CAMSS Assessment EIF Scenario v6.0.0

Fields marked with * are mandatory.

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INTRODUCTION

EIF Scenario

The European Interoperability Framework (EIF) provides guidance to public administrations on how to improve governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and ensure that existing and new legislation do not compromise interoperability efforts.

This CAMSS Scenario allows to assess the compliance of **interoperability specifications** with the EIF. The objective of the obtained assessment is to determine the suitability of the assessed interoperability specification for the delivery of interoperable European public services.

Background

[CAMSS](#) is the European guide for assessing and selecting standards and specifications for an eGovernment project, a reference when building an architecture, and an enabler for justifying the choice of standards and specifications in terms of interoperability needs and requirements. It is fully aligned with the European Standardisation Regulation 1025/2012.

The main objective of CAMSS is achieving interoperability and avoiding vendor lock-in by establishing a neutral and unbiased method for the assessment of technical specifications and standards in the field of ICT. This method will be compliant with Regulation 1025/2012 on European Standardisation.

While ICT solutions have specific characteristics at the political, legal, and organisational levels; semantic and technical interoperability are based mostly on technical specifications or standards. Within the context of the elaboration of their National Interoperability Frameworks, Member States organise the assessment of technical specifications or standards, in order to establish their national recommendations. Deciding on the recommended technical specifications or standards often calls for a resource-intensive and time-consuming assessment. In order to tackle this, the [Digital Europe Programme](#) (DEP) defines an action focused on the development of a common assessment method for standards and specifications (CAMSS).

The purpose of CAMSS is:

- to ensure that assessments of technical ICT specifications or standards and interoperability profiles are performed according to high and consistent standards;
- to ensure that assessments will contribute significantly to the confidence in the interoperability of systems implementing these specifications and profiles;
- to enable the reuse, in whole or in part, of such assessments;
- to continuously improve the efficiency and effectiveness of the assessment process for ICT technical specifications, standards, and interoperability profiles.

The expected benefits of the CAMSS are:

- Ensuring greater transparency throughout the selection of standards in the context of ICT strategies, architectures, and interoperability frameworks. This will be achieved through the establishment of a commonly agreed assessment method, assessment process, and a list of assessment attributes.

- Reducing resource and time requirements and avoiding duplication of efforts. (Partial) sharing of finalised assessments of standards and specifications.

- Allowing easier and faster assessments, and reusing the ones already performed through the creation and maintenance of a library of standards.

Your compliance level of the specification assessed depends on the scores you achieved in each section of the survey. Please see below the survey score conversion table below for guidance.

Section	Ad-hoc	Opportunistic	Compliance Level Essential	Sustainable	Seamless
Principles setting the context for EU Actions on Interoperability	20	40	60	80	100
EIF Core Interoperability Principles	0 to 340	341 to 680	681 to 1020	1021 to 1360	1361 to 1700
EIF Principles Related to generic user needs and expectations	0 to 240	241 to 480	481 to 720	721 to 960	961 to 1200

EIF Foundation principles for cooperation among public administrations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500
EIF Interoperability Layers	0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000

The following table shows the 'compliance levels' that a specification can reach depending on the assessment score.

Compliance Level	Description
Ad-hoc	Poor level of conformance with the EIF - The specification does not cover the requirements and recommendations set out by the EIF in this area.
Opportunistic	Fair level of conformance with the EIF - The specification barely covers the requirements and recommendations set out by the European Interoperability Framework in this area.
Essential	Essential level of conformance with the EIF - The specification covers the basic aspects set out in the requirements and recommendations from the European Interoperability Framework.
Sustainable	Good level of conformance with the EIF scenario - The specification covers all the requirements and recommendations set out by the European Interoperability Framework in this area.
Seamless	Leading practice of conformance level with the EIF - The specification fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.

Contact: For any general or technical questions, please send an email to DIGIT-CAMSS@ec.europa.eu. Follow all activities related to the CAMSS on our CAMSS community page.

USER CONSENT

Disclaimer:
By no means will the Interoperability Specification assessment imply any endorsement of the EC to the assessed specification. Likewise, the use of CAMSS Assessment EIF Scenario implies that the user accepts that the EC is not liable on the assessment nor on any direct or indirect consequence/decision of such assesment.

The CAMSS Assessment EIF Scenario is based on EU Survey, by accepting the CAMSS Privacy Statement the user also accepts EU Survey Privacy Statement and the Terms of use.

Please, fill in the mandatory information to start the assessment

☑ *I have read and agreed to the following CAMSS Privacy Statement: here

☐ I agree to be contacted for evaluation purposes, namely to share my feedback on specific DEP solutions and actions and on the DEP programme and the European Interoperability Framework in general.

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IDENTIFICATION

Information on the information provider

Your Last name

[   ]

Your First Name

[CAMSS Team   ]

Your Position / Role

[   ]

* Your Organisation

[European Commission DG - DIGIT   ]

Your Contact phone number

[   ]

* Would you like to be contacted for evaluation purposes in the context of your assessment? To see how your data is handled, please check again the Privacy statement here

In case you would like to be contacted, please select "yes" and provide your email.

○ Yes

◉ No

* Where did you learn about CAMSS?

○ DEP Programme (DEP website, DEP social media)

○ Joinup (e.g., CAMSS Collection, Joinup social media)

◉ European Commission

○ Public Administrations at national, regional or local level

○ Standards Developing Organizations (SDOs)

○ Other

If you answered "Other" in the previous question, please specify how:

Information on the specification

* Specification type
Specification: Set of agreed, descriptive, and normative statements about how a specification should be designed or made.
Standard: Specification that is largely adopted and possibly endorsed.
Application Profile: An application profile "customises one or more existing specifications potentially for a given use case or a policy domain adding an end to end narrative describing and ensuring the interoperability of its underlying specification(s)".
Family: A family is a collection of interrelated and/or complementary specifications, standards, or application profiles and the explanation of how they are combined, used, or both.

- ◉ Specification
- ○ Standard
- ○ Application Profile
- ○ Family of Specification

* Title of the specification

> OpenTelemetry (OTel)

* Version of the specification

> 1.33.0

* Description of the specification

> OpenTelemetry is an observability framework and toolkit designed to create and manage telemetry data such as traces, metrics, and logs. Crucially, OpenTelemetry is vendor- and tool-agnostic, meaning that it can be used with a broad variety of observability backends, including open source tools like Jaeger and Prometheus, as well as commercial offerings.

* URL from where the specification is distributed

> https://opentelemetry.netlify.app/docs/specs/otel/

* Name and website of the standard developing/setting organisation (SDO/SSO) of the specification

- ○ W3C (https://www.w3.org)
- ○ OASIS (https://www.oasis-open.org/)
- ○ IEEE (https://standards.ieee.org/)
- ○ ETSI (https://www.etsi.org/)
- ○ GS1 (https://www.gs1.fr/)
- ○ openEHR (https://www.openehr.org/)
- ○ IETF (https://www.ietf.org/)

◉ Other (SDO/SSO)

* In case of Other SDO, please, provide its name:

> Cloud Native Computing Foundation (CNCF)

* and, provide its URL:

> https://www.cncf.io/

Contact information/contact person of the SDO
a) for the organisation
b) for the specification submitted

Information on the assessment of the specification

Reason for the submission, the need and intended use for the specification.

If any other evaluation of this specification is known, e.g. by Member States or European Commission projects, provide a link to this evaluation.

Considerations

Is the functional area of application for the formal specification addressing interoperability and eGovernment?
◉ YES
◯ NO

Additional Information

> With the rise of cloud computing, microservices architectures, and increasingly complex business requirements, the need for software and infrastructure observability is greater than ever. Observability is the ability to understand the internal state of a system by examining its outputs, which is crucial for eGovernment, and OpenTelemetry satisfies the need for observability while following two key principles: Owning the data you generate and only have to learn a single set of APIs and conventions (interoperability principle).

EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

This category is related to the first underlying principle (UP) of the EIF Subsidiarity and Proportionality (UP1). The basis of this principle is to ensure that the EU Actions are taken or stated to improve national actions or decisions. Specifically, it aims to know if National Interoperability Frameworks are aligned with the EIF.

Please note that some of the questions have a prefilled answer depending on the SDO. To ensure it, please see that these questions include a help message that remarks it.

Subsidiarity and Proportionality

* **A1 - To what extent has the specification been included in a national catalogue from a Member State whose National Interoperability Framework has a high performance on interoperability according to National Interoperability Framework Observatory factsheets?**

EIF Recommendation 1: Ensure that national interoperability frameworks and interoperability strategies are aligned with the EIF and, if needed, tailor and extend them to address the national context and needs.

This criterion assesses if the specifications have been included within the National Catalogues of Specifications of the Member States that are highly aligned with the higher level of performance in terms of interoperability.

The Digital Public Administration Factsheets use three categories to evaluate the level of National Interoperability frameworks in accordance with the EIF. The three categories are 1. CONCEPTUAL MODEL FOR INTEGRATED PUBLIC SERVICES PROVISION; 2 INTEROPERABILITY LAYERS, and 3. INTEROPERABILITY PRINCIPLES. National Interoperability Frameworks reports can be found here: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digital-public-administration-factsheets-2021

- ○ Not Answered
- ○ Not Applicable
- ● The specification has not been included within the catalogue of any Member State.
- ○ The specification has been included within the catalogue of a Member State with a lower performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a middle-lower performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a middle-upper performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a higher performance than stated in the Digital Public Administration Factsheets from the NIFO.

* Justification

OTel is not included in any national catalogue of recommended specifications whose Member State NIF has a high performance on interoperability according to NIFO factsheets.

CAMSS List of Standards:
https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-list-standards

2023 NIFO factsheets:
https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digitalpublicadministration-factsheets-2023

EIF CORE INTEROPERABILITY PRINCIPLES

In this category, elements related to the core interoperability principles (UP) are encompassed, which are: openness (UP 2), transparency (UP3), reusability (UP4), technological neutrality and data portability (UP5).

Openness

* A2 - Does the specification facilitate the publication of data on the web?
EIF Recommendation 2: Publish the data you own as open data unless certain restrictions apply.

Relates to the ability of the specification to publish data as open data or not.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification does not support the publication of data on the web.
- ○ The specification supports the publication of data on the web but under a non-open license.
- ○ The specification supports the publication of data on the web with an open license, but in an unstructured format.
- ○ The specification supports publication of data on the web with an open license and in a structured, machine-readable format.
- ● In addition to the previous question, the specification does not require proprietary software for the processing of its related data.
- ○ In addition to the previous question, the specification is or incorporates open standards (e.g. W3C).

* Justification

OpenTelemetry makes it easy to publish data on the web. It is an open source, vendor-neutral observability framework that enables you to instrument, generate, collect, and export telemetry data such as traces, metrics, and logs. Although client instrumentation for the browser is considered experimental and largely unspecified, OpenTelemetry supports methods for monitoring browser applications and publishing telemetry data.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A3 - To what extent do stakeholders have the opportunity to contribute to the development of the specification?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Relates to in which measure the different stakeholders that a specification can benefit have the opportunity to participate in the working groups focused on the development of certain specifications.

- ○ Not Answered
- ○ Not Applicable
- ○ There is no information on the working group of the specification.
- ○ The working group is open to participation by any stakeholder but requires registration, fees, and membership approval.
- ○ The working group is open to participation by any stakeholder but requires fees and membership approval.
- ○ The working group is open to participation following a registration process.
- ● The working group is open to all without specific fees, registration, or other conditions.

* Justification

> Anyone can contribute to OpenTelemetry documentation, which includes improving existing content, creating new content, updating the OTel Registry and improving the code that builds the site. Before you can contribute, you will need to sign the Contributor License Agreement. To contribute, you need to be familiar with the following techs and tools: git, GitHub, Markdown (CommonMark) and YAML.
>
> OpenTelemetry Contributing: https://github.com/open-telemetry/community/blob/main/CONTRIBUTING.md

* A4 - To what extent is a public review part of the release lifecycle?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

A public review consists of the public availability of the specification's draft for stakeholders to provide inputs for the improvement and fix of possible bugs.

- ○ Not Answered
- ○ Not Applicable
- ○ Specification releases do not foresee public reviews.
- ○ Public review is applied to certain releases depending on the involved changes.
- ○ All major releases foresee a public review.
- ○ All major and minor releases foresee a public review but, during which, collected feedback is not publicly visible.
- ● All major and minor releases foresee a public review during which collected feedback is publicly visible.

* Justification

> The OpenTelemetry GitHub is where all major and minor releases foresee a public review during which collected feedback is publicly visible. The repository has two public sections dedicated to issues and pull requests, which means that any user can see the whole release lifecycle of the specification and participate in it.
>
> OpenTelemetry GitHub: https://github.com/open-telemetry/opentelemetry-collector

* A5 - To what extent do restrictions and royalties apply to the specification's use?

<u>EIF Recommendation 3:</u> Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Additionally to the EIF's recommendation that refers to open-source software it applies to a specification in itself at any interoperability level (legal, organisational, semantic, or technical)

○ Not Answered

○ Not Applicable

○ The specification has no public definition of its Intellectual Property Right (IPR) policy or licence.

○ Use of the specification is restricted and requires the payment of royalty fees.

○ Use of the specification is royalty-free but imposes an Intellectual Property Right (IPR) policy or licence that goes against Fair, Reasonable and Non-Discriminatory (F/RAND) principles.

◉ Use of the specification is royalty-free and its Intellectual Property Right (IPR) policy or licence is aligned with Fair, Reasonable and Non-Discriminatory (F/RAND) principles.

* Justification

All OpenTelemetry Specification contributions will be licensed under its Apache 2.0 License. It is a permissive license whose main conditions require preservation of copyright and license notices. Contributors provide an express grant of patent rights. Licensed works, modifications, and larger works may be distributed under different terms and without source code.

OpenTelemetry License: https://github.com/open-telemetry/opentelemetry-specification/blob/main/LICENSE

* A6 - To what extent is the specification sufficiently mature for its use in the development of digital solutions/services?

<u>EIF Recommendation 4:</u> Give preference to open specifications, taking due account of the coverage of functional needs, maturity and market support, and innovation.

Maturity related to the stability of the specification, meaning that it has been evolved enough and mechanisms for its development have been put in place (Change Management processes, monitoring, etc.)

○ Not Answered

○ Not Applicable

○ The specification has no published releases and no publicly accessible information on its development state.

○ The specification is under development without published releases.

○ The specification is under development with published preview releases.

○ The specification has published major releases but without public documentation on its supporting processes (e.g. change management and release management).

◉ The specification, in addition to having major releases available, has published documentation on its supporting processes (e.g. change management and release management).

* Justification

OpenTelemetry is currently in its 33rd version. Changes to the specification are versioned according to Semantic Versioning 2.0 and described in CHANGELOG.md. Layout changes are not versioned. Specific implementations of the specification should specify which version they implement. Changes to the change process itself are not currently versioned but may be independently versioned in the future. Furthermore, the specification has a section dedicated to past and futures milestones.

OpenTelemetry Versioning:
https://github.com/open-telemetry/opentelemetry-specification/#versioning-the-specification

OpenTelemetry Milestones: https://github.com/open-telemetry/opentelemetry-specification/milestones

*A7 - To what extent has the specification sufficient market acceptance for its use in the development of digital solutions/services?

EIF Recommendation 4: Give preference to open specifications, taking due account of the coverage of functional needs, maturity and market support, and innovation.

