TEST SPECIFICATION LANGUAGE

+ TEST SYSTEM

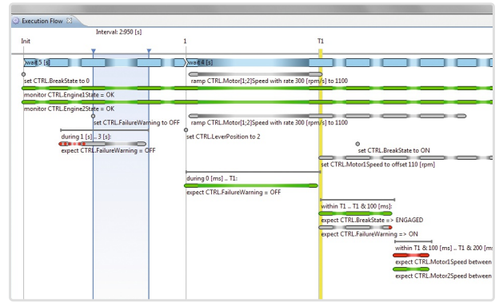
CCDL

HIL4YOU

= automated and modular

real-time test system

The interaction of CCDL and HIL4YOU pushes your project to the next level.
The intuitively readable test specification language CCDL automates the requirements-based system testing and equipment testing on real-time test benches.
HIL4YOU is a readily available, high-performance mini HIL testing system with a wide range of expansion options.
From now on, you can focus on the development of your product. We deliver the test results!



iSyst is focused on modular real-time test systems to support the development of automated HIL tests.
Since 2001 iSyst has developed in-house testing solutions. In 2003, iSyst delivered its first completely in-house developed test system built up at the premises of the Ohm-Hochschule; a HIL system testing the roll stability of sports cars.

In addition, the company has started to realize Fully Integrated Solutions for automotive sensor protocols including SPI, PSI5 and SENT. These protocols are suitable for a broad variation of different sensors. iSyst employs certified testers with a "foundation level"/"advanced level" degree as well as versatile allrounders and specialists with decades of experience.

iSyst Intelligente Systeme GmbH **info@isyst.de · www.isyst.de**
PRODUCTS + SERVICES + ACADEMY · Hugo-Junkers-Str. 9 · 90411 Nürnberg · Phone: +49 (0) 911 - 37 665 - 0

Razorcat is focused on products and services for testing of embedded software and systems.
Since 1997 we develop software test tools which are continuously improved to meet the steadily growing requirements of today's development processes for safety-critical software and high quality standards.

Our team consists of experts with in-depth experience in software development, tool adaptations, interfaces and customized solutions as well as development and testing of safety-critical software. Our experts share their knowledge within seminars or consulting services. We are always providing the best quality, in shortest time and with highest efficiency!

Razorcat Development GmbH **info@razorcat.com · www.razorcat.com**
PRODUCTS + SUPPORT · Head office · Witzlebenplatz 4 · 14057 Berlin · Phone: +49 (0) 30 - 53 63 57 - 0
SERVICES + TRAINING CENTER · Im Ermlisgrund 3 · 76337 Waldbronn · Phone: +49 (0) 7243 - 561 58 - 0

CCDL is a test specification language that provides a dedicated high-level and easily applicable test language for powerful requirements-based system testing. The fully automated test execution and evaluation shortens testing cycles and reduces required manpower.

Testing with CCDL – major features

- Powerful requirements-based system testing
- Fully automated test execution and evaluation
- Intuitively readable and easy to learn
- Reduces manual test tasks and documentation efforts
- Defining test stimulations and expected reactions in a human readable format
- Executes in real-time on the test bench
- Open test engine interface to connect arbitrary test benches
- Visualization of the test execution flow
- Open interfaces to test management solutions

Requirements-based testing

Traceability of test results to system requirements and vice versa is one of the most important issues arising while testing safety-critical systems according to aerospace, automotive or medical standards. CCDL automatically evaluates the SUT behavior and reports results based on requirement annotations within the test procedure.

Real-time black box testing

CCDL is applicable for black box system testing with input and output interfaces which are used for stimulation and checking of expected system reactions.
The CCDL test procedure is automatically compiled into an executable test control program that runs as real-time process on the test bench.

