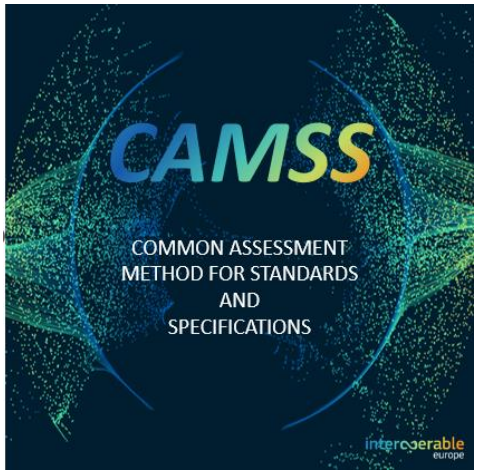

ASSESSMENT SUMMARY v1.0.0

ISO/IEC 7498-1:1994 Information technology — Open Systems Interconnection [1]

International Organization for Standardization (ISO)[2]

[1] ISO/IEC 7498-1:1994: https://www.iso.org/es/contents/data/standard/02/02/20269.html

[2] International Organization for Standardization: https://www.iso.org/home.html

Change Control

Modification	Details
Version 1.0.0	
Initial version	

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1. INTRODUCTION

The present document is a summary of the assessment of **ISO/IEC 7498:1** carried out by CAMSS using the CAMSS EIF assessment scenario. The purpose of this scenario is assessing the compliance of a standard orspecification with the European Interoperability Framework (EIF)[3].

2. ASSESSMENT SUMMARY

ISO 7498 is a standard that specifies the basic reference model for Open Systems Interconnection (OSI). The OSI model is a conceptual framework that standardises the functions of a telecommunications system into seven abstraction layers. Each layer serves a specific purpose and interacts with the layers above and below it. The goal of the OSI model is to enable different systems to communicate with each other, regardless of the underlying hardware, software, or network architecture.

This specification is developed by ISO, an independent, non-governmental international organisation with a membership of 170 national standards bodies that aims to bring together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges. The model provided by ISO 7498:1 is a crucial reference for understanding and designing network architectures and protocols in a standardised and modular manner.

2.1 Interoperability Principles

Interoperability principles are fundamental behavioural aspects that drive interoperability actions. They are relevant to the process of establishing interoperable European public services. They describe the context in which European public services are designed and implemented. The specification specifically addresses interoperability in cloud computing, which can be extremely useful in eGovernment by enhancing data portability, increased efficiency and integrity.

***The specification does not support the principles setting context for EU actions on interoperability*:**

- **Subsidiarity and proportionality**

  ISO/IEC 7498:1 is not included within the catalogue of any Member State.

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

- **Openness**

  Standards by ISO are developed by groups of experts called technical committees. These experts are put forward by ISO's national members. If a user interested in getting involved, they ought to contact their national standards body.

[3] European Interoperability Framework (EIF): https://ec.europa.eu/isa2/eif_en

While this specification's life cycle is completely public, releases do not foresee public reviews. In accordance with ISO/IEC JTC 1 and the ISO and IEC Councils, these International Standards are publicly available for Standardization purposes. ISO/IEC 7498:1 was initially released in 1984 and its second and current version was released in 1996.

This specification is supported by ISO therefore, support is available but as part of a closed community requiring registration and possibly fees. Nonetheless, other groups are also involved in OSI standardisation, for example Ecma International[4], an industry association dedicated to the standardization of information and communication systems.

- **Transparency**
  While ISO/IEC 7498:1 does not explicitly address administrative procedures, rules data, or services in the context of visibility, by adhering to this ISO organizations ensure that their procedures for managing metadata are transparent and well-documented, ultimately promoting more efficient and effective data governance. Given that the OSI model provides a common basis for the coordination of standards development for the purpose of systems interconnection, it can be understood that comprehensibility is taken into consideration. In comparison, exposure of interfaces is not affected by the specification directly.

- **Reusability**
  ISO/IEC 7498:1 is intended to be a generic and conceptual framework for network communication. Its design and abstraction make it applicable and usable across various business domains. The OSI model provides a structured approach to understanding and developing network protocols, allowing for interoperability between different systems and vendors.

- **Technological neutrality and data portability**
  The OSI model presented in ISO 7498:1 is a conceptual framework that outlines the functions of a communication system and organises these functions into seven abstraction layers. It does not prescribe specific technologies, protocols, or implementations. Therefore, it is technology and platform-agnostic.

  ISO/IEC 7498:1 is designed to allow for partial implementations, customisation, and extensions. The layering concept of the OSI model facilitates the development and deployment of network communication protocols in a modular and flexible manner. Changes are possible as long as it does not interfere with the main requirements of the specification. While the OSI model itself is not a direct enabler of data portability, it can be part of the broader ecosystem of standards and frameworks that contribute to interoperability.

[4] Ecma International: https://ecma-international.org/

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

- **User-centricity**
- ISO/IEC 7498:1 is primarily a conceptual framework for network communication and does not explicitly address the reuse of information in terms of data or content. However, the principles of modularity and layering within the OSI model indirectly support the reuse of relevant information.

