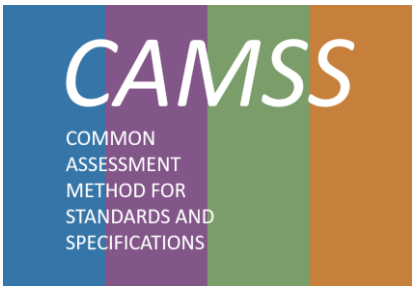

ASSESSMENT SUMMARY v1.0.0

Simple Mail Transfer Protocol (SMTP)[1]

Internet Engineering Task Force (IETF)[2]

[1] https://tools.ietf.org/html/rfc5321

[2] https://ietf.org

Change Control

Modification	Details
Version 1.0.0	
Initial version	

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1. INTRODUCTION

The present document is a summary of the assessment of SMTP carried out by CAMSS using the CAMSS EIF assessment scenario. The purpose of this scenario is assessing the compliance of a standard or specification with the European Interoperability Framework (EIF)[3].

2. ASSESSMENT SUMMARY

The **Simple Mail Transfer Protocol (SMTP)** is a communication protocol for the exchange of electronic mails. It provides a set of guidelines to help the SMTP servers to identify themselves and the different elements involved in the transaction. The specification is developed and maintained by the **Internet Engineering Task Force (IETF)**. Since its development, the SMTP has been widely implemented through different mailing services.

2.1. Interoperability Principles

Interoperability principles are fundamental behavioural aspects that drive interoperability actions. They are relevant to the process of establishing interoperable European public services. They describe the context in which European public services are designed and implemented.

***The specification fully supports the principles setting context for EU actions on interoperability*:**

- **Subsidiarity and proportionality**
  SMTP is included in 3 national catalogues of recommended specifications. They belong to the Netherlands, Spain, and Sweden. The National Interoperability Framework (NIF) of these Member States is fully aligned with at least 4 out of 5 sections of the European Interoperability Framework (EIF) according to the National Interoperability Framework Observatory (NIFO)[4] factsheets.

The specification partially supports the principles setting context for EU actions on interoperability:

- **Openness**
  SMTP is an open specification available for everyone to study or use. In IETF, Stakeholders have the opportunity to contribute to the development of SMTP, and the decision-making process includes a public review.

  Additionally, SMTP has a significant market acceptance which demonstrates that it is mature enough for the development of products and services However, no evidence has been found that SMTP contributes to the creation of innovative solutions.
  Moreover, it is worth to note that the purpose of the specification is not related to the publication of data as open data.

- **Transparency**
  The aim of the SMTP is not related to transparency purposes.

[3] https://ec.europa.eu/isa2/eif_en

[4] https://joinup.ec.europa.eu/collection/national-interoperability-framework-observatory-nifo/nifo-factsheets

- **Reusability**
  SMTP is a business domain agnostic specification that can be reused in a cross-domain way. Moreover, it is available for its use and implementation at the IETF's webpage defined in several RFCs and SMTP can be found for free along within the European Collaborative Platform, Joinup[5].

- **Technological neutrality and data portability**
  SMTP can be used independently of any other technical specifications or operating system. However, the specification is a protocol that enables the delivery of electronic mail but it is not involved in fostering the data portability between administration systems.

***The specification does not support the principles related to generic user needs and expectations*:**

- **User-centricity**
  The purpose of SMTP is not related to the implementation of the once-only principle. Therefore, this criterion is not applicable specification.

- **Inclusion and accessibility**
  The purpose of SMTP is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

- **Security and privacy**
  The specification does not include security features, which make it not reliable for the secure and trustworthy data exchange between administrations and stakeholders.
  However, there are more secure solutions that use SMTP as core element to make an email protocol secure, for example, SMTPS (Simple Mail Transfer Protocol Secure) or STARTLS-SMTP.

- **Multilingualism**
  The purpose of SMTP is not related to the delivery of multilingual services. Therefore, this criterion is not applicable to this specification.

The specification partially supports the foundation principles for cooperation among public administrations:

- **Administrative Simplification**
  SMTP can help to create a digital service environment by easing digital communication while avoiding the non-digital data exchange.

- **Preservation of information**
  The purpose of SMTP is not related to long term preservation of electronic records. Therefore, this criterion is considered not applicable to this specification.

[5] https://joinup.ec.europa.eu/solution/simple-mail-transfer-protocol/distribution/simple-mail-transfer-protocol

- **Assessment of effectiveness and efficiency**
  There are already existing studies or documentation assessing the SMTP in terms of effectiveness and efficiency[6]. It is a practical study assessing the e-mail communication thought SMTP. The study shows how SMTP makes e-mail communication more efficient.

2.2. Interoperability Layers

The interoperability model which is applicable to all digital public services includes:
- Four layers of interoperability: legal, organisational, semantic and technical;
- A cross-cutting component of the four layers, 'integrated public service governance';
- A background layer, 'interoperability governance'.

The Specification supports the implementation of digital public services complying with the EIF interoperability model:

- **Interoperability governance**
  8 Member States are recommending SMTP in their ICT National Catalogues. The specification is included within catalogues of standards at the national level but not at the EU level. IETF does not have a conformity test, but there many free online and offline tools to test an SMTP implementation and its compliance with the requirements. Additionally, there is an implementation of the CED eDelivery BDXL that uses SMTP as a mailing protocol. The implementation is called Business Document Metadata Service Location (BDMSL) which is maintained by DG DIGIT. However, SMTP is not associated with any European Interoperability Reference Architecture (EIRA) ABBs in the European Library of Specifications (ELIS).

