ASSESSMENT SUMMARY v1.0.0

LegalRuleML[1]

Semantic Interoperability Community (SEMIC)[2]

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[1] https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/solution/core-public-service-vocabulary/about

[2] https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/about

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 **LegalRuleML** 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 OASIS **LegalRuleML** "defines a rule interchange language for the legal domain. The work enables modeling and reasoning that allows implementers to structure, evaluate, and compare legal arguments constructed using the rule representation tools provided."[4]The specification is based on the Akoma Ntoso-UN project.

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

- **Subsidiarity and proportionality**
  There is no Member State that includes LegalRuleML in their national catalogue 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) factsheets.

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

- **Openness**
  OASIS has defined a clear Technical Committee (hereby TC) process where all the stakeholders involved have the opportunity to participate in the development of the specification development process. Moreover, OASIS has defined a clear Technical Committee (hereby TC) process where all the stakeholders involved have the opportunity to participate in the development of the specification development process and available for everyone to study, in the OASIS developer community. In addition, there is a public review in the TC process and operates under the Royalty Free on Limited Terms IPR mode as defined in the OASIS Intellectual Property Rights (IPR) Policy. Finally, LegalRuleML has been selected in several European projects for its implementation and help to its evolution. And Several implementations and studies are assessing the usefulness and exploring how the usage of the specification can enhance the legal domain. This fact contributes to the market extension of the specification. The main example is LEOS a software for drafting legal resources. Also MIREL, an H2020 project "MIning and REasoning with Legal texts".

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

[4] https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=legalruleml

- **Transparency**

  The LegalRuleML works to advance worldwide best practices for the use of XML within a Parliaments', Assembly's or Congress' document management processes, within courts' and tribunals' judgment management systems, and generally in legal documents including contracts. The specification ,as can be domonstrated for its implementation in LEOS project and pilot, can ease and foster the visibility of data, administrative rules and ease the decision making process of public administrations.

  The objective of the LegalRuleML TC is to extend RuleML with formal features specific to legal norms, guidelines, policies and reasoning; that is, the TC defines a standard (expressed with XML-schema and Relax NG) that is able to represent the particularities of the legal normative rules with a rich, articulated, and meaningful markup language. Moreover, by providing a common model that can close the gap between natural language, text descriptiona and semantic normatives the specification fosters the visibility and provision of legal resources and their interchange between systems. Finally, the capability of the specification to structure the information and model it according to common requirements allow the representation of information, including the fact of fostering the availability of internal interfaces.

- **Reusability**

  LegalRuleML is XML based, however, it is not dependent on any other technology or platform, so it can be implemented independently from specific technologies or platforms. Moreover, one of the main purposes of the specification and the OASIS TC in charge of its development is to be extensible. In addition, the specification aims to propose a set of requirements that allow the modelling of legal resources and their exchange. This can help users to provide their specific semantic rules or adapt the xml representation to specific needs following the specification requirements. Therefore, it can be applied or implemented without sacrificing interoperability with other systems.

  Finally, it can be said that the specification fosters data portability between systems and applications. This is due to the allowing of the specification allowing the exchange of legal resources under a common framework for its description and modelling.

- **Technological neutrality and data portability**

  The LegalRuleML can be related also to contracts with legal bindings or relevance for the administration and regulatory boards. The specification can allow public administrations to define XML schemas for the reuse of information across borders including reference to contracts or other legal documents without requiring the submission or provision more than once. Moreover, one of the main purposes of the specification and the OASIS TC in charge of its development is to be extensible, that is to allow modifications to the models within the AKOMA NTOSO framework so that local customisation can be achieved without sacrificing interoperability with other systems.

*The specification partially supports the principles related to generic user needs and expectations***:**

- **User-centricity**

The specification can allow public administrations to define XML schemas with semantic bindings for the reuse of information across borders including reference to contracts or other legal documents without requiring the submission or provision more than once.

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

- **Security and privacy**
  LegalRuleML extends RuleML and provides a framework that can help to reduce the gap between semantics, natural language and text description. In this sense, the specification can help to create and model constitutive rules, technical rules, and prescriptive rules enhancing the data exchange of legal resources such as documents defining property aspects, contracts and others. Providing a common framework for this purpose fosters the trustworthy data exchange between administration and stakeholders.

- **Multilingualism**
  The LegalRuleML is XML base, which allow the estructuration of legal documents data and its exchange between systems. This can also be used for instance, to translate the content to other languages in the European Union. Then the colaboration between Member States can be improved ussing method for the elignment of legal frameworks.

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

- **Administrative Simplification**
  LegalRuleML extends RuleML with formal features specific to legal norms, guidelines, policies and reasoning. The specification is also able to represent the particularities of the legal normative rules with a rich, articulated, and meaningful markup language. An example of this is the LEOS software, a tool for drafting legal documents at European Level.
  Moreover, its structured format and capabilities can help administrations at European Level to transpose legal documents into national law and vice versa easily. This fact is a key aspect to reduce the administrative burden.

- **Preservation of information**
  The purpose of LegalRuleML is not related to long-term preservation of electronic records and other kinds of information.. Therefore, this criterion is not applicable to this specification.

- **Assessment of effectiveness and efficiency**
  There are different documentation and studies related to the use of LegalRuleML. An example is "Evaluating LegalDocML and LegalRuleML as a Standard for Sharing Normative Information in the AEC/FM Domain analyses the LegalRuleML specification".

Moreover, articles referencing the usage of LegalRuleML for automated compliance checking and enabling reasoning using the specification.