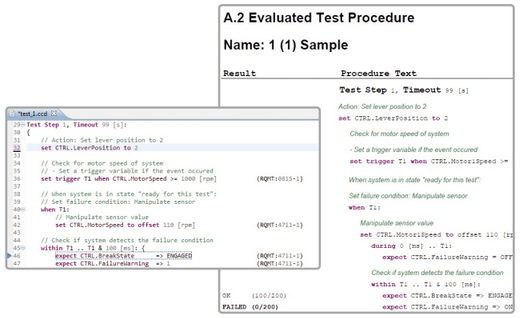
ITE

Test management integration

CCDL has open interfaces to test management solutions and it is already part of our Integrated Test Environment (ITE).

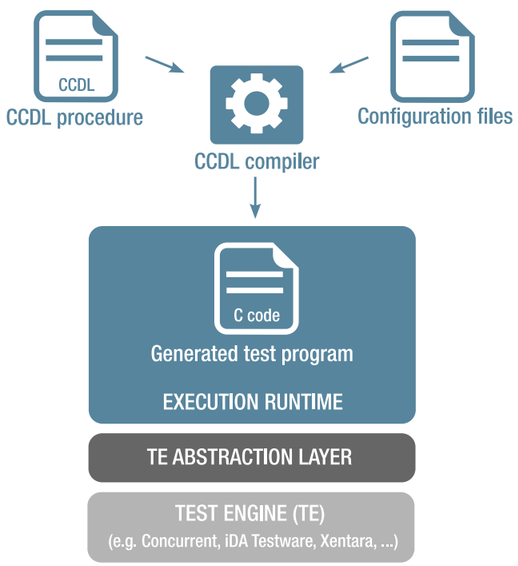
Easy to use

The intuitively readable CCDL test specification reduces documentation efforts and the visualization of the test execution flow reveals the dynamic behavior of the system under test. It clearly spots any deviations against the expected results.



Test bench interfaces

A well-defined interface to the underlying test execution engine allows running tests written in CCDL on any test tool that provides the required functionality. You will find all currently supported test benches at our web page.



HIL4YOU is a high-performance mini HIL test system perfectly matched to CCDL, available at short notice with a wide range of expansion options.
The real-time system is based on our iDA Testware with a high-performance mini PC and I/O modules.

Typical use cases

HIL4YOU is perfectly suited for test objects with a low number of interfaces and automated HIL testing during all development phases.

Testing with HIL4YOU hardware – major features

- Available at short notice
- Compact and transportable
- Remote controllable
- iDA Testware based real-time system with a high-performance mini PC and I/O modules
- Automation with CCDL
- Suitable across industries
- Standalone system
- Interfaces for connecting external devices
- 18 channels for failure insertion
- Scalable with coupling of several modular units

Technical Details

Supply voltage	**230 VAC**
Analog output voltage	**± 13 VDC**
Analog output current	**± 30 mA**
Analog input voltage	**± 60 VDC**
Digital output voltage	**0...30 VDC**
Digital output current	*High-side switch:* **2 A**
	Low-side switch: **5,3 A**
	Logic level: **20 mA**
Digital input voltage	**0...26 VDC**
Digital input threshold voltage	**2,5 VDC**
High-side driver	*High-side voltage:* **24 V**
	Max. per current channel: **2 A**
Failure insertion	*Switching capacity:* **20 A @ 16 VDC; 0,5 A @ 50 VDC**
	Channel resistance: **typical 0,05 ohms**
	Switching times, max. (open, loaded): **< 5 ms**
Current measurement	*Measurement:* **5 A to 25 A**
	Response time: **< 1 µs**
	Cutoff frequency: **150 kHz**

PWM measurement	*Input voltage:* **0...30 VDC**
	Input threshold voltage: **2,5 VDC**
PWM frequency range	*Low:* **2 Hz...1 kHz**
	Mid: **1 kHz...20 kHz**
	High: **20 kHz...200 kHz**
Duty cycle range	**1...99%**
Software	**iTestStudio, iDA Testware**

RAZORCAT *Automate your test process*

iSYST *Rely on your test hardware*