

Systematic and automatic software testing of ECUs

For the systematic testing of an electronic control unit (ECU) in all development phases, a multiplicity of software tools is required. In addition to high investment costs for these tools, questions arise about an optimal test methodology:

How can these tools be used together for one test?

How can existing tests be reused?

How can test tools be exchanged and already existing test scripts be preserved?

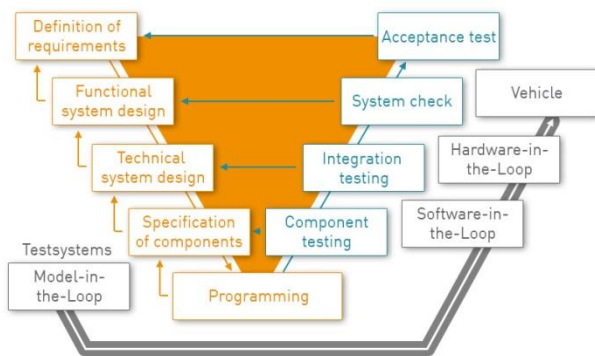
Key features

ECU-TEST is a test automation software for the validation of embedded systems in automotive environments.

- Supports a broad range of test tools and test environments (SiL – MiL – HiL – vehicle)
- Standardized access to test tools
- Automation of distributed test environments
- Intuitive graphic user interface
- Generic test case description
- Interface to test management (HP Quality Center)

Area of application

ECU-TEST is used in the design, realization, execution and evaluation of test cases, which includes the generation of intuitive test reports. For full coverage of the right branch in the V-Model, a broad spectrum of standard interfaces (ODX, FIBEX, ...) is integrated:



Benefits

Usability

The user-friendly graphic interface allows efficient testing of both ECU hardware and ECU software with a minimal effort in training.

Reusability

Test cases can be parameterized and structured with the help of projects. Due to a generic test description the created test cases are as far as possible independent of specific hardware and software in test environments and are therefore reusable to a great extent.

Modularity

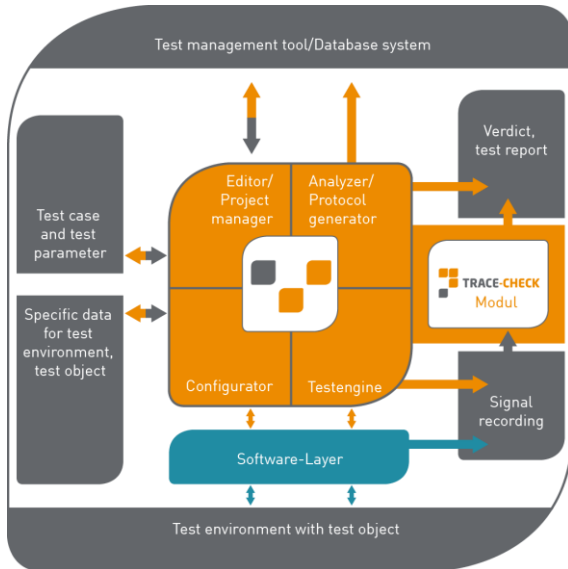
A trouble-free adaption and extension as well as integration in existing coverage and testing processes is achieved by a distinct concept and the modular architecture of ECU-TEST. The integrated client/server solution enables the user to access interfaces and software tools on several test bench PCs within a cross-linked test environment.

Expandability

In addition to the multitude of already supported test environments for hardware and software, it is possible to embed further interfaces for automation via plug-ins and Python scripts. In ECU-TEST a COM interface is embedded in order to connect to test management systems like Mercury Quality Center.

Functionality

Configuration and parameterization of test cases is conducted in a dialog based approach with the help of the editor. The configurator contributes to the selection of desired options and data for the test object and test



environment. A multistage runtime engine executes the tests, and the collected test data forms a basis for the test report generation by the test report generator.

Service and support

In addition to phone and email support, TraceTronic offers training courses for test engineers. We are pleased to help you with the integration of ECU-TEST in established process chains, the assembly of new test environments and in the application of ECU-TEST to verify new ECU features. On a project basis, TraceTronic implements special adaptations and integrates further software tools (simulation, application, measurement, evaluation and test management etc.) in ECU-TEST.

Supported software and hardware

- ASAM XiL API (MA, EES)
- ATI VISION
- AVL PUMA
- Beckhoff TwinCAT
- CANoe via XiL-API
- CANWAY CW-FIU
- dSPACE ControlDesk (DS1006/1007, Scalexio, VEOS)
- dSPACE ModelDesk
- D2T MORPHEE
- EA UTA12
- Eberspächer FlexXCon
- ESG E-Sys
- ETAS FIU ES4440

- ETAS INCA
- ETAS LABCAR Operator
- Ethernet (SOME/IP-SD, TCP, UDP, PCAP)
- Gigatronik flex-i
- GÖPEL electronic (CAN Hardware)
- Hard&Soft fault simulation
- HP ALM (QualityCenter)
- IBM Rational Quality Manager
- IPG CarMaker
- ITI SimulationX
- IXXAT FlexRay CCM
- Kristl Seibt & Co. Tornado
- Lauterbach Trace32
- Mathworks MATLAB/Simulink
- Mathworks Simulink Realtime Kernel
- Mechanical Simulation CarSim
- MicroNova NovaSim
- Multimedia (Webcam, Video, ...)
- National Instruments LabVIEW
- National Instruments VeriStand
- OPAL-RT RT-LAB
- PEAK CAN-Interfaces
- PLS UDE Debugger
- QTronic Silver
- QUANCOM Relays-, Optocoupler-, A/D- and D/A converter cards
- RA Consulting DiagRA
- Scienlab Charging Discovery System
- Scienlab EnergyStorageDiscover II
- Softing EDIABAS
- Softing Diagnostic Tool Set
- Synopsys Virtualizer
- TraceTronic cTetsBed
- TTTech TTX Connexion
- Vector CAN/LIN/FlexRay-Interfaces
- Vector CANoe/CANalyzer
- Vector CANape
- Vires Virtual Test Drive
- VW ODIS
- X2E Xoraya Data Logger
- ...

On request we will realize the linkage of your specific hardware or software.