



ASSESSMENT SUMMARY v1.0.0

HTTP State Management Mechanism (HTTP Cookies)¹

Internet Engineering Task Force (IETF)²

¹ RFC 6265 - HTTP State Management Mechanism (ietf.org)

² IETF | Internet Engineering Task Force

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 HTTP State Management Mechanism (HTTP Cookies) carried out by CAMSS using the CAMSS Assessment EIF scenario³. The purpose of this scenario is assessing the compliance of a standard or specification with the European Interoperability Framework (EIF)⁴.

2. Assessment Summary

HTTP cookies (also called web cookies, Internet cookies, browser cookies, or simply cookies) are small blocks of data created by a web server while a user is browsing a website and placed on the user's computer or other device by the user's web browser.

They enable web servers to store stateful information (such as items added in the shopping cart in an online store) on the user's device or to track the user's browsing activity (including clicking particular buttons, logging in, or recording which pages were visited in the past). They can also be used to save for subsequent use information that the user previously entered into form fields, such as names, addresses, passwords, and payment card numbers.

The specification has been developed by the Internet Engineering Task Force (IETF), an open standards organization, which develops and promotes voluntary Internet standards, in particular the technical standards that comprise the Internet protocol suite (TCP/IP).

2.1. EIF 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 does not support the principles setting context for EU actions on interoperability:

- Subsidiarity and proportionality

There is no Member State that includes HTTP Cookies in their national catalogue with The National Interoperability Framework (NIF) in alignment with the three categories 1. Conceptual model for integrated public services provision, 2. interoperability layers, and 3. interoperability principles.

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

- Openness

HTTP cookies is the most widely used standard protocol serving essential functions on the web such as storing stateful information on the user's device or tracking the user's browsing activity.

³ <u>https://ec.europa.eu/eusurvey/runner/EIFScenario_v500</u>

⁴ <u>https://ec.europa.eu/isa2/eif_en</u>

The development process is carried out by IETF⁵ to make it accessible to the different stakeholders and it also includes a public review. Moreover, IETF is the developer community that maintains this specification. External developer communities can contribute to the improvement of the specification, thus, ensuring the transparency of the development process.

It is interesting to remark that HTTP Cookies has support from interest groups that are involved in the development of cross-border initiatives. In terms of availability, HTTP Cookies is publicly available for free at IETF's webpage⁶ and Joinup⁷. It is licensed under the royalty-free basis for its implementation or study.

- Transparency

HTTP Cookies is the most widely used specification to track and store data on the webpage. One of its main functionalities is to remember user's information to provide better operational websites. It is worth to note that, for user's privacy concerns, HTTP Cookies use is regulated by European legislation such as the The General Data Privacy Regulation (GDPR) and the ePrivacy Directive.

- Reusability

HTTP Cookies is a specification that can be adapted to any domain, moreover, it allows the reusability of data as long as it complies with the privacy regulations, and the user accepts the terms of use.

- Technological neutrality and data portability

Although HTTP Cookies relies on the HTTP communication protocols it can be implemented partially and allows for customisation or extensions depending on the developer's needs. Moreover, data portability is explicitly addressed when it comes to the storage of stateful information, thus having a positive impact in interoperability.

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

- User-centricity

The specification is focused on the tracking of user's behaviour on the web. The stateful nature of HTTP Cookies makes it a tool to store and reuse client's information and data, therefore providing a way to comply with the once-only principle.

- Inclusion and accessibility

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

Security and privacy

⁵ IETF | Standards process

⁶ <u>RFC 6265 - HTTP State Management Mechanism (ietf.org)</u>

⁷ <u>https://joinup.ec.europa.eu/solution/asset-description-metadata-schema-adms/about</u>

Although many issues have been raised regarding the secure use and privacy of data by HTTP Cookies, there are specific provisions that address these concerns, such as the "SameSite" attribute, which ensures that the authentication cookie is not sent with cross-site requests.

- Multilingualism

The purpose of HTTP Cookies is not related to the delivery of multilingual European Public Services. Therefore, this criterion is considered not applicable to this specification.

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

- Administrative Simplification

HTTP Cookies is a tool that can help to simplify the delivery of European public services and delivery channels, as it can remember user's information (such as names, addresses and passwords), and it also allows for the gathering of anonymised data to analyse user behaviour.

- Preservation of information

Preservation of information by HTTP Cookies is addressed in a limited manner, as the data and information that Cookies gather have always an expiry date. Nonetheless, there is a way to define the lifetime of a Cookie, preserving the information for the chosen period of time.

- Assessment of effectiveness and efficiency

After searching whether there exist studies or documentation assessing the efficiency and effectiveness, any study or documentation has been found assessing HTTP Cookies in terms of effectiveness and efficiency.

2.2. EIF 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

The HTTP Cookies can be found in the EIRA Library of Interoperability Specifications (ELIS), more specifically mapped to the Human Interface ABB in the Technical Application view. Nonetheless, no evidence has been found of the specification being recommended neither on national nor on supranational level. In terms of implementation conformity, any tool or platform has been found for the testing of implementations, but there are some companies that assess HTTP Cookies conformity against European Union legislation.

- Legal Interoperability

After checking the different standard catalogues at supra-national level, there is no mention of HTTP Cookies in any official document stating its conformance in regard to Regulation 1025/2012.

- Organisational interoperability

The purpose of HTTP Cookies is not related to defining organisational interoperability aspects.

- Semantic Interoperability

There are many online communities dedicated to discussing and sharing of data and results about HTTP Cookies implementations in national platforms, however, at a European level, no communities or platforms have been found to carry out such activities.

3. Assessment Results

This section presents an overview of the results of the CAMSS assessments for **HTTP Cookies**. 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	Compliance Level
Principle setting the context for EU actions on interoperability	20/100	100%	Ad-hoc
Core interoperability principles	1780/2100	95,2% (20/21)	Seamless
Principles related to generic user needs and expectations	500/500	60%(3/5)	Seamless
Foundation principles for cooperation among public administrations	300/500	100%(5/5)	Essential
Interoperability layers*	740/1100	72,7%(8/11)	Sustainable
Overall Score	3340/4300	86%	

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

With an 86% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 77,67% (3340/4300) demonstrates that the specification fully supports the European Interoperability Framework in the domains where it applies.