ASSESSMENT SUMMARY v1.0.0

Multipurpose Internet Mail Extensions (MIME)[1]

Internet Engineering Task Force (IETF)[2]

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[1] https://tools.ietf.org/html/rfc2045

[2] https://www.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 the **Multipurpose Internet Mail Extensions (MIME)** 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

Multipurpose Internet Mail Extensions (MIME) is an Internet standard that extends the format of email messages to support text in character sets other than ASCII, as well as attachments of audio, video, images, and application programs. Message bodies may consist of multiple parts, and header information may be specified in non-ASCII character sets. Email messages with MIME formatting are typically transmitted with standard protocols, such as the Simple Mail Transfer Protocol (SMTP), the Post Office Protocol (POP), and the Internet Message Access Protocol (IMAP).

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**
  MIME is included in 8 national catalogues of recommended specifications with the National Interoperability Framework (NIF) 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**
  MIME is an open specification publicly available for study or use. In IETF, all the stakeholders have the opportunity to contribute to the development of MIME. It has a significant market acceptance that demonstrates that it is mature enough for the development of products and services. However, it cannot be considered a specification for the creation of innovative solutions.

  Also, the RFC 2045 to 2049 which refers to MIME is available for free for everyone to study. At the moment of performing the assessment, MIME is widely used in across sector manner. One of the main document format used for the document exchange between different parties.

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

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

- **Transparency**

  MIME is a valuable tool for sharing information through the internet. It allows sharing data and information, it fosters the visibility of administration data and services. Moreover, it helps with the comprehensibility of administrative rules. However, the purpose of MIME is not related to the availability of interfaces with internal information systems.

- **Reusability**

  MIME is a business agnostic document format that can be reused in a cross-domain way. In addition, MIME is made available for its reuse, the document defining the standard is available under charge, and the specification is licensed under royalty-free basis and (F) RAND basis as the disclosures shown.

- **Technological neutrality and data portability**

  MIME is not independent of any platform or software. It extends the format of email messages to support text in ASCII and non-ASCII characters, as well as attachments of audio, video, images, and application programs. MIME is proportionate to the needs of its users and it fosters data portability between systems and applications supporting the implementation and evolution of European public services when legally possible.

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

- **User-centricity**

  The purpose of MIME is not related to the implementation of the once-only principle. Therefore, this criterion does not apply to this specification.

- **Inclusion and accessibility**

  The purpose of MIME is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

- **Security and privacy**

  MIME is a specification exclusively designed for giving format of files which does not secure the traffic. However, there is an extension of MIME which is called S/MIME that secures the files.

- **Multilingualism**

  The purpose of MIME is not related to the delivery of multilingual public services. Therefore, this criterion is not applicable to this specification.

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

- **Administrative Simplification**

  By allowing the exchange of digital documents, MIME avoids to share non-digital documents and then helps to the reduction of administrative burden.

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

- **Assessment of effectiveness and efficiency**
There are many documents that provide an overview of the usage and functionalities of MIME. In some cases it is compared with the SMTP, showing the strengths and weaknesses.

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**
At the time of elaborating this assessment, MIME is not included in any EIRA ABB in the current European Library of Specifications (ELIS). 8 Member States are recommending MIME in their ICT National Catalogues. Moreover, MIME is being used to specify the media types supported by the Europeana collections. Europeana is a cultural initiative that works towards the preservation of the patrimonial heritage. MIME is included in a catalogue of standards at EU level and national level.

- **Integrated public service governance & Legal Interoperability**
After being evaluated compliant with the regulation on standardisation 1025/2012, MIME has been identified by Commission Implementing Decision. During the evaluation process, all the Member States are invited to share their doubts. The positive evaluation of MIME and its identification is considered an interoperability agreement.

- **Organisational interoperability**
MIME is not related to the modelling of business processes. Moreover, it is not related to organisational interoperability.

