ASAM OTX

Open Test sequence eXchange Format

Part 4 of 4

Expanded extensions interface definition

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Base Standard

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Foreword

OTX (Open Test sequence Exchange) is a platform and tester independent exchange format for formal description of executable test sequences published in the ISO 13209 series. OTX is a standard for the reliable storage of test knowledge within vehicle diagnostics and vehicle test automation. The XML-based flow language provides the opportunity to share test sequences across departmental, tool and process boundaries. The expertise stored in these flows is not lost, but can be used even after many years. OTX is targeted primarily at the automotive industry, although the core features of the standard are applicable in any industry. Such test sequences are used in development, production and after sales and can be exchanged between vehicle manufacturers, Tier 1 suppliers and tool providers.

OTX is the logical evolution of standardization in vehicle diagnostics. Figure 1 shows the relation of OTX to other diagnostic standards.

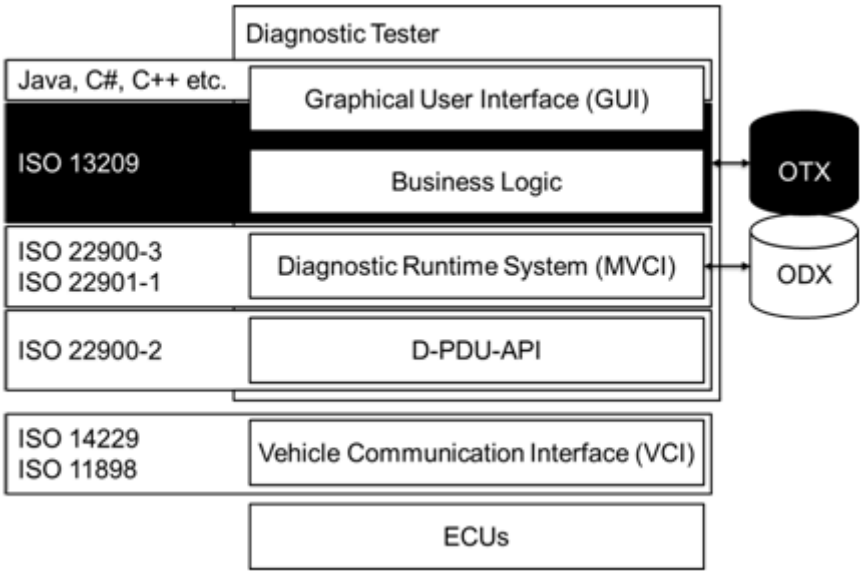

Figure 1 Relation of OTX to standards in vehicle diagnostics

ISO 13209 consists of a core and an extension concept, which allows the integration of arbitrary interfaces. For example extensions for diagnostic communication, flashing, event handling and logging are standardized in ISO standards. Based on these extensions the usage of a MVCI Server (ISO 22900-3 also known as ASAM MCD-3 D Server API) is simplified, because many implementation steps are hidden.

OTX is not restricted to diagnostic sequences. It can be also seen as a strategic migration platform for different, currently separated standards, e.g. ASAM GDI [10], ASAM XIL [11], ASAM AE MCD-3 MC [12].

1 Introduction

1.1 Overview

Diagnostic test sequences are utilized whenever automotive components or functions with diagnostic abilities are being diagnosed, tested, reprogrammed or initialised by off-board test equipment. Test sequences define the succession of interactions between the user (i.e. workshop or assembly line staff), the diagnostic application (the test equipment) and the vehicle communication interface as well as any calculations and decisions that have to be carried out. Test sequences provide a means to define interactive, guided diagnostics or similar test logic.

Today, the automotive industry mainly relies on paper documentation and/or proprietary authoring environmments to document and to implement such test sequences for a specific test application. An author who is setting up engineering, assembly line or service diagnostic test applications implements the required test sequences manually, supported by non-uniform test sequence documentation, most likely using different authoring applications and formats for each specific test application. This redundant effort can be greatly reduced if processes and tools support the OTX concept.

ISO 13209 series proposes an open and standardized format for the human- and machine-readable description of diagnostic test sequences. The format supports the requirements of transferring diagnostic test sequence logic uniformly between electronic system suppliers, vehicle manufacturers and service dealerships/repair shops.

This document extends the core of the ISO 13209 series with a set of additional, generally usable OTX extensions which are not part of ISO 13209-3 [3], using the extension mechanism rules described in ISO 13209-2 [1].

Figure 2 gives an overview of the additional extensions related to the existing extensions in ISO 13209-3 [3].