



OTX Generally-Applicable-OTX-Extensions

Release Presentation

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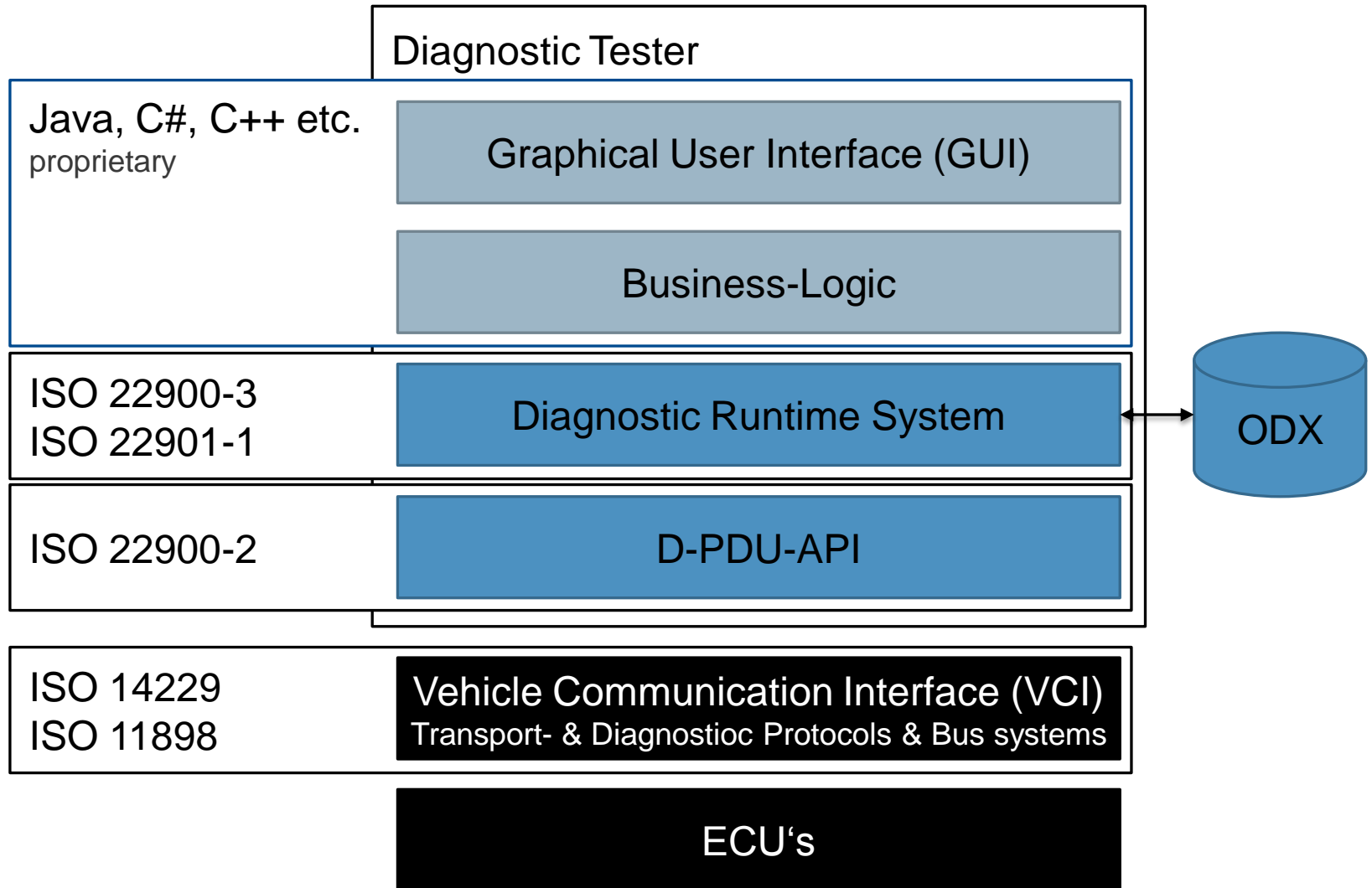
Introduction

What is OTX?