Relates to how the specification is supported by the market, taking as a reference whether or not the specifications are widely used or implemented. There is an exception, and it is when the specification is used to implement innovative solutions, then, the specification should not be considered as failing to meet the requirements of the criterion.

- ○ Not Answered
- ○ Not Applicable
- ○ There is no information about the specification's market uptake.
- ○ The specification has known implementations but not enough to indicate market acceptance.
- ○ The specification has widespread use indicating market acceptance.
- ○ The specification has widespread use and relevant independent reports proving its market acceptance.
- ● The specification does not have market acceptance because it is directly used to create innovative solutions.

*Justification

OpenTelemetry, also known as OTel, is a vendor-neutral open source Observability framework for instrumenting, generating, collecting, and exporting telemetry data such as traces, metrics, and logs. As an industry-standard, OpenTelemetry is supported by more than 40 observability vendors, integrated by many libraries, services, and apps, and adopted by numerous end users.

OpenTelemetry Vendors: https://opentelemetry.io/ecosystem/vendors/

OpenTelemetry Integrations: https://opentelemetry.io/ecosystem/integrations/

OpenTelemetry Adopters: https://opentelemetry.io/ecosystem/adopters/

*A8 - To what extent has the specification support from at least one community?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Related to whether or not communities exist around the specification at any level legal, organisational, semantic, or technical contributions to its enhancement and development.

- ○ Not Answered

- ○ Not Applicable
- ○ There is no community linked to the specification.
- ○ Specification support is available but as part of a closed community requiring registration and possibly fees.
- ○ There is no specific community to support the specification but there are public channels for the exchange of help and knowledge among its users.
- ○ There is a community providing public support linked to the specification but in a best-effort manner.
- ● There is a community tasked to provide public support linked to the specification and manage its maintenance.

* Justification

> Open telemetry is an open source project where anyone interested can participate and get involved in its development. There is a mailing list communicating updates, and community meetings are held regularly. Moreover, there are special interest groups (SIGs) for specific contributions to the project.
>
> OpenTelemetry Community Content: https://github.com/open-telemetry/community

Transparency

* A9 - To what extent does the specification enable the visibility of administrative procedures, rules data, and services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification hinders visibility.
- ○ The specification neither promotes nor hinders visibility.
- ○ The specification can contribute and promote the visibility of administrations, but it is not its main purpose.
- ○ The specification can enable the visibility of administrations if combined with other specifications.
- ● The specification actively promotes and supports visibility.

* Justification

> OpenTelemetry significantly enhances the visibility of administrative procedures by providing comprehensive observability tools that offer deep insights into system performance, reliability, and behavior. This visibility is crucial for maintaining efficient, compliant, and optimized administrative operations.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A10 - To what extent does the specification scope comprehensibly administrative procedures, rules data, and services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification hinders comprehensibility.
- ○ The specification neither promotes nor hinders comprehensibility.

○ The specification can contribute and promote the comprehensibility of administrations, but it is not its main purpose.

○ The specification can scope the comprehensibility of administrations if combined with other specifications.

◉ The specification actively promotes and supports comprehensibility.

* Justification

> OpenTelemetry, while primarily designed for observability, can be comprehensively scoped to provide significant insights into administrative procedures. For instance, by instrumenting each step of an administrative procedure, OpenTelemetry captures detailed information about the execution flow, including the time taken at each step and any errors encountered. Furthermore, this helps in understanding how often rules are accessed, modified, and by whom.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A11 - To what extent does the specification enable the exposure of interfaces to access the public administration's services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

Relates to ensuring availability of interfaces with internal information systems. As the EIF defines: *Public administrations operate a large number of what are often heterogeneous and disparate information systems in support of their internal processes. Interoperability depends on ensuring the availability of interfaces to these systems and the data they handle. In turn, interoperability facilitates the reuse of systems and data and enables these to be integrated into larger systems.*

○ Not Answered

○ Not Applicable

○ The specification prevents the exposure of such interfaces.

○ The specification neither promotes nor hinders the exposure of such interfaces.

○ The specification can contribute to the exposure of interfaces, but it is not its main purpose.

○ The specification can enable the exposure of interfaces if combined with other specifications.

◉ The specification enables exposure of such interfaces.

* Justification

> OpenTelemetry significantly enhances the exposure and management of interfaces as it enables detailed tracking of API performance, improves reliability and user experience, offers deep tracing and diagnostic capabilities and helps ensure compliance and security. By leveraging OpenTelemetry, public administrations can ensure their services are robust, efficient, and user-friendly, leading to better service delivery.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Reusability

* A12 - To what extent is the specification usable beyond the business-specific domain, allowing its usage across business domains?

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

Relates to the use of the specification beyond a specific business domain. E.g. a specification developed under the eHealth domain that can be used in other domains or not.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification is tied to a specific domain and is restricted from being implemented or used in other domains.
- ○ The specification is associated with a specific domain but its implementation and/or use in other domains is difficult.
- ○ The specification is associated with a specific domain but could be partially implemented and/or used in other domains.
- ○ The specification is associated with a specific domain but could be implemented and/or used 'as-is' to other domains.
- ● The specification is domain-agnostic, designed to be implemented and/or used in any domain.

* Justification

> OpenTelemetry is highly usable beyond any specific business domain due to its standardised, extensible, and flexible design. Its broad ecosystem support and applicability to various industries make it a powerful tool for achieving comprehensive observability. By enabling detailed monitoring and analysis of applications and services, OpenTelemetry facilitates improved performance, reliability, and efficiency across diverse business domains.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Technological Neutrality and Data Portability

* A13 - Is the specification technology agnostic?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Technology-neutrality relates to not being dependent on any other ("sister") specifications, and platform-neutrality, not being dependent on any specific environment, web platform, operating system.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ● YES

* Justification

> The OpenTelemetry specification is technology-agnostic, enabling it to be used across diverse technology stacks, platforms, and programming languages. Its standardised protocols, broad language support, modular architecture, and extensive integration capabilities make it a versatile and powerful tool for achieving

comprehensive observability in any environment.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A14 - Is the specification platform agnostic?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Technology-neutrality relates to not being dependent on any other ("sister") specifications, and platform-neutrality, not being dependent on any specific environment, web platform, operating system.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ◉ YES

* Justification

OpenTelemetry is platform-agnostic, capable of operating across various operating systems, cloud environments, on-premises infrastructures, and deployment models. Its standardised protocols, consistent APIs, modular architecture, and broad integration capabilities ensure that it can provide comprehensive observability for applications running on any platform.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A15 - To what extent does the specification allow for partial implementations?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Partial implementations refer to the application of specifications, not in their whole, but part of the requirements or features defined in the documentation.

It can also be understood as the implementation of different profiles, which is also related to a certain set of requirements depending on the context of implementation.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification is only meant to be used as a whole.
- ○ The specification could be partially implemented but does not make specific provisions towards this.
- ○ The specification could be partially implemented but includes only guidelines towards this rather than sets of requirements.
- ○ The specification explicitly foresees sets of requirements that can be implemented incrementally.
- ◉ The specification explicitly foresees sets of requirements that can be implemented incrementally or separately.

* Justification

OpenTelemetry's design allows for flexible, partial implementations, making it highly adaptable to varying organizational needs and constraints. Its modular architecture, pluggable exporters, incremental instrumentation capabilities, configurable sampling strategies, and interoperability with existing systems all support the ability to adopt OpenTelemetry gradually.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A16 - Does the specification allow customisation?

<u>EIF Recommendation 8:</u> Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

A clear example of customizations is Core Vocabularies, which define a set of general requirements that could fit in any context and allow for the customization to fit specific business requirements in the implementation.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ NO
- ⦿ YES

* Justification

The OpenTelemetry specification allows extensive customisation to meet the specific needs and requirements of different applications and environments. OpenTelemetry provides SDKs for multiple programming languages where each SDK is designed to be modular, allowing developers to include only the components they need. On the other hand, developers can define custom spans and add custom attributes to spans to capture specific details about their application's behavior.

