ecu.test

Product data sheet

Version: 2025.1
as of March 2025

# ecu.test masters test automation

## Key features at a glance

- Supports a broad range of test tools and test environments (MiL/SiL/PiL/HiL/vehicle)
- Uniform and effective automation of the entire test environment
- Smooth collaboration through Diff and SCM integration (GIT, SVN)
- Automation of distributed test environments
- Intuitive graphical user interface
- Generic test-case description
- Test execution under Linux and in container environments (e.g. Docker)

## Integrated Trace Analysis Module

(see also data sheet **trace.check**)

- Support for numerous recording formats
- Time synchronization of multiple recordings using a variety of algorithms
  - AUTOSAR Time Synchronization/PTP
  - CrossCorrelation
  - EqualnessMatching
  - ExpectationMatching
  - LeastSquares
  - Offset
  - UtcTimestamp
- Signal-based merge in MDF4
- Easy analysis specification via
  - triggered analyses
  - standard checks via provided methods and templates
  - timing diagrams
  - Python interface
- Support for all common recording formats
- High reusability of analyses
- Clear presentation of results
  - transition to the interactive trace.xplorer signal viewer
  - plots enriched with result data

## Interfaces and expandability

**ecu.test** can be readily integrated into existing tool chains:

- COM-API for remote control
- REST-API for execution control under Windows and Linux
- Object API (for Python, Java and .NET) for generating and manipulating all artifacts (test cases, configurations, etc.)
- Report generators for different output formats
- APIs for different test-case generators
- Jenkins plug-in
- Easy integration of existing libraries (Python, C/C++, .NET)
- User-specific tool connections and test steps

## Connection with Application Lifecycle Management systems

**ecu.test** connection with ALM system are based on customer specific processes.
Corresponding connections exist for these ALM systems:

- IBM Engineering Test Management - ETM (former RQM)
- Jama connect
- OpenText ALM/Quality Center (former HP Quality Center)
- OpenText ALM Octane
- PTC Codebeamer
- PTC Windchill (former Integrity)
- SIEMENS Polarion ALM

# Interfaces, formats, tools and standards

## Supported formats and standards

**Standards:**

- ASAM ACI 1.4
- ASAM iLinkRT 3
- ASAM XiL API Version 2.0.1 und 2.1.0 (MA, EES, ECUC/M Port)
- ASAM ATX
- ASAM Capture Module Protocol (CMP)
- AUTOSAR Classic & Adaptive
- AUTOSAR SOME/IP
- AUTOSAR Time Synchronization (PTP)
- FMI 1.0/2.0/3.0
- IEEE802.1AE (MACsec)
- IEEE802.1X (MKA)
- IEEE1722 ACF (für CAN)
- OpenSCENARIO
- OSI (Open Simulation Interface) 3.5.0
- PLP (Probe Logger Protocol)
- ReqIF 1.2
- RFC4302 (IPsec AH)
- RFC7296 (IKEv2)
- SAE J2534 PassThru
- TECMP

**Bus description:**
- ARXML (Classic Platform) 4.1.1 to R21-11
- ARXML (Adaptive Platform) to R20-11
- DBC
- FIBEX to 4.1.1
- FIBEX for Ethernet 4.1.2
- FIBEX for AUTOSAR Diagnostic Log and Trace (DLT): Analyse non-verbose Mode
- LIN Description File (LDF)

**ECU description:**
- ASAP2 Database (A2L)
- Executable and Linkable Format (ELF) with DWARF (Version 2-5)
- Intel HEX
- Motorola S19

## Supported trace formats

**Signal-based trace formats:**
- ASTRACE, AS3TRACE (trace.xplorer)
- CSV
- MAT: MATLAB/Simulink, ControlDesk
- MDF 3.0, 3.1, 3.2, 3.3, 4.0, 4.1, 4.2
- PARQUET (Apache)
- STI, STZ 2.0.1, 2.1, 2.2 ASAM XiL-API
- TDMS: National Instruments