- **Semantic Interoperability**
MIME does not define a cross-sector reusable data model, but defines a file format for exchanging data. Moreover, the specification is not related to the publication of public data as linked open data.

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

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for **MIME**. 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	88%	89%	15	2	2
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*	83%	82%	15	3	4
Overall Score	83%	77%	25	5	9

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

With a 77% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 83% demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.
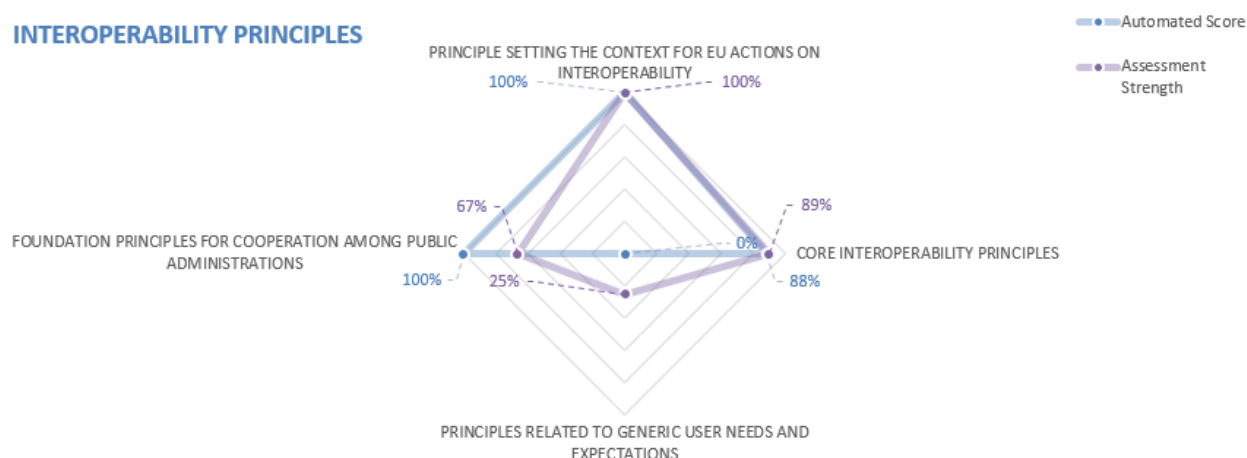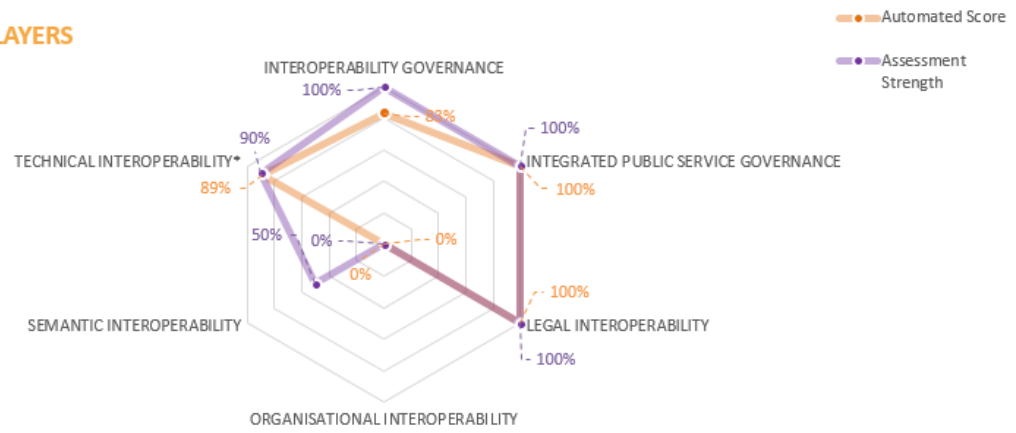

Figure 1 Interoperability principles Results

INTEROPERABILITY LAYERS

Figure 2 Interoperability layers Results