OpenTelemetry - Create custom traces and metrics: https://opentelemetry.io/docs/zero-code/net/custom/

OpenTelemetry - Building custom components: https://opentelemetry.io/docs/collector/building/

* A17 - Does the specification allow extension?

<u>EIF Recommendation 8:</u> Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

A clear example of extension is Core Vocabularies, which are a set of general requirements fitting in different contexts that can complement each other in a sort of extensibility practice to fit specific business requirements in any implementation.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ NO
- ⦿ YES

* Justification

OpenTelemetry is designed to be highly extensible. This extensibility allows developers to add custom functionality, integrate with various tools and systems, and adapt the observability framework to meet specific needs. Developers can create custom spans and add attributes to capture detailed information about specific operations or transactions within their applications.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A18 - To what extent does the specification enable data portability between systems/applications supporting the implementation or evolution of European public services?

EIF Recommendation 9: Ensure data portability, namely that data is easily transferable between systems and applications supporting the implementation and evolution of European public services without unjustified restrictions, if legally possible.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support data portability.
- ○ The specification neither addresses data portability nor prevents it.
- ○ The specification addresses data portability but without specific provisions to enable it.
- ○ The specification introduces certain aspects that can contribute to enabling data portability.
- ● The specification explicitly addresses and enables data portability.

* Justification

> OpenTelemetry significantly enhances data portability between systems and applications. Its standardised data formats, interoperability, modular design, compliance features, community support, cross-platform compatibility, and dynamic observability capabilities collectively ensure that telemetry data can be easily shared, migrated, and integrated across diverse environments. In fact, one of the main functionalities regarding OTel is to export telemetry data to back-end systems and platforms like ElasticSearch or Prometheus.
>
> Metrics Exporter - Prometheus: https://opentelemetry.io/docs/specs/otel/metrics/sdk_exporters/prometheus/
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS

This category includes all underlying principles from the EIF which are related to user needs. Principles included here are user-centricity (UP6), inclusion and accessibility (UP7), security and privacy (UP8), and multilingualism (UP9).

User-Centricity

* A19 - To what extent does the specification allow relevant information to be reused when needed?

EIF Recommendation 13: As far as possible under the legislation in force, ask users of European public services once-only and relevant-only information.

The Once-Only Principle is related to making the operations or transactions between administrations and stakeholders more efficient. It implies avoiding the provision of certain data or information twice or more when this information is already available for public administrations.
First European Data Space, Once Only Technical System (OOTS):
https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Once+Only+Technical+System
Additional and relevant information can be found here: https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Once+Only+Principle

○ Not Answered

○ Not Applicable

○ Information needs to be provided whenever this is needed.

○ There is limited reuse of provided information.

○ Provided information is reused, but this is not consistently done.

○ Provided information is reused, but not in all scenarios.

● Information is provided once-only and reused as needed.

*Justification

OpenTelemetry empowers organisations to capture and reuse relevant information effectively through its standardised data collection, flexible instrumentation, interoperability features, custom processing capabilities, dynamic configuration options, and supportive community ecosystem. OTel's data model contributes to the collection of telemetry data so that they are structured in a uniform manner. In addition, context propagation helps to reuse context data as centralised data collection ensure that there are no duplicates and it is collected only once.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

OpenTelemetry Context Propagation: https://opentelemetry.io/docs/concepts/context-propagation/

Inclusion and Accessibility

*A20 - To what extent does the specification enable the e-accessibility?

EIF Recommendation 14: Ensure that all European public services are accessible to all citizens, including persons with disabilities, the elderly, and other disadvantaged groups. For digital public services, public administrations should comply with e-accessibility specifications that are widely recognised at the European or international level.

Examples of specifications addressing e-accessibility are, for instance, WAI-ARIA (https://www.w3.org/WAI/standards-guidelines/aria/) included within Web Content Accessibility Guidelines (WCAG) Overview (https://www.w3.org/WAI/standards-guidelines/wcag/).

○ Not Answered

○ Not Applicable

○ The specification prevents or does not support e-accessibility.

○ The specification neither addresses e-accessibility nor prevents it.

● The specification can contribute and promote e-accessibility, but it is not its main purpose.

○ The specification can enable e-accessibility if combined with other specifications.

○ The specification explicitly addresses and enables e-accessibility.

*Justification

While OpenTelemetry itself is not specifically designed for e-accessibility, its observability capabilities can indirectly support the development, monitoring, and improvement of accessible digital services. By providing insights into performance, errors, user behavior, compliance, and integration with accessibility tools, OpenTelemetry contributes to creating a more inclusive digital environment where individuals with disabilities can access and interact with services effectively.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Privacy

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* A21 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

Securing the right to the protection of personal data, by respecting the applicable legal framework for the large volumes of personal data of citizens, held and managed by Public administrations.

- ◯ Not Answered
- ⬤ Not Applicable
- ◯ The specification hinders the protection of personal data.
- ◯ The specification does not address the protection of personal data but neither prevents it.
- ◯ The specification includes certain data protection considerations but without being exhaustive.
- ◯ The specification explicitly addresses data protection but without referring to relevant regulations.
- ◯ The specification explicitly addresses data protection and its alignment to relevant regulations.

* Justification

> OpenTelemetry is not related to ensuring the protection of personal data managed by Public Administrations. Therefore, this criterion is considered not applicable to this specification.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A22 - Does the specification provide means for restriction of access to information/data?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The principle of confidentiality defines that only the sender and the intended recipient(s) must be able to create the content of a message. Confidentiality have compromised if an unauthorized person is able to create a message.

- ◯ Not Answered
- ⬤ Not Applicable
- ◯ The specification prevents or does not support the implementation of confidentiality mechanisms/features.
- ◯ The specification neither addresses confidentiality nor prevents it.
- ◯ The specification addresses confidentiality but without specific provisions to enable it.
- ◯ The specification introduces certain aspects that can contribute to enabling confidentiality.

○ The specification explicitly addresses and enables the implementation of features to guarantee confidentiality.

* Justification

> OpenTelemetry is not related to providing means for restriction of access to information/data. Therefore, this criterion is considered not applicable to this specification.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

*** A23 - Is the specification included in any initiative at European or National level covering privacy aspects?**

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Securing the right to the protection of personal data, by respecting the applicable legal framework for the large volumes of personal data of citizens, held and managed by Public administrations.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

For example, the ETSI (Electronic Signatures and Infrastructures) family of specifications are part of the trust establishment of the eDelivery solution, ensuring that its implementation is salient to guarantee security and privacy.

○ Not Answered
◉ Not Applicable
○ Yes, but at national or regional level.
○ Yes, at European level.

* Justification

> OpenTelemetry is not included in any initiative at European or National level covering privacy aspects. Therefore, this criterion is considered not applicable to this specification.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Security

Data processing and exchange

*** A24 - To what extent does the specification enable the secure exchange of data?**

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

This relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support the secure and trustworthy exchange of data.
- ○ The specification introduces certain aspects that can contribute to enabling the secure exchange of data.
- ● The specification addresses data security and trustworthy data exchange but does not foresee specific provisions to enable them.
- ○ The specification addresses data security and trustworthy data exchange but specific provisions to enable them are limited.
- ○ The specification explicitly addresses and enables the secure and trustworthy exchange of data.