**Buslogging:**
- ASC (Vector)
- BLF (Vector)
- MDF 4.0, 4.1, 4.2
- TTL (TTTech)

**Ethernet:**
- BLF (Vector)
- DLT (tracetronic, GENIVI DLT-Viewer)
- PCAP, PCAPNG (tracetronic, Wireshark)
- MDF 4.0, 4.1, 4.2
- TTL (TTTech)

**Middleware/Cosimulation:**
- AS3TRACE (FEP)
- eCAL 5.0, 5.1
- ROSBAG2 (ROS2)

**ADAS:**
- ERD (CarSim)
- ERG (CarMaker)
- OSI/TXT (ASAM OSI) 3.5.0
- RDB (VTD)

**Multimedia**
- Audio: WAV, FLAC, MP3, OGG
- Video: AVI, MP4, MKV, MTS , WMV

Other formats supported on request.

## Supported hard- and software

- A&D: iTest
- ASAM: ACI
- ASAM: iLinkRT
- ASAM: XIL
- ASAP: STEP
- ATI: VISION
- AVL: LYNX
- AVL: PUMA
- Basler: pylon
- Beckhoff: TwinCAT
- CARLA Team: CARLA
- Digiteq: FrameGrabber 4 MultiBox
- Digiteq: MGB
- dSPACE: AURELION
- dSPACE: ControlDesk
- dSPACE: ModelDesk
- dSPACE: MotionDesk
- dSPACE: RTMaps
- dSPACE: XIL API
- Dyna4 R8
- EA: UTA 12
- EMVA: GenICam
- ESI: SimulationX
- ETAS: BOA
- ETAS: COSYM SIL
- ETAS: INCA
- ETAS: LABCAR-PINCONTROL
- FEP
- FEP3
- FEV: Morphée
- froglogic: Squish
- Google: ADB
- Göpel: Video Dragon
- HORIBA FuelCon: TestWork
- HMS: ACT - Residual bus simulation
- HMS: Legacy Bus Interfaces (VCI V2)
- HMS: VCI V4
- IDS: uEye
- IPETRONIK: ETHOS
- IPG: CarMaker
- JS Foundation: Appium
- KS Engineers: Tornado
- Lauterbach: TRACE32
- MAGNA: BluePiraT
- Mathworks: MATLAB/Simulink
- Mechanical Simulation Corporation: CarSim
- MicroNova: NovaCarts
- Modelica Association: FMI
- NI: LabVIEW
- NI: VeriStand
- NI: VISA
- Opal-RT: RT-LAB
- PEAK: PCAN
- PLS: UDE
- QUANCOM: QLIB
- RA Consulting: DiagRA D
- ROS2
- SAE: PassThru
- Scienlab: CDS
- Scienlab: ESD
- SFC: Selenium
- Softing: DTS
- Softing: EDIABAS
- Speedgoat: Simulink Real-Time XIL
- Synopsys: Silver
- Synopsys: SilverXIL
- Synopsys: Virtualizer
- Technica: BTS
- Technica: Capture Module
- The GNU Project: GDB
- tracetronic: Ethernet
- tracetronic: Multimedia
- tracetronic: RemoteCommand
- tracetronic: Serial interface
- tracetronic: SocketCAN
- tracetronic: SSH MultiConnect
- TOSUN: libTSCAN API
- TTTech: TTXConnexion
- Typhoon HIL: Typhoon HIL Control Center
- Vector: CANalyzer
- Vector: CANape
- Vector: CANoe
- Vector: DYNA4
- Vector: SIL Kit
- Vector: XL API
- VehInfo: LABCAR
- ViGEM: CCA
- Vires: VTD
- VW: ODIS
- X2E: Xoraya

**Source code management tools:**
- Apache Subversion
- Git

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

## System requirements

- OS: Windows 10 or 11, 64 bit
- OS for test execution under Linux: Ubuntu Linux 20.04, 22.04 or 24.04 LTS AMD64
- CPU: at least 4 cores
- Free hard disk capacity: at least 8 GB
- RAM: at least 16 GB, recommended 32 GB
- Screen resolution: at least Full HD (1920 x 1080)

To use file paths longer than 256 characters on Windows, it is necessary to enable systemwide support for it (see: https://learn.microsoft.com/en-us/windows/win32/fileio/maximum-file-path-limitation)