- **Integrated public service governance & Legal Interoperability**
  No evidence has been found of the specification being included in a formal interoperability agreement between organisations involved in the European public services provision.

- **Organisational interoperability**
  The aim of SMTP is not related to organizational interoperability purposes.

- **Semantic Interoperability**
  The aim of SMTP is not related to semantic interoperability purposes. It defines a reusable set of standardised features and capabilities for the exchange and delivery of email, not a data model.

- **Technical interoperability**
  This technical interoperability layer is covered by the core interoperability principle ''Openness''.

[6] https://www.researchgate.net/publication/227859099_A_Practical_Study_of_E-mail_Communication_through_SMTP

3. Assessment Results

This section presents an overview of the results of the CAMSS assessments for **Simple Mail Transfer Protocol (SMTP)**. The CAMSS "Strength" indicator measures the reliability of the assessment by calculating the number of answered (applicable) criteria. On the other hand, the number of favourable answers and the number of unfavourable ones are used to calculate the "Automated Score" per category and an "Overall Score".

Category	Automated Score	Assessment Strength	# Favourable	# Unfavourable	# Not Applicable
Principle setting the context for EU actions on interoperability	100%	100%	1	0	0
Core interoperability principles	87%	79%	13	2	4
Principles related to generic user needs and expectations	0%	25%	0	1	3
Foundation principles for cooperation among public administrations	100%	67%	2	0	1
Interoperability layers*	67%	82%	12	6	4
Overall Score	71%	72%	20	8	11

**The technical interoperability layer is covered by the criteria corresponding to the core interoperability principle "Openness".*

With a 72% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 71% demonstrates that the specification fully supports the European Interoperability Framework in the domains where it applies.

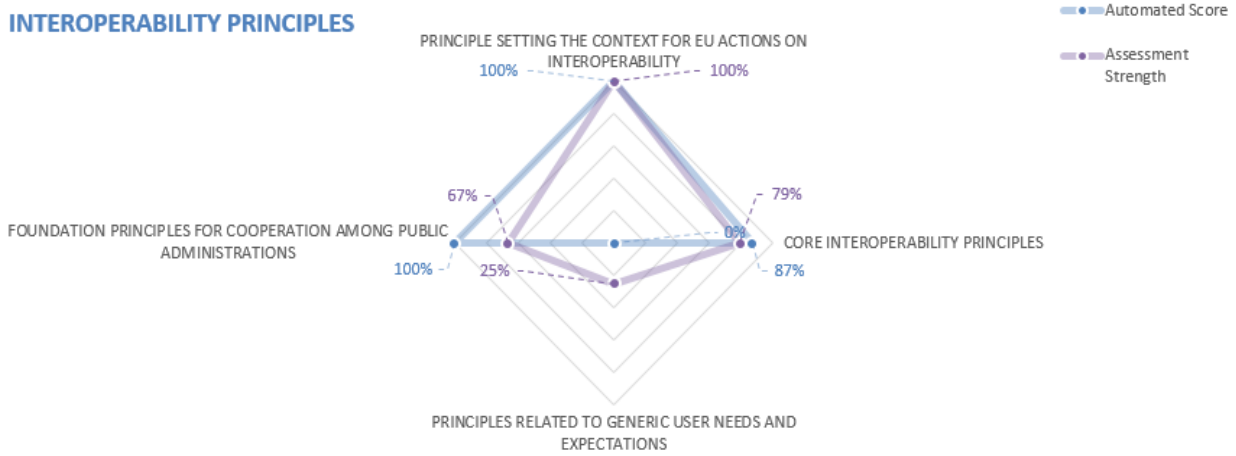

Figure 1. Interoperability principles Results

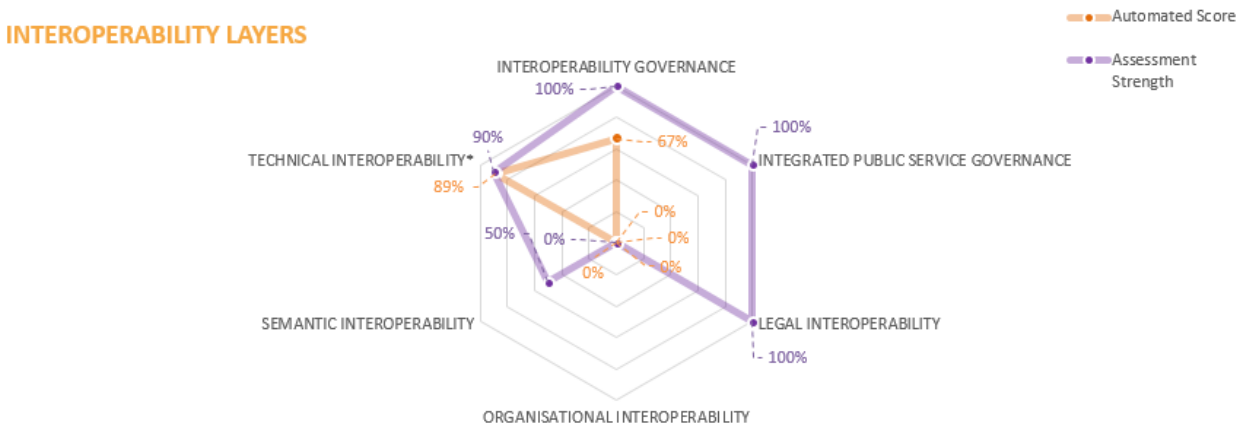

Figure 2. Interoperability layers Results