* Justification

> While OpenTelemetry is not directly related to enabling the secure exchange of data, the OpenTelemetry Collector defaults to operating in a secure manner, even though it is configuration driven. A section of the specification is dedicated to reported Common Vulnerabilities and Exposures (CVEs) across all repositories in the OpenTelemetry organization on GitHub and how to report and respond to any security incident that impacts OTel's Community.
>
> OpenTelemetry Security: https://opentelemetry.io/docs/security/

* A25 - To what extent does the specification enable the secure processing of data?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support the secure and trustworthy processing of data.
- ○ The specification introduces certain aspects that can contribute to enabling the secure processing of data.
- ● The specification addresses data security and trustworthy data processing but does not foresee specific provisions to enable them.
- ○ The specification addresses data security and trustworthy data processing but specific provisions to enable them are limited.
- ○ The specification explicitly addresses and enables the secure and trustworthy processing of data.

* Justification

> While OpenTelemetry is not directly related to enabling the secure processing of data, OTel configuration should ensure sensitive configuration information is managed securely. Sensitive information should be stored securely such as on an encrypted filesystem or secret store. Environment variables can be used to handle sensitive and non-sensitive data as the Collector must support environment variable expansion. In addition, the Collector should be configured to obfuscate or scrub sensitive data before exporting.

Data authenticity

* A26 - To what extent the specification guarantees the authenticity and authentication of the roles agents involved in the data transactions?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Authentication defines that users are who they request to be. Availability defines that resources are available by authorized parties; "denial of service" attacks, which are the subject matter of national news, are attacks against availability. The concerns of information security professionals are access control and Nonrepudiation. Authorization defines the power that it can have over distinguishing authorized users from unauthorized users, and levels of access in-between. Authenticity defines the constant checks that it can have to run on the system to make sure sensitive places are protected and working perfectly."

- ⦿ Not Answered
- ⦿ Not Applicable
- ⦿ The specification prevents or does not support the implementation of authentication features.
- ⦿ The specification neither addresses authenticity nor prevents it.
- 🔘 The specification addresses the implementation of authenticity features but without specific provisions to enable it.
- ⦿ The specification introduces certain aspects that can contribute to enabling authenticity features.
- ⦿ The specification explicitly addresses and enables the implementation of authenticity features.

* Justification

The security section of OpenTelemetry asserts that receivers/exporters should use encrypton and authentication of their identity. They should also limit exposure of servers to authorised users and may pose a security risk if configuration parameters are modified improperly. In addition, any incoming or outgoing communication should leverage TLS and authentication.

OTel Security Best Practices: https://github.com/open-telemetry/opentelemetry-collector/blob/main/docs/security-best-practices.md

Data integrity

* A27 - To what extent information is protected against unauthorised changes?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Integrity defines that information is protected against unauthorized changes that are not perceptible to authorized users; some incidents of hacking compromise the integrity of databases and multiple resources.

- ⦿ Not Answered
- ⦿ Not Applicable

○ The specification prevents or does not support the implementation of data integrity mechanisms /features.

○ The specification neither addresses data integrity nor prevents it.

● The specification addresses data integrity but without specific provisions to enable it.

○ The specification introduces certain aspects that can contribute to enabling data integrity.

○ The specification explicitly addresses and enables the implementation of features to guarantee data integrity.

*Justification

> While OpenTelemetry is not directly related to protecting information against unauthorised changes, data integrity is addressed as permissions are mentioned. Some components may require privileged access and care should be taken before enabling these components. In fact, the Collector components may require external permissions including network access or RBAC. Finally, component developers should minimise privileged access requirements and must document what requires privileged access and why.
>
> OTel Security Best Practices: https://github.com/open-telemetry/opentelemetry-collector/blob/main/docs/security-best-practices.md

Data accuracy

*A28 - To what extent does the specification ensure and enable data processing accuracy?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The accuracy and completeness of information systems and the data supported within the systems should be an administration concern. The information which has been inappropriately changed or destroyed (by external or employees) can impact the organization. Each organization should make controls to provide that data entered into and saved in its automated files and databases are complete and accurate and provide the accuracy of disseminated data.

○ Not Answered

○ Not Applicable

○ The specification prevents or does not support the implementation of data accuracy mechanisms/features.

○ The specification neither addresses data accuracy nor prevents it.

○ The specification addresses data accuracy but without specific provisions to enable it.

○ The specification introduces certain aspects that can contribute to enabling data accuracy.

● The specification explicitly addresses and enables the implementation of features to guarantee data accuracy.

*Justification

> OpenTelemetry explicitly addresses and guarantees data accuracy through data sampling. The idea behind sampling is to control the spans sent to an observability backend, resulting in lower ingest costs. Different organisations will have their own reasons for not just why they want to sample, but also what they want to sample. Consequently, end-users can focus on interesting traces for them (e.g: frontend team may only want to see traces with specific user attributes).
>
> OTel Sampling: https://opentelemetry.io/docs/concepts/sampling/

Access Control

* A29 - To what extent does the specification provide an access control mechanism?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The principle of access control decides who must be able to access what. For example, it must be able to define that user A can view the data in a database, but cannot refresh them. User A can be allowed to create updates as well. An access-control mechanism can be installed to provide this. Access control is associated with two areas including role management and rule management. Role management applies on the user side, whereas rule management targets the resources side.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification does not provide access control mechanisms.
- ○ The specification neither addresses nor prevents access control mechanisms.
- ● The specification addresses access control mechanisms but without specific provisions to enable them.
- ○ The specification introduces certain aspects that can contribute to enabling access control mechanisms.
- ○ The specification explicitly foresees a set of requirements for the enabling of access control mechanisms.

* Justification

> While OpenTelemetry is not directly related to providing an access control mechanism, there are some provisions regarding access control mechanisms. The Collector supports running as a custom user and should not be run as a root/admin user. In fact, for the majority of use-cases, the Collector should not require privileged access to function. If for some reason access requirements are needed, component developers must document the requirements and why they are placed.
>
> OTel Security Best Practices: https://github.com/open-telemetry/opentelemetry-collector/blob/main/docs/security-best-practices.md

Multilingualism

* A30 - To what extent could the specification be used in a multilingual context?

EIF Recommendation 16: Use information systems and technical architectures that cater to multilingualism when establishing a European public service. Decide on the level of multilingualism support based on the needs of the expected users.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification cannot be used in a multilingual context.
- ○ The specification could be used in a multilingual context but has no specific provisions to facilitate this.
- ○ The specification foresees limited support for multilingualism.
- ● The specification foresees support for multilingualism but this is not complete.
- ○ The specification is designed to fully support multilingualism.

* Justification

While not a direct feature of OpenTelemetry, applications instrumented with OpenTelemetry can incorporate internationalisation (i18n) support to handle multilingual content and user interfaces effectively. OpenTelemetry can capture telemetry data related to user interactions with multilingual content, providing insights into how different language versions of an application are used.

OpenTelemetry Languages: https://opentelemetry.io/docs/languages/other/

EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS

This category includes the criteria aiming to evaluate principles related to collaboration amongst public organisations, business, and citizens. This is related to the underlying principles of administrative simplification (UP10), preservation of information (UP11), and assessment of effectiveness and efficiency (UP12).

Administrative Simplification

* A31 - Does the specification simplify the delivery of European public services?

EIF Recommendation 17: Simplify processes and use digital channels whenever appropriate for the delivery of European public services, to respond promptly and with high quality to users' requests and reduce the administrative burden on public administrations, businesses and citizens.

A positive answer would cover every specification easing digitalisation and administratice simplification by for example helping an Identification service access a Digital Portfolo with citizens information.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ◉ YES

* Justification

While the OpenTelemetry specification itself does not directly simplify the delivery of European public services, it provides essential tools and practices for enhancing the observability, reliability, and performance of digital systems underlying these services. OpenTelemetry can improve the delivery of public services as monitoring telemetry data can help improve the systems used to provide citizens with public services.

OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A32 - Does the specification enable digital service delivery channels?

EIF Recommendation 17: Simplify processes and use digital channels whenever appropriate for the delivery of European public services, to respond promptly and with high quality to users' requests and reduce the administrative burden on public administrations, businesses and citizens.

