DATASHEET

DANLAW

MxSuite

Mx-Suite™ PiL Connector, Processor-in-the-Loop Solution

The Mx-Suite PiL Connector offers an ideal environment for performing Processor-in-the-Loop (PiL) testing with an easy connection to in-circuit debuggers. It provides all the benefits of the Mx-Suite Embedded Software Test environment, including automation, reports, pass/fail assessments, graphic test presentation/editing, test portability, and ALM integration. Mx-Net, the data streaming component of Mx-Suite, provides the communication interface to the hardware.

PiL Connector Benefits

- The software being tested is built into an executable using the target compiler/linker and executes on the target processor.
- Using the PiL connector with Mx-Suite supports these ISO 26262 requirements:
  - Test as close to the target environment as possible
  - Measure code coverage up to the level of MC/DC
- Valuable timing information can be acquired when testing on the target processor. Timing information was gathered on a host computer is generally not useful.
- Tool chain or potential code portability issues can be detected earlier.
- SiL and MiL test cases can be easily and automatically reused for PiL testing, reducing the need to deploy emulators to every developer.

What is PiL testing?

PiL testing validates the behavior of software on the target processor using production-intent build tools. In contrast, SiL testing is typically performed on a host development PC using a different processor and tool chain.

Normally, PiL testing uses an emulator or debugger and does not require additional bench test equipment that manipulates and measures the state of the processor's I/O ports.

PiL testing is important for development processes implementing safety critical systems. Unit or feature testing models or code compiled for a host PC has significant limitations. The only way to know how it will behave is to execute and test on the target processor.

Features

Supports C and C++ source code (Ask about ADA support.)

Source code is automatically harnessed and connected to Mx-Suite

Automated code instrumentation supports easy achievement of:

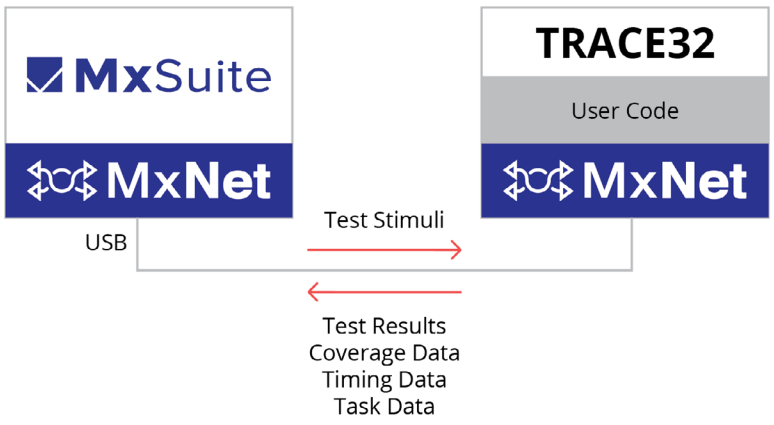
- Code Coverage (including MC/DC)
- Timing and profile information

Mx-Suite has a TUV SUD approved tool qualification kit for ISO 26262 process requirements

Lauterbach Support

The PiL Connector works with TRACE32 in simulator (ISS) and emulator mode. All processors currently supported by Lauterbach operate with Transform.

Ask about support for additional emulators, such as iSystems, Keil, and more.



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