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

- **Interoperability governance**
  One the one hand, at the moment of performing the assessment, the specification is not mapped with any EIRA ABBs and therefore is not included in the ELIS v1.0.1. However, it has been associated with Legal ABBs from EIRA Legal View and is being included in the on-gong version of the ELIS that will be released in May 2021. The ABBs included are: Legal Act, Binding Instrument, Legislation On Data Information and Knowledge Exchange and Non-Binding Instrument. In addition, the specification has been selected within the scope of LEOS project to develop the LEOS software, which aims to ease the drafting and edition of legal documents. Finally, LegalRuleML has been listed within the EUOS project, that provides a list of ICT specifications and standards according to the ICT Rolling plan.
  On the other hand, after carrying out an exhaustive search concerning LegalRuleML validation, conformance and certification, no tool has been found available for free for these purposes. Moreover, there are no Member States recommending LegalRuleML in their ICT National Catalogues.

- **Integrated public service governance & Legal Interoperability**
  LegalRuleML has been included within the European Commission's Rolling Plan for ICT Standarisation and in the related standardisation activities of the same report. Moreover, it was introduces as part of the ISA2 work programme back in 2016 as part of the LEOS project activity to investigate and work towards its implementation.
  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**
  The objective of the LegalRuleML TC is to extend RuleML with formal features specific to legal norms, guidelines, policies and reasoning; that is, the TC defines a standard (expressed with XML-schema and Relax NG) that is able to represent the particularities of the legal normative rules with a rich, articulated, and meaningful markup language. It can be concluded that the specification fosters defining organisational interoperability aspects.

However, the purpose of LegalRuleML is not related to the modelling of business processes.

- **Semantic Interoperability**

  LegalRuleML is aimed to define a common data and metadata model towards the maximisation of information reuse. It provides a set of requirements and aspects that foster modelling data supporting data exchange and semantics. In addition, the purpose of LegalRuleML aims also to support the semantic perspective of data by providing a core specification for modelling legal documents based on requirements of the business domain. It can be part of the Linked Open Date environment not only supporting the data structuring for raw data but also but also of rules in conjunction with their functionality and usage. Without rules or axioms, legal concepts constitute just a taxonomy.

- **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 **LeglDocML**. 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	0%	100%	0	1	0
Core interoperability principles	100%	100%	19	0	0
Principles related to generic user needs and expectations	100%	75%	3	0	1
Foundation principles for cooperation among public administrations	100%	67%	2	0	1
Interoperability layers*	68%	86%	13	6	3
Overall Score	81%	95%	17	4	1

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

With a 92% of assessment strength, this assessment can be considered widely representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 86% demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.
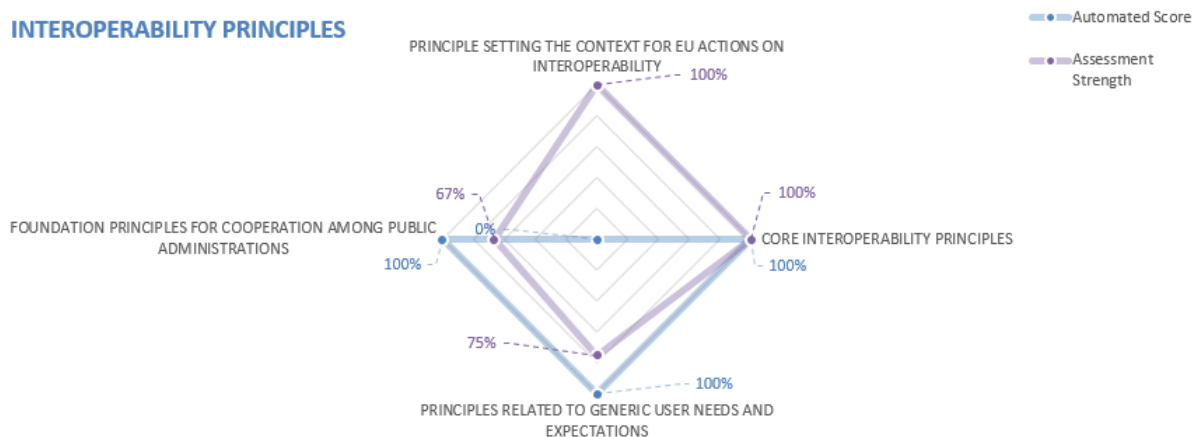

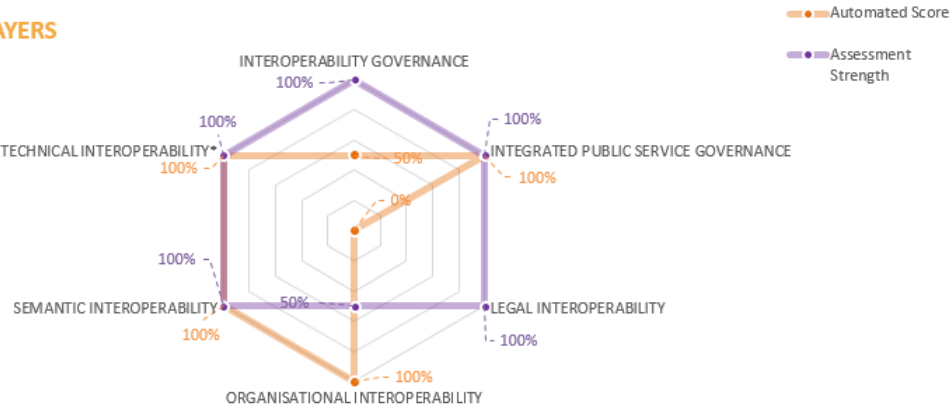**Figure 1. Interoperability principles Results**

INTEROPERABILITY LAYERS

Figure 2. Interoperability layers Results