Processor-in-the-Loop Simulation

- ARM®/Cortex®
- AURIX™ Family
- Power Architecture™
- RH850 Family
- and others
Processor-in-the-Loop Simulation

For many industries Processor-in-the-Loop simulation has become an important step in the design verification. For this reason TRACE32 supports this technique in two ways:

- Via the TRACE32® Dynamic PIL Interface
- Via the Matlab™ PIL API

**TRACE32® Dynamic PIL Interface**

Benefits

- For autogenerated and hand-written code
- JTAG-based Processor-In-the-Loop (PIL) testing for Simulink™
- Test virtualization
- Seamless prototyping
- On-the-fly debugging
- IEC 61508 compliant unit testing
- Open for 20+ processor architectures

**Matlab™ PIL API**

Benefits

- Support for AUTOSAR models
- Support for model referencing
- JTAG-based Processor-In-the-Loop (PIL)
- Test virtualization
- Seamless prototyping
- On-the-fly debugging
- Open for 20+ processor architectures
Whereas similar solutions rely on premade hooks to create a suitable interface for PIL testing, Lauterbach has developed a different approach. To be able to even support hand-written source code, the TRACE32 Dynamic PIL Interface features a parser for both model and source code interface. The workflow analyzes the interface, makes it configurable by the user, and creates it dynamically. Taking advantage of the capabilities of modern debug interfaces TRACE32 makes all model parameters tunable without the need to recompile the object code.

**Supported code generators include:**

- Embedded Coder®
- TargetLink®
- Qgen
Hardware-based Products

**Power**

Debugger via JTAG
Support for any target with a single tool chain

**Debug**

Real-Time Trace
Allows detailed profiling of the target application

Software-only Products

**Front-End**

Debugger for Virtual Targets
Allows test virtualization

**SIM**

TRACE32 Instruction Set Simulator
Perform a virtual PIL simulation on the TRACE32 Instruction Set Simulator

Benefit from the same user interface on all products.

For more information visit: www.lauterbach.com/1877