- ▶ Open Test sequence eXchange published 08/2012 by ISO 13209
- ▶ Platform and tester independent exchange format for formal description of executable test sequences
- ▶ Goal: Creation, exchanging, archiving and execution of verified test sequences
- ▶ OTX is the logical and consistent development of standardization in the vehicle diagnosis

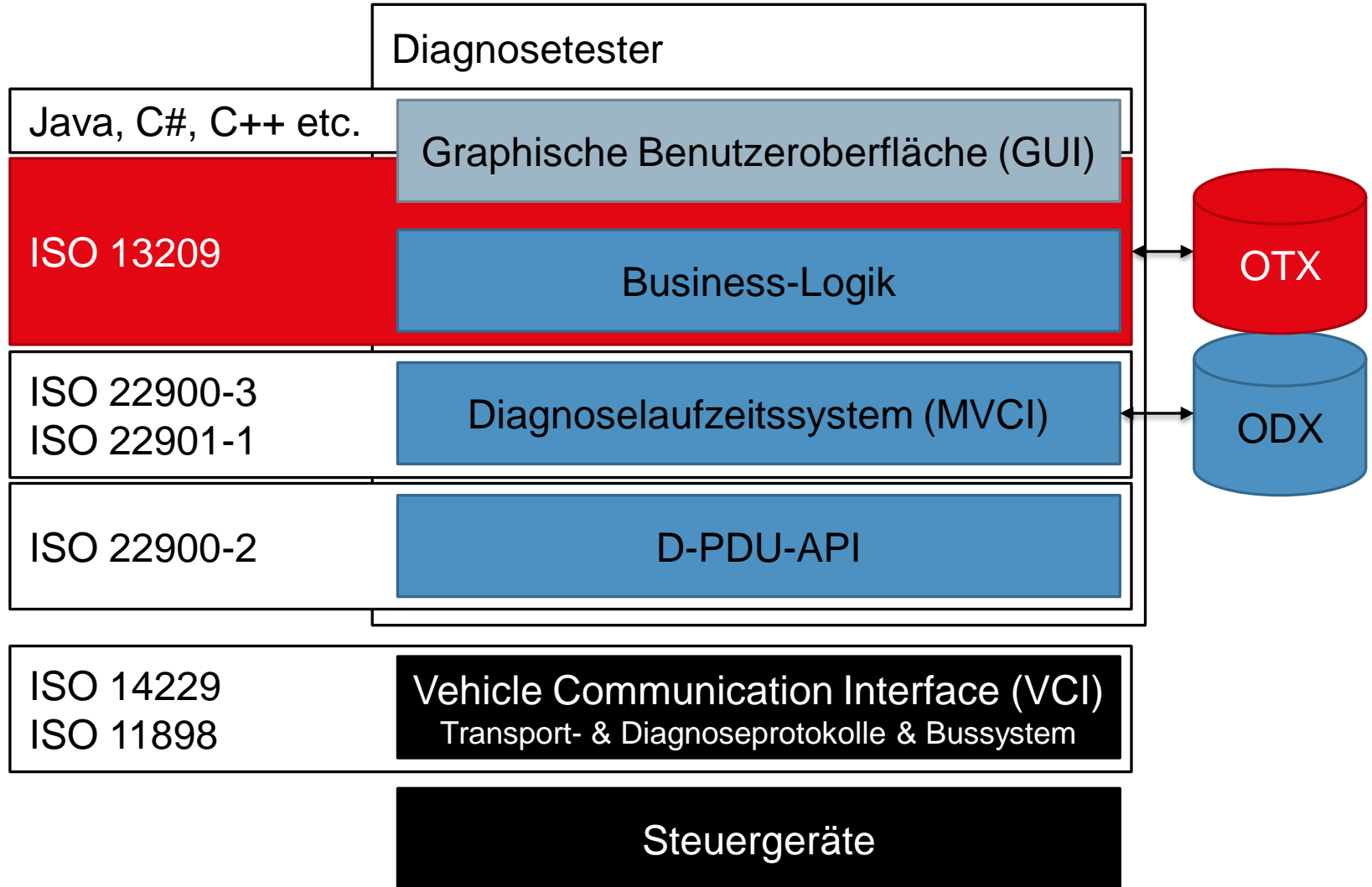
Introduction

OTX



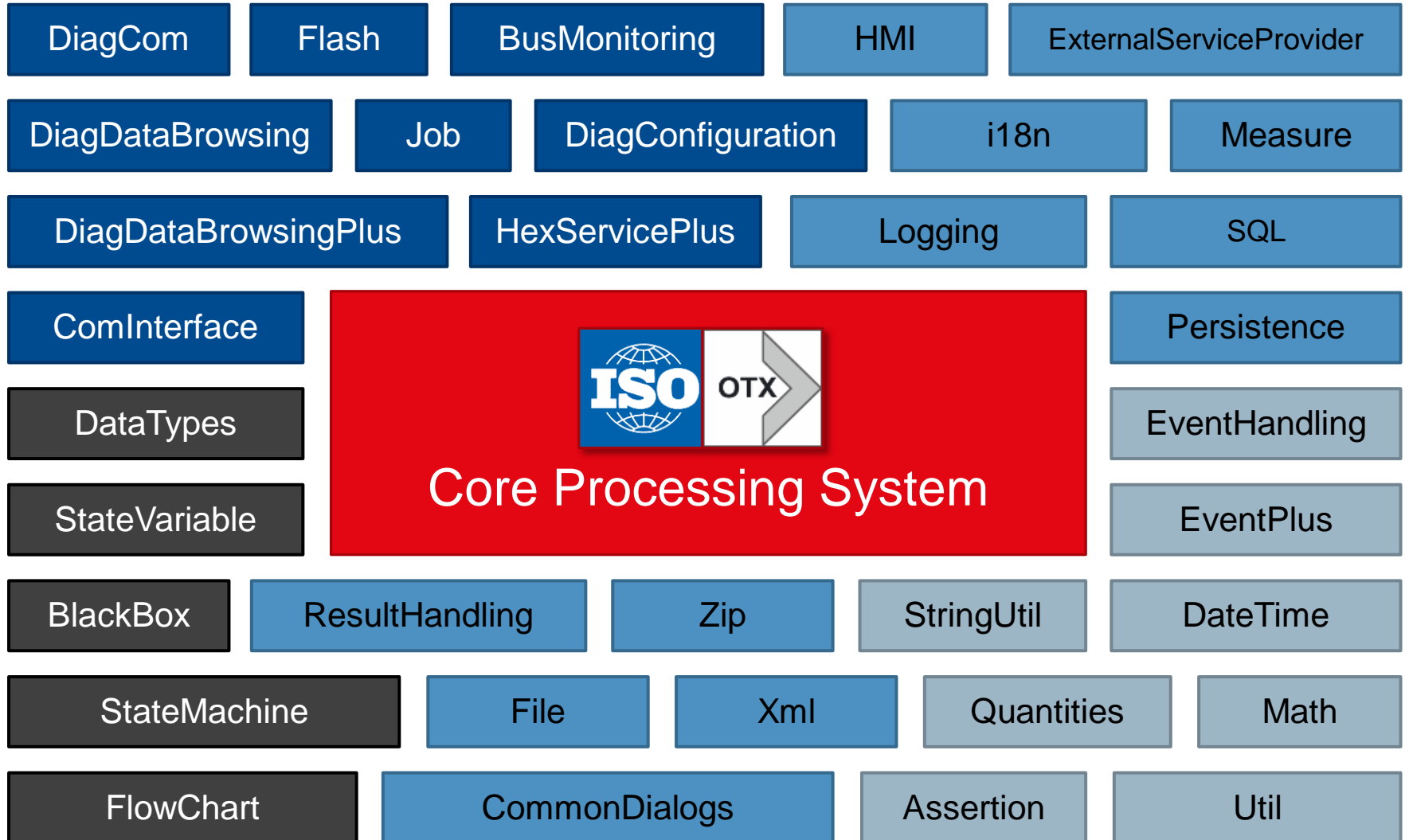
Introduction

OTX



Extensions

35 Extensions (13 from ISO and 22 from ASAM)



Introduction

OTX Conclusion

- ▶ Standard for the reliable storage of test knowledge
- ▶ OTX may bring together various previously separate standards
- ▶ OTX will become prevalent
- ▶ First productive applications have proved the high potential
- ▶ Without OTX no integrated MCD Toolset

Motivation for the Standard

What is the benefit for the user?