A positive answer would cover that a specification eases or provides better means of delivering public services as a good asset for digitalisation and administrative simplification. For instance, a specification directly related to API performance easing and improving the delivery of a Digital Public Service through an API.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ● YES

* Justification

> While the OpenTelemetry specification itself is not a direct enabler of digital service delivery channels, it provides essential observability and monitoring capabilities that support the reliability, performance, security, and compliance of the underlying digital systems. OpenTelemetry can ensure the effective delivery of digital services through various channels, including web applications, APIs, mobile apps, and IoT devices.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Preservation of Information

* A33 - To what extent does the specification enable the long-term preservation of data/information /knowledge (electronic records included)?

EIF Recommendation 18: Formulate a long-term preservation policy for information related to European public services and especially for information that is exchanged across borders.

Relates to the capacity of the specification to contribute to the long-term preservation of information.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support long-term preservation.
- ○ The specification neither addresses the long-term preservation nor prevents it.
- ○ The specification addresses the long-term preservation of electronic resources (information, data, etc) in a limited manner.
- ● The specification addresses long-term preservation of electronic resources (information, data, etc), but not in a complete manner.
- ○ The specification explicitly addresses and enables long-term preservation.

* Justification

> While the primary focus of OpenTelemetry is on observability and monitoring of digital systems, it indirectly supports the long-term preservation of electronic records by ensuring the integrity, reliability, accessibility, and security of the underlying infrastructure. OpenTelemetry can improve long-term preservation of electronics resources through the integration with storage backends.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Assessment of Effectiveness and Efficiency

* A34 - To what extent are there assessments of the specification's effectiveness?

EIF Recommendation 19: Evaluate the effectiveness and efficiency of different interoperability solutions and technological options considering user needs, proportionality, and balance between costs and benefits.

Related to the degree to which the specification is effective while using it. There are indirect methods to determine that the specification is effective, for instance when a solution that has an effective performance and uses the specification to deliver the expected service.

Effectiveness: *the extent to which the specifications reach the expected action according to its purpose.*

- ○ Not Answered
- ○ Not Applicable
- ○ There are no such assessments.
- ○ There are such assessments that indirectly address the specification.
- ○ There are such assessments evaluating digital solutions' effectiveness that involve the specification.
- ○ There are such assessments addressing the specification and its effectiveness together with other specifications.
- ● There are such assessments directly addressing the specification.

* Justification

> The effectiveness of OpenTelemtry is often evaluated through various means, including practical implementations and pilot projects. For instance, a 2024-paper about network insights in OpenTelemetry explores the integration of network telemetry data into OpenTelemetry, aiming to provide a holistic understanding of application performance and detect network-related issues. The resulting enhancements empower the system to offer insights into latency, network component processing time, and their correlation with requests and existing traces, which proves the effectiveness of the specification.
>
> Network insights in OpenTelemetry: https://eprints.ost.ch/id/eprint/1165/

* A35 - To what extent are there assessments of the specification's efficiency?

EIF Recommendation 19: Evaluate the effectiveness and efficiency of different interoperability solutions and technological options considering user needs, proportionality, and balance between costs and benefits.

Related to the good use of time and resources not wasted unnecessarily by a specification being used. There are indirect methods to determine that the specification is efficient, for instance, a solution delivering a service with an efficient performance that uses the specification.

Efficiency: times and means needed to achieve the results using the specification.

- ○ Not Answered
- ○ Not Applicable
- ○ There are no such assessments.
- ○ There are such assessments that indirectly address the specification.
- ○ There are assessments evaluating digital solutions' efficiency that involve the specification.
- ○ There are such assessments addressing the specification and its efficiency together with other specifications.
- ● There are such assessments directly addressing the specification.

* Justification

Assessments of the efficiency of OpenTelemetry primarily involves evaluating the performance, scalability, and practicality of implementations. A 2024-paper about the development of an OpenTelemetry extension for call graphs. Acall graph is an important feature in the application performance monitoring (APM) domain that helps users diagnose issues within their production applications. The techniques described in the study provide for extending OpenTelemetry agents to automatically collect data required for call graph creation, which highlights the efficiency of the specification.

OpenTelemetry Extension for Supporting Call Graphs: https://www.tdcommons.org/dpubs_series/6992/

EIF INTEROPERABILITY LAYERS

This category is aligned with the related interoperability models described in the EIF and apply to all the public services. It includes six layers: interoperability governance, integrated public service governance, legal interoperability, organisational interoperability, semantic interoperability, and technical interoperability covered by criteria A2 to A10 under the Openness category.

Interoperability Governance

* A36 - Is the (or could it be) specification mapped to the European Interoperability Architecture (EIRA)?

EIF Recommendation 20: Ensure holistic governance of interoperability activities across administrative levels and sectors.

The EIRA defines the required capabilities for promoting interoperability as a set of Architecture Building Blocks (ABBs). The association of specification to these ABBs means the capacity to enable Legal, Organisational, Semantic, or Technical aspects needed for the development of interoperable public services. This association can be taken from ELIS the EIRA Library of Interoperability Specifications (ELIS) but also can be established ad-hoc.

- ◯ Not Answered
- ◯ Not Applicable
- ◯ NO
- ◉ YES

* Justification

> OpenTelemetry is associated with EIRA ABB's in the EIRA Library of Interoperability Specifications (ELIS). More specifically, it is associated with the "Artificial Intelligence" and "Audit" ABBs from the "Technical-Application" View and the "Analytics" and "Telemetry" ABBs from the "Technical-Infrastructure" View of the current European Library Of Specifications (ELIS).
>
> EIRA Library of Interoperability Specifications (ELIS): https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss /solution/elis

* A37 - To what extent can the conformance of the specification's implementations be assessed?

EIF Recommendation 21: Put in place processes to select relevant standards and specifications, evaluate them, monitor their implementation, check compliance and test their interoperability.

Relates to the implementation of the specification being conformant with the requirements established in the text of the specification. There are different methods to ensure the conformance of an implementation: check manually if the implementation meets the requirements in the specification text (if any), use additional methods or resources provided to this purpose or use specific tools provided by the SDO developing the specification.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ The specification does not include a definition of conformance.
- ⊙ The specification defines conformance but not as a set of measurable requirements.
- ⊙ The specification defines conformance as requirements that can be measured manually.
- ⊙ The specification defines conformance as requirements with resources to enable automated measurement.
- ⦿ The specification is complemented by a conformance testing platform to allow testing of implementations.

* Justification

> The conformance of OpenTelemetry implementations can be assessed through various means to ensure compliance with the specification and interoperability with other components in the OpenTelemetry ecosystem. For instance, some supported languages such as Erlang/Elixir have a testing section where it is specified how to validate spans and attributes.
>
> OTel Erlang/Elixir Testing: https://opentelemetry.io/docs/languages/erlang/testing/

* A38 - Is the specification recommended by a European Member State?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

Recommended specifications are these specifications that the Member States provide as examples for the implementation of certain digital public services or for being used when procuring these digital public services or solutions.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ NO
- ⦿ YES

* Justification

> OpenTelemetry is included in the Spanish National Institute of Cybersecurity (INCIBE). OpenTelemetry-Go Contrib is a collection of third-party packages for OpenTelemetry-Go. Prior to version 0.46.0, the grpc Unary Server Interceptor out of the box adds labels `net.peer.sock.addr` and `net.peer.sock.port` that have unbound cardinality. It leads to the server's potential memory exhaustion when many malicious requests are sent. An attacker can easily flood the peer address and port for requests. Version 0.46.0 contains a fix for this issue.
>
> INCIBE-CERT Vulnerabilities: https://www.incibe.es/en/incibe-cert/early-warning/vulnerabilities/cve-2023-47108

* A39 - Is the specification selected for its use in a European Cross-border project/initiative?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

The European Commission set up a process for the identification and assessment of specifications for its use in the development of IT solutions and also when procuring them. Find here the commission implementing decisions that include the specifications identified by the European Commission: https://ec.europa.eu/growth/single-market/european-standards/ict-standardisation/ict-technical-specifications_en

Additionally, there could be other situations where a specification can be selected for European projects or initiatives out of the scope of the above-mentioned context. These specifications can be considered positively in this assessment.

