

Factsheet



TimeWeaver for ARM

Release 25.04i, b17402278

April 24, 2025





TimeWeaver estimates the worst-case execution times of tasks by combining local timing information from instruction-level traces with a global static worst-case path analysis. The resulting time bounds are valuable for soft real-time systems and provide feedback for optimizing worst-case performance.

Key benefits

TimeWeaver gives detailed information about the execution time and time-critical paths, including

- global end-to-end time, based on the maximum observed trace segment times combined to an overall bound,
- end-to-end bounds for specific functions, depending on trace points,
- coverage of the control-flow graph by the input traces,
- maximum possible and maximum observed iteration counts for loops,
- time variance of each trace segment over all traces.

TimeWeaver offers a powerful user interface, with fully integrated graphical and textual viewers for control flow, analysis results, source code, assembly code, and configuration files. You can:

- interactively explore analysis results,
- save and restore analysis scenarios,
- export customizable reports for documentation and certification purposes,
- start all analyses from the same GUI and handle all the tools with the same look and feel.

Supported compilers

- ARM Developer Suite C/C++ compiler
- CompCert C Compiler
- GNU C/C++ Compiler (GCC)
- Green Hills C/C++ Optimizing Compiler
- IAR C/C++ compiler

- Keil MDK-ARM C/C++ compiler suite
- LLVM/Clang based ARM compilers such as the HighTec compiler
- Tasking C/C++ compiler
- Texas Instruments C/C++ compiler
- Wind River Diab C/C++ compiler

Supported processor derivatives

TimeWeaver/ARM works for all boards equipped with processors that are able to emit ETM program trace messages. For example, the following boards support such trace messages:

- Xilinx Zynq UltraScale+
(Cortex-A53 and Cortex-R5 cores)
- Texas Instruments TMS570LC4357
(Cortex-R5 core)

System requirements

- Windows: x86-64 Windows 10 (1809) or newer
- Linux: x86-64 RHEL 9 or compatible
- 4 GB of RAM (16 GB recommended)
- 4 GB of disk space

Also available

The following AbsInt products are also available for this target:

- aiT
- StackAnalyzer
- TimingProfiler
- ValueAnalyzer

More information

- Visit our website: www.absint.com



- Speak with a product specialist:
call +49 681 383 600

About AbsInt

AbsInt provides advanced development tools for embedded systems, and tools for analysis, optimization and verification of safety-critical software. Our customers are located in more than 40 countries worldwide. We have distribution agreements with major software distributors in Asia, North America, Middle East, and throughout Europe.

Our headquarters

Science Park 1
66123 Saarbrücken, Germany
Phone: +49 681 383 600
Fax: +49 681 383 60 20
Email: info@absint.com
Web: www.absint.com