ASSESSMENT SUMMARY

Simple Object Access Protocol 1.2 (SOAP 1.2)

World Wide Web Consortium (W3C)

TABLE OF CONTENTS

1. INTRODUCTION

The present document is a summary of the assessment of SOAP 1.2 carried out by the CAMSS Team 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)[1].

2. ASSESSMENT SUMMARY

Simple Object Access Protocol (SOAP)[2] is a messaging protocol based on XML, that allows the exchange of information in a structured way through elements of an application. SOAP 1.2 is a lightweight protocol developed and maintainded by **World Wide Web Consortium (W3C)[3]**, which is intended for exchanging structured information in a decentralized, distributed environment. It uses XML technologies to define an extensible messaging framework providing a message construct that can be exchanged over a variety of underlying protocols, mainly HTTP among others.

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**
  SOAP 1.2 is included in 8 national catalogues of recommended specifications. 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)[4] according to the National Interoperability Framework Observatory (NIFO)[5] factsheets.

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

- **Openness**
  SOAP 1.2 is an open specification publicly available for study or use. In addition, SOAP 1.2 serialisation provides several advantages, especially if the Semantic Web is not just about providing meta data for existing web pages. The specification is a widely used de-facto standard. Other companies with a wide market share are contributed to the development of the

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

[2] https://www.w3.org/TR/soap12/

[3] https://www.w3.org/

[4] https://ec.europa.eu/isa2/sites/isa/files/eif_brochure_final.pdf

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

specification. Additionally, SOAP is developed and maintained by W3C and its working group. Thus, it is sufficiently mature for the development of products and services.

- **Transparency**
  SOAP 1.2 fosters the visibility and comprehensibility of administrative rules, processes, data, services and decision-making of a public administration. In addition, it helps ensuring the availability of interfaces with internal information systems of a public administration.

- **Reusability**
  SOAP 1.2 is publicly available for implementation and use for free on W3C's webpage and is a business domain agonistic specification.

- **Technological neutrality and data portability**
  SOAP 1.2 is independent from any specific technology and/or platform and is designed to foster data portability between systems and applications. Moreover, its is proportion to need of the users and fosters data portability between systems and application.

The Technical Specification partially supports the principles related to generic user needs and expectations:

- **User-centricity**
  SOAP 1.2 eases the implementation of the once-only principle by addressessing and facilitating the exchange of information within cross border services.

- **Inclusion and accessibility**
  SOAP 1.2 does not foster e-accessibility. The purpose of the specification is not related e-accessibility.

- **Security and privacy**
  SOAP 1.2 does not foster security and privacy. The purpose of the specification is not related to security and privacy.

- **Multilingualism**
  SOAP 1.2 does not foster the delivery of multilingual European public services. The purpose of the specification is not related multilingualism.

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

- **Administrative Simplification**
  By addressessing and facilitating the exchange of information within cross border services, SOAP 1.2 contributes to the reduction of administrative burden.

- **Preservation of information**

SOAP 1.2 does not foster the long-term preservation of electronic records and other kinds of information. The purpose of the specification is not related the preservation of information.

- **Assessment of effectiveness and efficiency**
  There are several studies assessing SOAP 1.2 performance and features in terms of efficiency and efficacy. As REST and SOAP-based web services are living together nowadays, one of the topics is the performance comparison. Moreover, the comparison between different SOAP toolkits is an exploited topic.

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

- **Interoperability governance**
  SOAP 1.2 is associated to an EIRA ABB in the European Library Of Specifications (ELIS). More specifically, SOAP 1.2 can define the interoperability aspects of the "Machine to Machine Interface", "Data Exchange Component" and, "Data Exchange Service" ABBs from the EIRA Technical Infrastructure view. In addition, W3C provides a Markup Validation Service for free to validate SOAP 1.2 implementations.

  To continue with, 8 Member States are recommending JSON in their ICT National Catalogues, and in has been included within several European cross-border initiatives as can be read in the European Interoperability Architecture (EIA) called Common Vision for an EIA.

  However, the specification is not included per se in any supra-national catalogue. Despite this, SOAP 1.2 is part of the Electronic Signatures and Infrastructures (ESI); Rationalized framework of Standards for Electronic Registered Delivery Services Applying Electronic Signatures, which is an ETSI Special Report.

- **Integrated public service governance & Legal interoperability**
  The SOAP 1.2 is included in the European Interoperability Architecture (EIA) study explores the need for a European interoperability architecture which facilitates the establishment of European public services.