- ○ Not Answered
- ◉ Not Applicable
- ○ NO
- ○ YES

* Justification

> Currently OpenTelemetry has not been selected for its use in any European Cross-border project/initiative yet.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A40 - Is the specification included in an open repository/catalogue of standards at national level?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

- ○ Not Answered
- ○ Not Applicable
- ◉ NO
- ○ YES

* Justification

> There are no Member States recommending OpenTelemetry in their ICT National Catalogues.
>
> CAMSS List of Standards:
> https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-list-standards

* A41 - Is the specification included in an open repository/catalogue of standards at European level?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

- ○ Not Answered
- ○ Not Applicable
- ◉ NO

○ YES

* Justification

> Currently there are no European open repository/catalogue of standards that include OpenTelemetry.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Legal Interoperability

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* A42 - Is the specification a European Standard?

EIF Recommendation 27: Ensure that legislation is screened by means of 'interoperability checks', to identify any barriers to interoperability. When drafting legislation to establish a European public service, seek to make it consistent with relevant legislation, perform a 'digital check', and consider data protection requirements.

European Standards are those standards developed by certain organisations dedicated to this purpose. CEN, CENELEC, and ETSI are the principal organisations and all of them are developing their standards under the basis of meeting the requirements established within the European Standardisation Regulation. CEN-CENELEC homepage: https://www.cencenelec.eu/

○ Not Answered
○ Not Applicable
● NO
○ YES

* Justification

> OpenTelemetry is developed by the Cloud Native Computing Foundation (CNCF), an organisation based in the US that hosts and promotes open source projects for cloud native computing. Moreover, OTel does not appear in any of the main European standard development bodies, therefore, the specification is not a European standard.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Organisational Interoperability

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* A43 - Does the specification facilitate the modelling of business processes?

EIF Recommendation 28: Document your business processes using commonly accepted modelling techniques and agree on how these processes should be aligned to deliver a European public service.

○ Not Answered
● Not Applicable
○ NO
○ YES

* Justification

> The OpenTelemetry specification is primarily designed for observability, focusing on the collection and analysis of telemetry data such as traces, metrics, and logs from software systems. Modelling business processes typically involves higher-level concepts and frameworks that go beyond the scope of network protocols like OTel.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

* A44 - To what extent does the specification facilitate organisational interoperability agreements?

<u>EIF Recommendation 29:</u> Clarify and formalise your organisational relationships for establishing and operating European public services.

Relates to specifications' capacities to help and ease the creation and formalisation of Interoperability agreements. E.g. Memorandums of Understanding (MoUs), Services Level Agreements (SLAs).

- ⚪ Not Answered
- ⚪ Not Applicable
- ⚪ The specification's definition hinders the drafting of such agreements.
- ⚪ The specification makes no provisions that would facilitate the drafting of such agreements.
- ⚪ The specification defines certain elements to facilitate such agreements.
- 🔵 The specification defines most elements to facilitate such agreements.
- ⚪ The specification explicitly identifies all elements to be used in drafting such agreements.

* Justification

> While OpenTelemetry itself is not a framework for creating organisational interoperability agreements, it significantly facilitates interoperability by standardising how telemetry data is collected, processed, and shared across different systems and organizations. By adopting OpenTelemetry, organisations can ensure consistent observability practices, seamless integration of monitoring tools, and enhanced collaboration across diverse IT environments.
>
> OpenTelemetry: https://opentelemetry.netlify.app/docs/specs/otel/

Semantic Interoperability

* A45 - Does the specification encourage the creation of communities along with the sharing of their data and results in national and/or European platforms?

<u>EIF Recommendation 32:</u> Support the establishment of sector-specific and cross-sectoral communities that aim to create open information specifications and encourage relevant communities to share their results on national and European platforms.

Relates to specifications that are narrowly related to the data/information being exchanged, its format, and structure. It would allow a common method/mechanism to improve its reuse and exchange removing possible limitations. An example of it could be RDF, which is used to describe information and its metadata using specific syntax and serialisation.

- ⚪ Not Answered
- ⚪ Not Applicable

○ Yes, but at national or regional level.

◉ Yes, at European platforms.

* Justification

> OpenTelemetry is an open source project that anyone in the community can use and improve. The community uses GitHub discussions for most communications. For those who are brand new to OpenTelemetry and want to chat or get redirected to the appropriate place for a specific question, they can join the CNCF OTel Slack channel.
>
> OpenTelemetry Community: https://opentelemetry.io/community/
>
> OTel GitHub Discussions: https://github.com/open-telemetry/community/discussions
>
> CNCF OpenTelemetry Slack channel: https://opentelemetry.io/community/end-user/slack-channel/

Useful links

CAMSS Joinup Page (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss)

CAMSS Library of Assessments (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-assessments-library)

CAMSS Assessment EIF Scenario - User Guide (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-eif-scenario/camss-assessment-eif-scenario-quick-user-guide)

Contact

CAMSS@everis.com

CAMSS Assessment EIF Scenario v6.0.0 - Results

CAMSS Assessment Result

Thank you for your contribution.

The score of the specification related to the scenario under which it is being evaluated depends on the scores achieved in each section of the survey. Please see the example below for guidance.

The following table shows the 'compliance levels' that a specification can reach depending on the assessment score.

EIF Scenario Compliance Level Conversion Table

Section	Ad-hoc	Opportunistic	Compliance Level Essential	Sustainable	Seamless
Principles setting the context for EU Actions on Interoperability	20	40	50	80	90
EIF Core Interoperability Principles	0 to 340	341 to 681	681 to 1020	1021 to 1360	1361 to 1700
EIF Principles Related to generic user needs and expectations	0 to 240	241 to 480	481 to 720	721 to 960	961 to 1200

EIF Foundation principles for cooperation among public administrations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500
EIF Interoperability Layers	0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000

The table below expresses the range of the score per section. When used in combination with the table above, the total score can be interpreted. See the example below for guidance.

Section Compliance Conversion Table

Compliance Level	Description
Ad-hoc	Poor level of conformance with the EIF - The specification does not cover the requirements and recommendations set out by the EIF in this area.
Opportunistic	Fair level of conformance with the EIF - The specification barely covers the requirements and recommendations set out by the European Interoperability Framework in this area.
Essential	Essential level of conformance with the EIF - The specification covers the basic aspects set out in the requirement and recommendations from the European Interoperability Framework.
Sustainable	Good level of conformance with the EIF scenario - The specification covers all the requirements and recommendations set out by the European Interoperability Framework in this area.
Seamless	Leading practice of conformance level with the EIF - The specification fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.

Example – How to find the final Compliance Level

Using the score reached after the initial assessment, the interpretation can be made as follows.

1. In the summary table, observe the score for each section, e.g. EIF Core Interoperability Principles has 1800 points.

2. In the middle table – the Section Compliance Conversion Table – see that this number correlates to a column. In our example, the 1800 points of Core Interoperability Principles fall in the EIF Core Interoperability Principles row, and '1441 to 1800' point range, placing it in the column 'Compliance **Seamless**'.

3. Next, in the top table – the EIF Scenario Compliance Level Conversion Table – we see Compliance Level "**Seamless**", and from its description that the specification for the EIF Core Interoperability Principles 'fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.'.

For additional calculation of the assessment strength, please follow the instruction provided in the User Guide, found [here](#).

