International

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Road vehicles — Unified diagnostic services (UDS) —

Part 1: Application layer

Véhicules routiers — Services de diagnostic unifiés (SDU) —

Partie 1: Couche application

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

This fourth edition cancels and replaces the third edition (ISO 14229-1:2020), which has been technically revised. It also incorporates the Amendment ISO 14229-1:2020/Amd 1:2022.

The main changes are as follows:

— corrections related to the service "responseOnEvent".

A list of all parts in the ISO 14229 series can be found on the ISO website.

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The ISO 14229 series has been established in order to define common requirements for diagnostic systems, whatever the serial data link is.

To achieve this, the ISO 14229 series is based on the Open Systems Interconnection (OSI) Basic Reference Model in accordance with ISO/IEC 7498-1 [1] and ISO/IEC 10731 [2], which structures communication systems into seven layers in accordance with Figure 1.

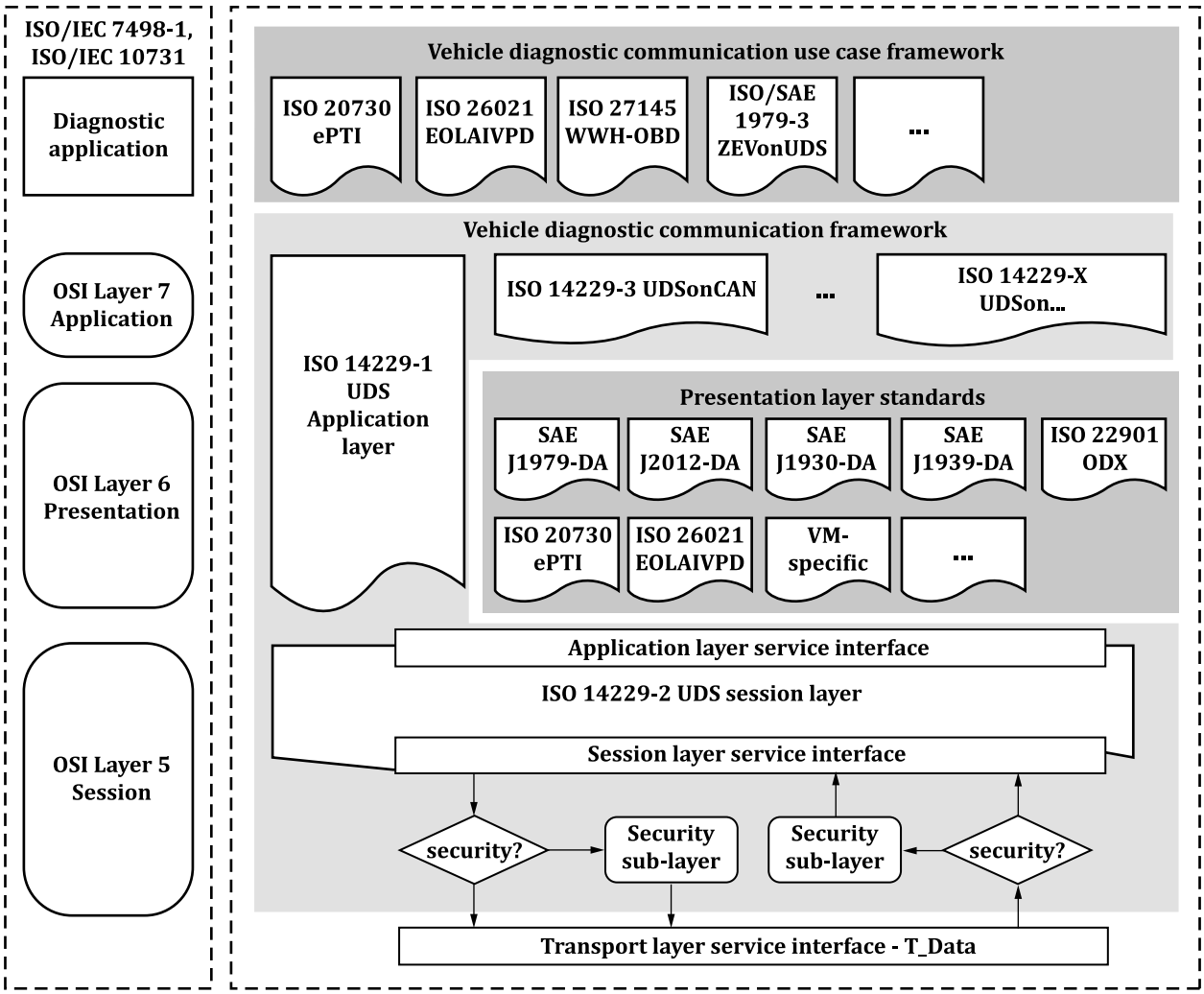

Figure 1 — UDS-based vehicle diagnostic communication framework according to OSI model

When mapped on the OSI model, the services used by a diagnostic tester (client) and an Electronic Control Unit (ECU, server) are broken into the following layers:

— Application layer (layer 7): unified diagnostic services specified in this document, ISO 14229-3 [3] UDSonCAN to ISO 14229-X UDSon... , ISO 20730-1 [4] ePTI, ISO 26021-1 [5] EOLAIVPD, ISO 27145-3 [6] WWH-OBD, ISO/SAE AWI 1979-3 [7] ZEonUDS, and further standards;

— Presentation layer (layer 6): vehicle manufacturer specific, SAE J1979-DA [8], SAE J2012-DA [9], SAE J1939-DA [10], SAE J1930-DA [11], ISO 22901 [12] ODX, ISO 20730-3 [13] ePTI, and ISO 26021-3 [14] EOLAIVPD;

— Session layer services (layer 5): specified in ISO 14229-2.

and towed vehicles, road vehicles – diagnostic systems. Future modifications to this document provide long-term backward compatibility with the implementation standards as described above.