VEROCEL
The Software Verification Company

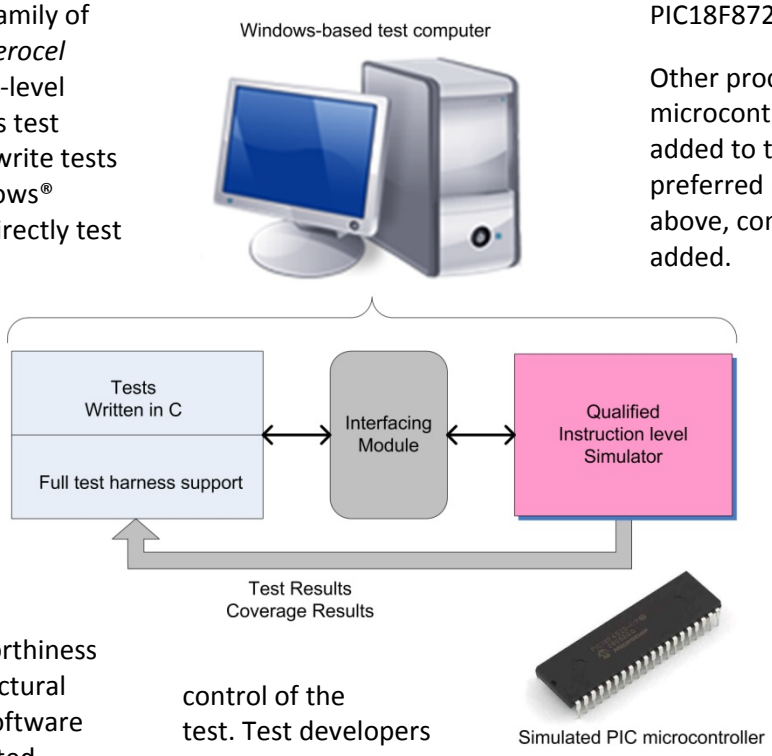
PICSIM

PIC Instruction-level Simulator Software

Verocel, Inc., known for supplying certification evidence for operating systems hosted on major microprocessor lines such as the PowerPC™ and Intel® x86, has expanded its offerings to support certification of software on the Microchip PIC® family of microcontrollers. The *Verocel* PICSIM™ PIC instruction-level simulator software gives test developers a means to write tests in the Microsoft® Windows® environment that can directly test PIC-based applications.

Providing the full complement of certification evidence for small processors like the PIC microcontroller is challenging. Safety critical software guidance such as **DO-178B** used for airworthiness demands complete structural coverage data for the software being certified. The limited resources of a PIC microcontroller make such data collection difficult or impossible. The *Verocel* PICSIM instruction-level simulator software, **qualified to Level A**, is designed to solve that problem quickly and effectively.

Test developers create requirements-based tests written in the C programming language and the *Verocel* PICSIM is linked as a library. The program-under-test is loaded into the *Verocel* PICSIM and executed under the control of the test. Test developers can directly call functions in the software-under-test, monitor all memory accesses (reads and writes), alter data fetched or stored dynamically, and collect structural coverage data during testing. The software-under-test need not be altered.



Verocel has successfully completed several certification efforts with this system. The *Verocel* PICSIM software currently supports the PIC18F4321, PIC18F442, PIC18F8720, PIC18F6622, PIC18F4520, and PIC18F8722 microcontrollers.

Other processors within the PIC18 microcontroller family will be added to the suite soon. If your preferred processor is not listed above, contact Verocel to have it added.

If you have a safety critical PIC microcontroller-based project, contact Verocel for more information on its Verocel PICSIM PIC instruction-level simulator software and related tools. Structural coverage data collection from a small footprint microcontroller has never been so easy.

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