Summary:

Your Score	3860
Maximum Score	4500

Section	Score for this Section	
EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY	20/100	
EIF CORE INTEROPERABILITY PRINCIPLES	1680 /1700	
EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS	940 /1200	
EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS	480 /500	
EIF INTEROPERABILITY LAYERS	740 /1000	

Scores by Question:

EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

Score for this Section: 20/100

A1 - To what extent has the specification been included in a national catalogue from a Member State whose National Interoperability Framework has a high performance on interoperability according to National Interoperability Framework Observatory factsheets?

Your answer	✖ The specification has not been included within the catalogue of any Member State.	20 out of 100 points

EIF CORE INTEROPERABILITY PRINCIPLES

Score for this Section: 1680/1700

A2 - Does the specification facilitate the publication of data on the web?

Your answer	✔ In addition to the previous question, the specification does not require proprietary software for the processing of its related data.	80 out of 100 points

A3 - To what extent do stakeholders have the opportunity to contribute to the development of the specification?

Your answer	✔ The working group is open to all without specific fees, registration, or other conditions.	100 out of 100 points

A4 - To what extent is a public review part of the release lifecycle?

Your answer	✔ All major and minor releases foresee a public review during which collected feedback is publicly visible.	100 out of 100 points

A5 - To what extent do restrictions and royalties apply to the specification's use?

Your answer	✔ Use of the specification is royalty-free and its Intellectual Property Right (IPR) policy or licence is aligned with Fair, Reasonable and Non-Discriminatory (F/RAND) principles.	100 out of 100 points

A6 - To what extent is the specification sufficiently mature for its use in the development of digital solutions/services?

Your answer	✔ The specification, in addition to having major releases available, has published documentation on its supporting processes (e.g. change management and release management).	100 out of 100 points

A7 - To what extent has the specification sufficient market acceptance for its use in the development of digital solutions/services?

Your answer	✔ The specification does not have market acceptance because it is directly used to create innovative solutions.	100 out of 100 points

A8 - To what extent has the specification support from at least one community?

Your answer	✔ There is a community tasked to provide public support linked to the specification and manage its maintenance.	100 out of 100 points

A9 - To what extent does the specification enable the visibility of administrative procedures, rules data, and services?

Your answer	✔ The specification actively promotes and supports visibility.	100 out of 100 points

A10 - To what extent does the specification scope comprehensibly administrative procedures, rules data, and services?

Your answer	✔ The specification actively promotes and supports comprehensibility.	100 out of 100 points

A11 - To what extent does the specification enable the exposure of interfaces to access the public administration's services?

Your answer	✔ The specification enables exposure of such interfaces.	100 out of 100 points

A12 - To what extent is the specification usable beyond the business-specific domain, allowing its usage across business domains?

| Your answer | ✔ The specification is domain-agnostic, designed to be implemented and/or used in any domain. | 100 out of 100 points | |

A13 - Is the specification technology agnostic?

| Your answer | ✔ YES | 100 out of 100 points | |

A14 - Is the specification platform agnostic?

| Your answer | ✔ YES | 100 out of 100 points | |

A15 - To what extent does the specification allow for partial implementations?

| Your answer | ✔ The specification explicitly foresees sets of requirements that can be implemented incrementally or separately. | 100 out of 100 points | |

A16 - Does the specification allow customisation?

| Your answer | ✔ YES | 100 out of 100 points | |

A17 - Does the specification allow extension?

| Your answer | ✔ YES | 100 out of 100 points | |

A18 - To what extent does the specification enable data portability between systems/applications supporting the implementation or evolution of European public services?

| Your answer | ✔ The specification explicitly addresses and enables data portability. | 100 out of 100 points | |

EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS

Score for this Section: 940/1200

A19 - To what extent does the specification allow relevant information to be reused when needed?

| Your answer | ✔ Information is provided once-only and reused as needed. | 100 out of 100 points | |

A20 - To what extent does the specification enable the e-accessibility?

| Your answer | ✔ The specification can contribute and promote e-accessibility, but it is not its main purpose. | 60 out of 100 points | |

A21 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?

| Your answer | ✔ Not Applicable | 100 out of 100 points | |

A22 - Does the specification provide means for restriction of access to information/data?

| Your answer | ✔ Not Applicable | 100 out of 100 points | |

A23 - Is the specification included in any initiative at European or National level covering privacy aspects?

| Your answer | ✔ Not Applicable | 100 out of 100 points | |

A24 - To what extent does the specification enable the secure exchange of data?

| Your answer | ✔ The specification addresses data security and trustworthy data exchange but does not foresee specific provisions to enable them. | 60 out of 100 points | |

A25 - To what extent does the specification enable the secure processing of data?

| Your answer | ✔ The specification addresses data security and trustworthy data processing but does not foresee specific provisions to enable them. | 60 out of 100 points | |

A26 - To what extent the specification guarantees the authenticity and authentication of the roles agents involved in the data transactions?

Your answer   ✔️ The specification addresses the implementation of authenticity features but without specific provisions to enable it.

60 out of 100 points

A27 - To what extent information is protected against unauthorised changes?

Your answer   ✔️ The specification addresses data integrity but without specific provisions to enable it.

60 out of 100 points

A28 - To what extent does the specification ensure and enable data processing accuracy?

Your answer   ✔️ The specification explicitly addresses and enables the implementation of features to guarantee data accuracy.

100 out of 100 points

A29 - To what extent does the specification provide an access control mechanism?

Your answer   ✔️ The specification addresses access control mechanisms but without specific provisions to enable them.

60 out of 100 points

A30 - To what extent could the specification be used in a multilingual context?

Your answer   ✔️ The specification foresees support for multilingualism but this is not complete.

80 out of 100 points

EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS

Score for this Section: 480/500

A31 - Does the specification simplify the delivery of European public services?

Your answer   ✔️ YES

100 out of 100 points

A32 - Does the specification enable digital service delivery channels?

Your answer	✔ YES	100 out of 100 points

A33 - To what extent does the specification enable the long-term preservation of data/information /knowledge (electronic records included)?

Your answer	✔ The specification addresses long-term preservation of electronic resources (information, data, etc), but not in a complete manner.	80 out of 100 points

A34 - To what extent are there assessments of the specification's effectiveness?

Your answer	✔ There are such assessments directly addressing the specification.	100 out of 100 points

A35 - To what extent are there assessments of the specification's efficiency?

Your answer	✔ There are such assessments directly addressing the specification.	100 out of 100 points

EIF INTEROPERABILITY LAYERS   Score for this Section: 740/1000

A36 - Is the (or could it be) specification mapped to the European Interoperability Architecture (EIRA)?

Your answer	✔ YES	100 out of 100 points

A37 - To what extent can the conformance of the specification's implementations be assessed?

Your answer	✔ The specification is complemented by a conformance testing platform to allow testing of implementations.	100 out of 100 points

A38 - Is the specification recommended by a European Member State?

Your answer	✔ YES	100 out of 100 points

A39 - Is the specification selected for its use in a European Cross-border project/initiative?

Your answer ✔ Not Applicable

100 out of 100 points

A40 - Is the specification included in an open repository/catalogue of standards at national level?

Your answer ✖ NO

20 out of 100 points

A41 - Is the specification included in an open repository/catalogue of standards at European level?

Your answer ✖ NO

20 out of 100 points

A42 - Is the specification a European Standard?

Your answer ✖ NO

20 out of 100 points

A43 - Does the specification facilitate the modelling of business processes?

Your answer ✔ Not Applicable

100 out of 100 points

A44 - To what extent does the specification facilitate organisational interoperability agreements?

Your answer ✔ The specification defines most elements to facilitate such agreements.

80 out of 100 points

A45 - Does the specification encourage the creation of communities along with the sharing of their data and results in national and/or European platforms?

Your answer ✔ Yes, at European platforms.

100 out of 100 points

Contact	CAMSS@everis.com
	CAMSS Joinup Page
Useful links	CAMSS Library of Assessments
	CAMSS Assessment EIF Scenario - User Guide

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