- **Inclusion and accessibility**
  The purpose of ISO/IEC 7498:1 is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

- **Privacy**
  While ISO/IEC 7498:1 may not directly address data protection, the specification can be part of a broader IT infrastructure that contributes to a secure and reliable network environment for the handling of personal data by public administrations. One of the services provided by the "Session Layer" is token management, which allows the presentation-entities to control explicitly whose turn it is to exercise certain control functions.

- **Security**
  ISO/IEC 7498:1 has a specific section called "Transport Layer" whose purpose is to provide transparent transfer of data between session-entities. In contrast, the specification does not prescribe specific security measures for data processing nor authenticity and authentication of roles or agents involved in data transactions.

  Regarding protection against unauthorised changes and access control, the “Session Layer” of the OSI model includes token management, which allows the presentation-entities to control explicitly whose turn it is to exercise certain control functions.

- **Multilingualism**
  ISO/IEC 7498:1 is designed to be language-agnostic and can be used in a multilingual context. The OSI model is well-suited for use in a multilingual context, as its conceptual framework is independent of language, and it has been employed internationally in the development of network communication standards.

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

- **Administrative Simplification**
  While ISO/IEC 7498:1 itself does not directly address the delivery of public services, it plays a foundational role in the development and interoperability of networking protocols, which directly impacts the efficiency and effectiveness of various services. Furthermore, The OSI model, as a conceptual framework, contributes to the development and interoperability of protocols that may be used in creating these digital service delivery channels.

- **Preservation of information**

  Long-term preservation of data, information, and electronic records involves considerations that extend beyond the scope of the OSI model. Therefore, this criterion is considered not applicable to this specification.

- **Assessment of effectiveness and efficiency**

  The effectiveness and efficiency of ISO/IEC 7498:1 is often evaluated through various means, including practical implementations and pilot projects. For instance, a 2016-paper[5] uses the OSI Layer model, which has defined the theoretical architecture for network communications, as the starting point for innovating additional Layer 2 security requirements for a protected stack. In addition, a 2019-paper[6] about Integrated Security Management Systems mentions ISO/IEC 7498:1 as one of the key standards analyzed to suggest an approach to the development of integrated security and safety management system structure.

2.2 Interoperability Layers

The interoperability model which is applicable to all digital public services includes:

- Four layers of interoperability: legal, organisational, semantic, and technical.
- A cross-cutting component of the four layers “integrated public service governance”.
- A background layer, “interoperability governance”.

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

- **Interoperability Governance**

  At the time of elaborating this assessment, this specification is included in the current European Library of Specifications (ELIS). It is also included in the "Data Space" and "Data Space Connector" ABB, specifically the Technical Application layer. Furthermore, section 9.2 of this specification details the application of consistency and compliance requirements regarding ISO/IEC 7498:1.

  ISO/IEC 7498:1 is part of the UNE's[7] catalogue of standards, Spain's only Standardisation Organisation. In addition, the specification is also part of Joinup's calogue of ICT Standards for Procurement[8]. Joinup is the European Commission's one-stop shop for interoperable, open and free digital government ICT solutions, and an online space for e-Government professionals and enthusiasts to share and learn about digital public services and initiatives.

[5] Innovating additional Layer 2 security requirements for a protected stack: https://ro.ecu.edu.au/ism/184/
[6] Integrated Security Management System for Enterprises in Industry 4.0: https://www.researchgate.net/publication/336027597_Integrated_Security_Management_System_for_Enterprises_in_Industry_40
[7] UNE: https://www.en.une.org/
[8] ICT Standards for Procurement: https://joinup.ec.europa.eu/collection/ict-standards-procurement

- **Legal interoperability**

  While ISO standards, including ISO/IEC 7498:1, are internationally recognized and widely used, they are not European Standards in the sense of being developed and published by CEN or CENELEC specifically for the European region.

- **Organisational interoperability**

  The concepts and structured approach ISO/IEC 7498:1 it embodies can provide valuable insights and principles that can be applied to the modelling, analysis, and improvement of business processes, especially in environments where information systems and networked operations play a critical role. Also, the OSI model may contribute in organisational interoperability agreements by providing standardised communication protocols and interoperability at the network layer.

- **Semantic Interoperability**

  The specification clearly encourages the creation of communities along with the sharing of their data and results as its purpose is to improve cloud computing portability and interoperability, thus improving communication between different actors. Furthermore, ISO/IEC 7498:1 has been included in different catalogues of ICT standards in a European level therefore, it is an important standard to consider.

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for the **ISO/IEC 7498:1.** The CAMSS "Strength" indicator measures the reliability of the assessment by calculating the number of answered (applicable) criteria. On the other hand, the number of favourable answers and the number of unfavourable ones is used to calculate the "Automated Score" per category and an "Overall Score".

Category	Automated Score	Assessment Strength	Compliance Level
Principles setting the context for EU actions on interoperability	20/100 (20%)	100%	Ad-hoc
Core interoperability principles	1360/1700 (80%)	94%	Sustainable
Principles related to generic user needs and expectations	980/1200 (82%)	58%	Seamless
Foundation principles for cooperation among public administrations	500/500 (100%)	80%	Seamless
Interoperability layers*	840/1000 (84%)	100%	Seamless
Overall Score	3000/3800 (79%)[9]	84%	

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

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

The Overall Automated Score of 79% (3000/3800) demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.

[9] See the "results interpretation" section of the CAMSS Assessment EIF Scenario Quick User Guide: https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-eif-scenario/results-visualisation-and-interpretation