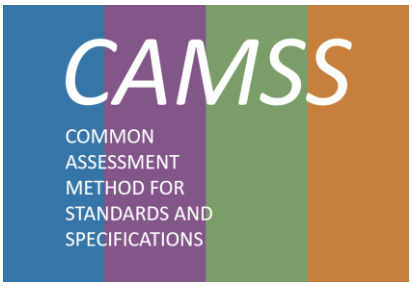

ASSESSMENT SUMMARY

Resource Description Framework 1.1 (RDF 1.1)

World Wide Web Consortium (W3C)

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1. INTRODUCTION

The present document is a summary of the assessment of RDF 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

Resource Description Framework 1.1 (RDF 1.1)[2] is a framework for expressing information about resources maintained by the **World Wide Web Consortium (W3C)[3]**. It defines a data model for structure data and make it machine-readable with the purpose of enhancing interoperability.

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**
  RDF is included in 4 national catalogues of recommended specifications. They belong to the Netherlands, Slovenia, 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)[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**
  RDF is an open specification publicly available for study or use. In W3C, all the stakeholders have the opportunity to contribute to the development of RDF and the decision making process includes a public review.

- **Transparency**
  RDF fosters the availability of administration's data and services by easing the common representation of information (sources). The specification fosters the publication of

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

[2] https://www.w3.org/TR/rdf11-primer/

[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

administration's data as open data making it available for stakeholders' consumption. Despite this, RDF does not help the availability of interfaces with internal information.

- **Reusability**
  RDF has been made available for its reuse by the by W3C and is a sector agnostic specification.

- **Technological neutrality and data portability**
  RDF is built around XML and URL (URI) but as they are well-known specifications and widely adopted RDF can be considered as technologically neutral. Moreover, RDF fosters interoperability between systems easing data portability.

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

- **User-centricity**
  Helping to administrations' data reuse across borders RDF fosters the implementation of the once-only principle.

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

- **Security and privacy**
  By providing a common framework to express information that can be exchanged between different applications without losing information, RDF helps to ensure trustworthy data exchange.

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

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

- **Administrative Simplification**
  Although the main purpose of the specifications is not the preservation of information it can be used in the context of eArchiving. An example of this aim is DCAT and DCAT-AP, data catalogues vocabularies built around RDF and which are used with the purpose of describing datasets included in data catalogues. The enrichment by means of metadata according to RDF schema could help to the long term preservation of digital documents.

- **Preservation of information**

Even though the purpose of RDF is not related to long term preservation, there is an existing way to store RDF known as RDF store. This method contains RDF data but does not acts as a long preservation asset.

- **Assessment of effectiveness and efficiency**
  There are already existing studies assessing different RDF features[6].

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

- **Interoperability governance**
  Several Member States are recommending RDF in their ICT National Catalogues. Additionally, RDF is already associated with the European Interoperability Reference Architecture (EIRA) ABBs in the European Library of Specifications (ELIS). Specifically, RDF can define the interoperability aspects of the "Dara model" and "Representation" ABBs from EIRA's Semantic View.
  In the

- **Integrated public service governance & Legal interoperability**
  After being evaluated compliant with the regulation on standardisation 1025/2012, XML 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 RDF and its identification is considered an interoperability agreement.

- **Organisational interoperability**
  The purpose of the specification is not related to organisational Interoperability. RDF does not define organization interoperability aspects nor is a business process modelling standard or specification.

- **Semantic interoperability**
  RDF defines a data model that can be reused in a cross-sector scope.

[6] https://www.sciencedirect.com/science/article/pii/S1045926X1730246X ; https://www.researchgate.net/publication/221466941_Effective_and_Efficient_Entity_Search_in_RDF_Data

- **Technical interoperability**
  RDF is an open specification that is widely used as a data model to describe resources enhancing the interoperability and as well to publish Linked Open Data.

3. *ASSESSMENT RESULTS*

This section presents an overview of the results of the CAMSS assessments for RDF (RDF). 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".

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

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	94%	100%	15	1	0
Principles related to generic user needs and expectations	100%	50%	2	0	2
Foundation principles for cooperation among public administrations	100%	100%	3	0	1
Interoperability layers	100%	91%	20*	0	2
Overall Score	**97%**	**89%**	**32**	**1**	**4**

With 89% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 97% demonstrates that RDF highly supports the European Interoperability Framework in the domains where it applies.

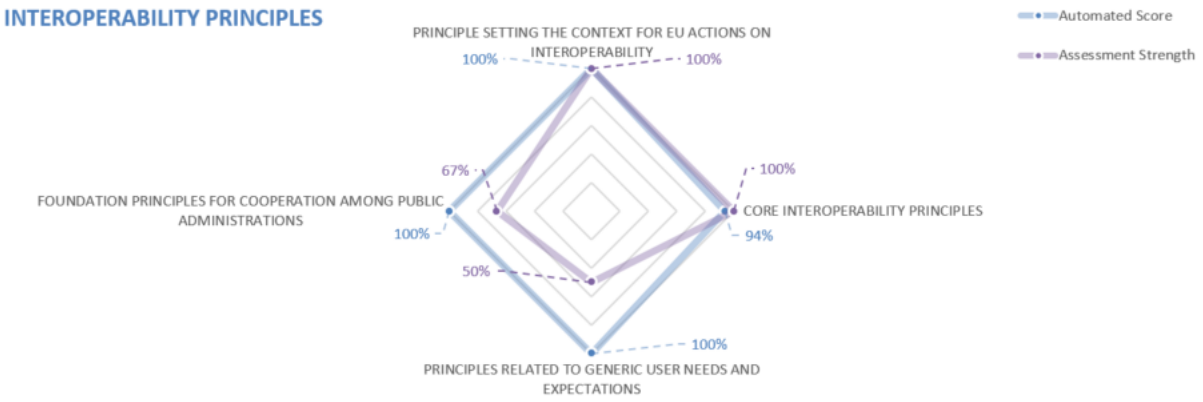

Figure 1 Assessment Results - Interoperability Principles

Figure 2 Assessment Results - Interoperability Layers