

ISOBUS Object Pool Validation

Development of a software component for the validation of ISOBUS Object Pools in accordance with ISO 11783-6

Customer requirements

Implementation of validation routines for testing the conformity of ISOBUS Object Pools according to ISO 11783-6.

The routines should be provided both as an independent tool for certification as well as being integrated into a current product.

The variant as a certification tool should be integrable into a superordinated tool chain via defined interfaces. In this context various different virtual terminals should be simulated. Explicitly requested was also an interface for simple and quick adaptation as well as being capable of activating/deactivating individual tests.

The integration of the test routines should take place on the basis of an existing software project and whilst taking into consideration the ISOBUS communication (e.g. timeouts) between the terminal and the attached devices, but also manufacturer-specific customizations and features or even extensions.

Technology used

C++, Qt, ISOBUS (ISO 11783), Windows, Linux, CMake, Google Test Framework (Unittests), ATDD (Cucumber)

comlet solution

In order to ensure the reuse of the testing routines, comlet created a mutual code basis. What was also taken into account is the portability for various platforms/operating systems (Windows/Embedded Linux). In accordance with ISO 11783-6 a variety of tests were implemented: amongst others value range/type tests, validity of relations, conforming to nesting depths and finding possible macro endless loops.

For the certification tool file-based interfaces were implemented so that no further dependencies to the superordinated tool chain are created. Thereby manual pre-tests outside of the tool chain were easily executable.

The development took place within the framework of an agile development process based on Scrum. Automated acceptance and unit tests were implemented.

