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Road vehicles — Service-oriented vehicle diagnostics (SOVD) —

Part 2: Use cases definition

Véhicules routiers — Diagnostic Véhicule Orienté Services (SOVD) —

Partie 2: Définition des cas d'usage

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

A list of all parts in the ISO 17978 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The introduction of high performance computers (HPCs) in vehicles is associated with changes in the classical electronic and electrical vehicle architecture. Besides classical distributed embedded electronic control unit (ECU) architectures, domain-based or zone-based architectures are also available. These architectures also extend beyond the physical vehicle.

This extends the focus from checking hardware to also checking the functionality of applications. It requires the recording of data such as memory usage, processor load, and the number of active services, as well as the collection of log and trace files.

These topics result in challenges regarding the management of the vehicle life cycle. Some aspects to be considered are:

— faster release and update cycles;

— increased requirements such as data protection and cybersecurity;

— state-of-the-art diagnostic application programming interface (API) using current information technologies.

The ISO 17978 series defines an API which standardizes the methods for:

— discovering the SOVD capabilities;

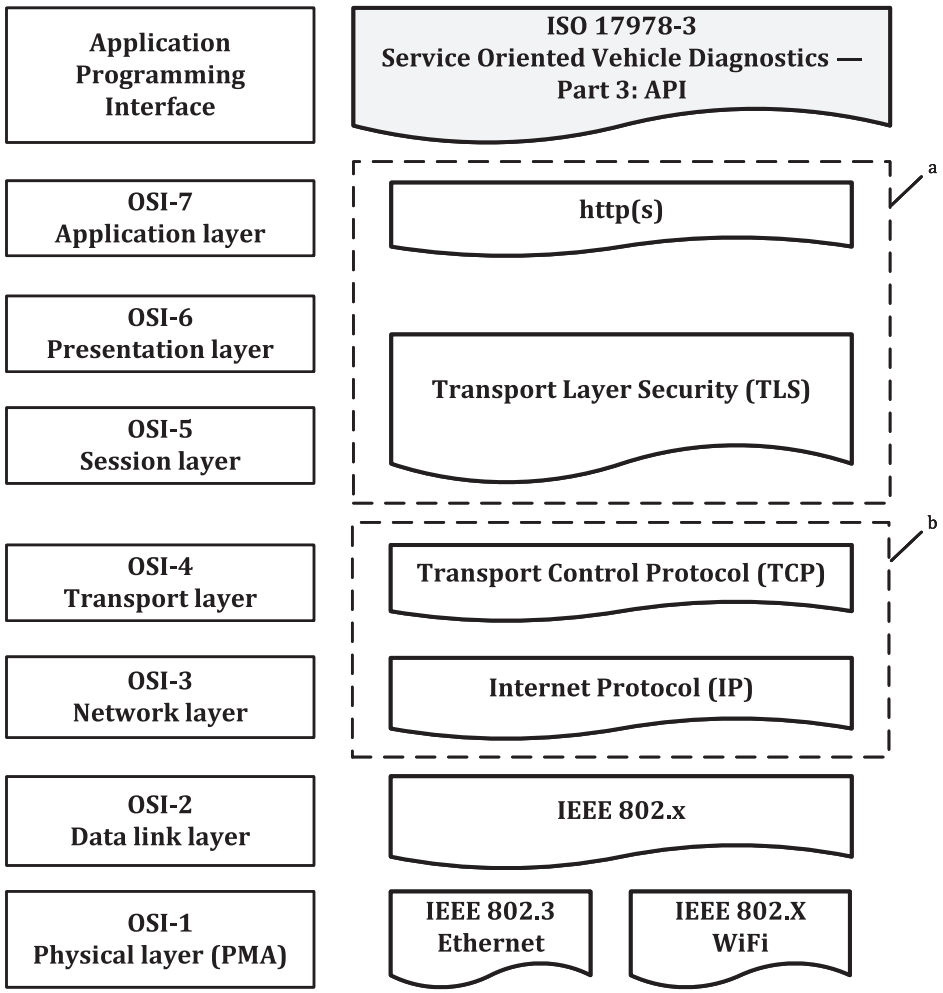
— performing diagnostics;

— (re-)configuring and re-programming;

— allowing the introduction of new functionalities.

Figure 1 shows the open systems interconnection (OSI) layers of the ISO 17978 series.

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Key

a Communication protocol.

b Network technology depending on E/E vehicle network architecture.

Figure 1 — OSI layers of SOVD

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Road vehicles — Service-oriented vehicle diagnostics (SOVD) —

Part 2: Use cases definition

1 Scope

This document gives an overview of the service-oriented vehicle diagnostics (SOVD) use cases. Each use case consists of name, inputs, outputs, a description and examples.

Use cases are described in an abstracted form to be independent of the underlying technologies.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 17978-1, *Road vehicles — Service-oriented vehicle diagnostics (SOVD) — Part 1: General information, definitions, rules and basic principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17978-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Abbreviated terms

API	application programming interface
app	application
ID	identifier
IP	internet protocol
MIME	multipurpose internet mail extensions

Further abbreviations as defined in ISO 17978-1 are also applied in this document.

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