vTESTstudio

Comfortable Development of Automated Test Sequences for Embedded Systems

What is vTESTstudio?
> A high-performance development environment for creating test sequences
> Can be used in all product development phases – from model tests, to tests that support development, to tests on the HIL test bench
> Seamlessly integrates both proven and new types of test design methods and test notations
> Generates test sequences which can be executed with the CANoe test sequencer in real-time and evaluated in detailed reports

Overview of Advantages
> Broad range of applications through the use of various test design editors
> Flexible parameterization of test sequences with scalar values, test vectors and stimulation curves which can be accessed from all test design languages
> Universal variant support for structure, implementation and parameterization of tests
> Simple maintenance of test projects on account of the modular structure and a variety of structuring options such as libraries and folders
> Direct access to XIL test environment symbols in the test sequences (HIL, SIL, MIL, ...)
> Universal traceability of externally defined requirements and test specifications in test implementation and test report
> High test coverage without extensive programming thanks to the support of parameterized test case lists
> Open interfaces for simple integration into existing tool landscapes

Highlights of Version 4.0
> Fine-granular traceability by linking trace items with individual calls of a test case list
> Parallel tests by multithreading in CAPL
> Higher reusability of waveforms by parametrization of checkpoints
> Hierarchy levels in the test report by nested test functions in CAPL and C#
> Use of background checks in reusable functions
> Export of a test execution plan out of the Traceability Matrix and the Test Case Overview for automatic test case execution via the CANoe Test Execution Adapter
> Automation interface for connection utilities enables continuous integration and testing
> vTESTstudio Viewer available for free download

Fast overview of all trace items available in the project and their test case links through the Traceability Matrix of vTESTstudio.
Interfaces, Bus Systems and Protocols

- Test sequencer:
  CANoe is required for test execution. The range of functions that can be used in vTESTstudio depends on the CANoe version.
  - Minimum: CANoe version 8.5 SP5 / 10.0 / 11.0
  - Recommended: CANoe version 12.0

- Test data management:
  - IBM Rational DOORS from Version 8.1
  - IBM Rational DOORS NG / RQM
  - Siemens Polarion ALM
  - PTC Integrity
  - Open interfaces for integration into third party systems

- Bus systems: CAN, LIN, FlexRay, Ethernet, WLAN, ARINC 429
- Protocols: J1939, KWP2000, UDS, K-Line
- Calibration: XCP

More information: www.vector.com/vTESTstudio

Test Design Editors

Depending on the task and requirements involved, users can switch between the various complementary test design techniques integrated into vTESTstudio for the development of automation sequences.

- Test tables: Creation of test sequences from pre-defined and self-defined test commands in tabular form without the need for programming skills
- Programming in CAPL and C#: Definition of sequential or event-based test flows for asynchronous preprocessing of measurement values
- Graphical test design notations (as separate option): Modeling of test sequences in graphical notation or state diagrams for automatic test case generation simplifies reviews of complex test scenarios

Selected editors in vTESTstudio for table-based, graphical and programming-based creation of test sequences:

- Test Table Editor
- Test Diagram Editor
- Programming Editor
- State Diagram Editor