- ▶ Development of nevertheless urgently needed and generally usable OTX Extensions
- ▶ Enlargement of the field of application
- ▶ Ensuring of exchangeability about different tools and suppliers
- ▶ Improvement of OTX code quality
- ▶ Improvement of standard acceptance

Project Key Figures

▶ Object model with

- 49 data types and 16 enumerations
- 54 exceptions
- 8 signatures
- 54 actions
- 360 terms
- Approx. 13,500 lines of XSD schema code

What's New?

Overview

▶ 22 new OTX extensions

- Assertion
- BlackBox
- BusMonitoring
- ComInterface
- CommonDialogs
- DataType
- DiagComPlus
- DiagConfiguration
- DiagDataBrowsingPlus
- EcuConfiguration
- EventPlus
- ExternalServiceProvider
- File
- FlashPlus
- Persistence
- SQL
- StateVariable
- TestResultHandling
- Util
- VehicleInfo
- XML
- ZipHandling

▶ New OTX container format: PTX

▶ 35 solved gaps, limitations and errors in ISO 13209 part 2 and 3

What's New?

Extensions in alphabetical order

▶ Assertion

Provides a new Assert action which can be used to ensure the correct implementation of OTX test sequences without influence to the test logic.

▶ BlackBox

The BlackBox data type is a container data type to transport values of user-specific data types which are unknown in OTX.

▶ BusMonitoring

Is introduced to enable asynchronous collection of communication data at runtime and analysis of monitored frames closely related to an MVCI based system.

▶ ComInterface

Enables the handling of vehicle communication interfaces at runtime for DoIP.

What's New?

Extensions in alphabetical order

- ▶ **CommonDialogs**

Provides the support for dialogs that have common use cases in OTX but were not included in the original specification (e.g. FileOpenDialog).

- ▶ **DataType**

Supports the often required data types Enumeration and Structure.

- ▶ **DiagComPlus**

Extends the DiagCom extension related to functional addressing and com channel handling.

- ▶ **DiagConfiguration**

Enables the selecting and changing of the ODX project at runtime.

- ▶ **DiagDataBrowsingPlus**

Extends the DiagDataBrowsing extension to read static information stored in an ODX database.

What's New?

Extensions in alphabetical order

- ▶ **EcuConfiguration**

Enables a simple way to completely configure an ECU based on the ECU-CONFIG container in ODX.

- ▶ **EventPlus**

Extends the Event extension to support deep change monitoring of complex types such as List, Map or ByteField.

- ▶ **ExternalServiceProvider**

Provides actions, terms, events and data types for accessing arbitrary external services, e.g. web service, data base or library.

- ▶ **File**

Allows general read and write access to files.

- ▶ **FlashPlus**

Extends the Flash extension to enable late-binding of flash files.

What's New?

Extensions in alphabetical order

- ▶ **Persistence**

Used to store runtime information stored in non-volatile storage which can be retrieved in a different process from the one that created it.

- ▶ **SQL**

Provides actions and terms for a read and write access to a SQL data base.

- ▶ **StateVariable**

Provides a mechanism to transport status information from inside an OTX sequence to the environment.

- ▶ **TestResultHandling**

Provides functionality which allows capturing, evaluating and persistently writing results of test sequences in a structured way.

What's New?

Extensions in alphabetical order

- ▶ **Util**

Includes advanced convenience functionality which are not covered by the OTX Core, e.g. StringFormat or ListSort.

- ▶ **VehicleInfo**

Enables the access to information about the vehicle network architecture based on VEHICLE-INFO-SPEC container in ODX.

- ▶ **XML**

Provides functionality to read, interpret, create and manipulate XML documents from the file system or any other source.

- ▶ **ZipHandling**

Provides actions and terms to compress or decompress ZIP containers.

Deliverables

- ▶ New extensions for the proposed enhancements
- ▶ EA model (UML)
- ▶ XSD schemas generated from the EA model
- ▶ Extensions Specification
- ▶ Document with explanations of clarifications and gap removals – Correction Sheets (for ISO only)

Relation to ISO

- ▶ Results are ISO 13209 compliant
- ▶ Together with results of subsequent project (P2015-04, StateMachine and FlowChart) the result of this project shall be transferred to ISO 13209