digital Preservation Service**, as required by the Open Archival Information System (OAIS) Standard ISO/IEC 14721:2012, is described in the eCON User Manuals, and also are enlisted the roles and activities for each Entaksi's staff member.

Entaksi is appointed as Trust Service Provider for the eCON Long-Term Preservation Service.

The eCON Preservation Service is administrated by various "**Managers**", each of whom covers a very specific role in the company and in the service in particular, in order to better ensure the reliability of the system without overlapping activities and with compartmentalization of roles:

- **Preservation Service Manager (PSM)**.
- **Deputy Preservation Service Manager (DPSM)**.
- **Archival Function Manager (AFM)**.
- **Data Protection Manager (DPM)**.
- **Preservation System Security Manager (PSSM)**.
- **Preservation Information System Manager (PISM)**.
- *Preservation System Development and Maintenance Manager (PSDMM).

All the data relating to the persons and specific roles covered by the various managers of the Preservation Service eCON are available in the eCON preservation manual, published both on the Agenzia per l'Italia Digitale website and on the Entaksi Website.

Conflicting duties and areas of responsibility are segregated to reduce opportunities for unauthorized or unintentional modification, or misuse of the Entaksi's assets.

Entaksi Solution SpA is responsible for the provision of the service, and the Preservation Service Manager (PSM) is the role appointed for service delivery tasks.

In accordance with art. 38 of the "Decreto del Presidente del Consiglio dei Ministri del 22 febbraio 2013" (Prime Minister's

Decree), the following individuals are appointed in addition to those listed above:

- Security Manager.
- Qualified Service Manager;
- Responsible for the technical management of the systems.
- Responsible for technical and logistical services.
- Responsible for audits and inspections (auditing).

Other roles are defined in "MAN eIDAS 20210628 Preservation Service Policy" and "MAN eIDAS 20210628 Preservation Service Practice Statement".

4.1. eCON Preservation Service Signature Validation Policies

The signature validation policies used in the eCON Preservation Service are provided in a machine readable format.

eCON Preservation Service supports the automatic interpretation of a machine readable signature validation policy description language according to technical specifications described in ETSI EN 319 102-1.

Signature validation policies are described by an XML file that states rules and policies applied during the validation process.

4.1.1. Validation strategy

Signature validation operates according to ETSI EN 319 102-1 chapter "5.6 Validation process for Signatures providing Long-Term Availability and Integrity of Validation Material".

During the validation procedure all materials needed for long-term validation of the signature are collected resulting in a signature validation report that contains all collected materials and a set of proof of existence of the signature at the time of validation.

4.1.2. Validation policies

The Entaksi Signature Validation Policies are identified by the following OIDs:

OID	Description
1.3.6.1.4.1.57823.2.3.1	eCON Signature Validation Policy 2022-01
1.3.6.1.4.1.57823.2.3.2	eCON Signature Validation Policy 2024-01

4.1.3. Policies description

The policies describe a process that validates electronic signatures and indicates whether they are Advanced electronic Signatures (AdES), AdES supported by a Qualified Certificate (AdES/QC) or a Qualified electronic Signature (QES). All certificates and their related chains supporting the signatures are validated against the EU Member State Trusted Lists (this includes signer's certificate and certificates used to validate certificate validity status services - CRLs, OCSP, and time-stamps).

The policies contain rules and validation parameters that might change over time following the recommendations in updated versions of ETSI TS 119 312.

Signature Validation Policy 2022-01

The "Signature Validation Policy 2022-01" identified by OID 1.3.6.1.4.1.57823.2.3.1 contains rules and validation parameters as of January 2022.

The XML file describing the signature validation policy is available at the following address: https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.2.3.1.

This Signature Validation Policy XML file follows ETSI EN 319 102-1 requirements. The validation procedure takes this file as input for applying defined rules and validation parameters from this file, and it produces a validation report according to the format defined in ETSI TS 119 102-2.

This Signature Validation Policy uses the shell validation model in that all certificates must be valid at validation time.

Signature Validation Policy 2024-01

The "Signature Validation Policy 2022-01" identified by OID 1.3.6.1.4.1.57823.2.3.2 contains rules and validation parameters as of January 2024.

The XML file describing the signature validation policy is available at the following address: https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.2.3.2.

This Signature Validation Policy XML file follows ETSI EN 319 102-1 requirements. The validation procedure takes this file as input for applying defined rules and validation parameters from this file, and it produces a validation report according to the format defined in ETSI TS 119 102-2.

This Signature Validation Policy uses the shell validation model in that all certificates must be valid at validation time.

5. Other provisions

5.1. Compliance and Audit

The applicable legal system is declared in References.

The configuration of the eCON Preservation Service is regularly checked by the management to avoid any change which violate Entaksi's security policies.

Entaksi's eCON Preservation Service is supervised by the Agenzia dell'Italia Digitale (AgID), which has the responsibility of regularly checking and revising the compliance of the system at the requirements defined in accordance with the Italian regulations on digital preservation.

Moreover, the system is checked by at least yearly by an accredited certification body, recognized by Accredia, the Italian Accreditation Body.

Audit working papers and inspection documents are classified as confidentials.
The conformity certificates and their updates are published on the Entaksi website in accordance with the assessment results.

Entaksi's qualified service for the long-term preservation of signatures, seals and general data is outlined by the following documents:

Table 4. LTP documents name and identification.

OID	Description	Permanent Link
1.3.6.1.4.1.57823.1.1	MAN eIDAS 20210628 Preservation Service Policy	https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.1.1
1.3.6.1.4.1.57823.1.2	MAN eIDAS 20210628 Preservation Service Practice Statement	https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.1.2
1.3.6.1.4.1.57823.1.3	MAN eIDAS 20210628 Preservation Evidence Policy	https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.1.3
1.3.6.1.4.1.57823.1.4	MAN eIDAS 20210628 Signature Validation Policy	https://r.entaksi.eu/oids/1.3.6.1.4.1.57823.1.4

All Entaksi's qualified trust services documents are available at the following link:
https://www.entaksi.eu/en/documentation.html.