However, after checking the assessments performed by CAMSS and the list of specifications identified by the MSP Multi-stakeholder-platform, no assessment verifying the compliance of the specification with the European standardisation regulation has been found.

- **Organisational interoperability**
  SOAP 1.2 is not a business process modelling standard or specification and does not define organisational interoperability aspects. The purpose of the specification is not related to organisational Interoperability.

- **Semantic interoperability**
  SOAP 1.2 defines a cross-sector reusable data model. It represents application-defined data structures and values as a directed edge-labeled graph of nodes. In addition, SOAP 1.2 serialisation provides several advantages, especially if the Semantic Web is not just about providing meta data for existing web pages, but also about exchange of content that is machine-readable.

- **Technical interoperability**
  SOAP 1.2 is an open specification that is widely used for the exchange of data.

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for Simple Object Access Protocol (SOAP). 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	CAMSS Strength	Favourable	Unfavourable	Not Applicable
Principle setting the context for EU actions on interoperability	100%	100%	1	0	0
Core Interoperability principles	100%	100%	16	0	0
Principles related to generic user needs and expectations	100%	25%	1	0	3
Foundation principles for cooperation among public administrations	50%	67%	1	1	1
Interoperability layers	90%	91%	18*	2	2
Overall Score	**90%**	**84%**	**28**	**3**	**6**

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

With a 84% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 90% demonstrates that SOAP 1.2 highly supports the European Interoperability Framework in the domains where it applies.
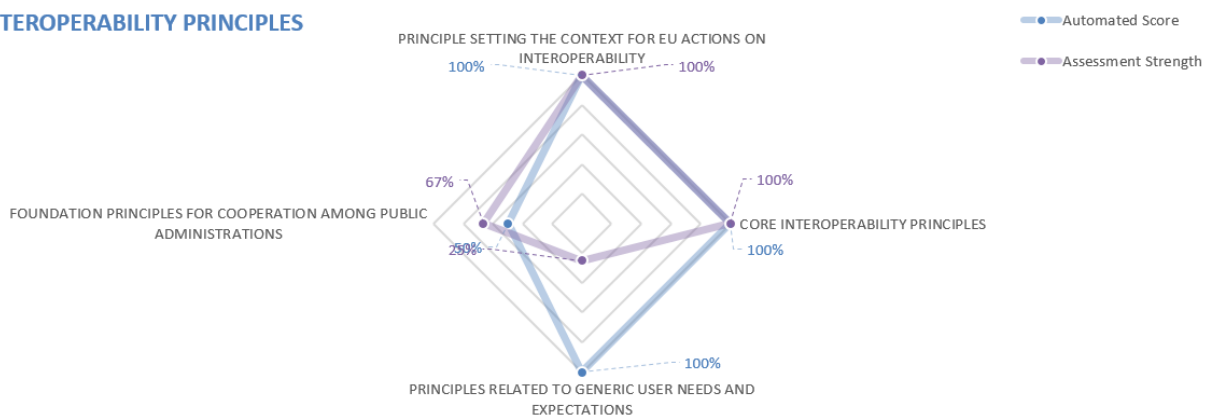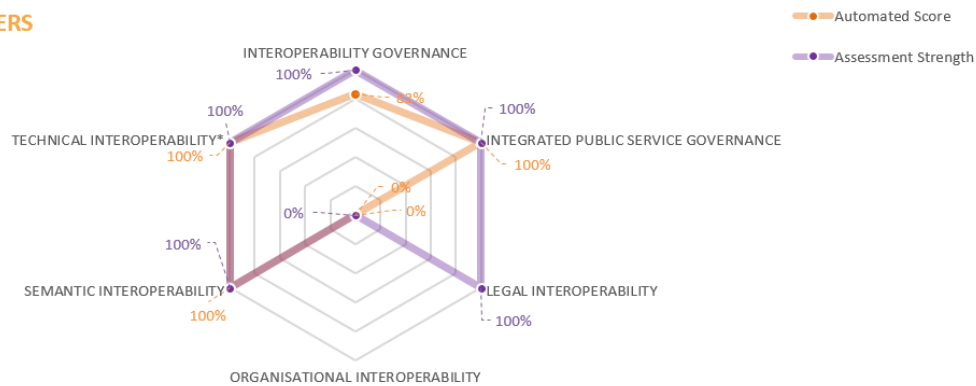

Figure 1 Assessment Results - Interoperability Principles

Figure 2 Assessment Results - Interoperability Layers