WIND RIVER SIMICS

Simulate Anything, Chip to System

Wind River® Simics® allows developers to have on-demand and easy access to any target system, more efficient collaboration between developers, and more efficient and stable automation, enabling organizations to reap the business benefits of Agile and Continuous Development practices. This allows you to shorten the product lifecycle, so you can create and deliverbetter software, faster—even for complex, embedded, connected, and large IoT systems.
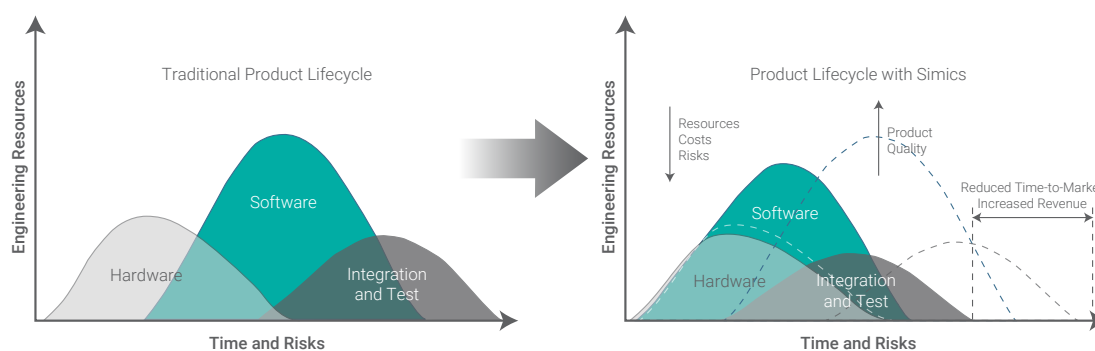

Figure 1. Wind River Simics shortens the traditional product lifecycle

DEVELOP SOFTWARE IN A VIRTUAL ENVIRONMENT

Software developers use Simics to simulate nearly anything, froma single chip all the way up to complete systems and networks of any size or complexity. A Simics simulation of a target system can run unmodified target software (the same boot loader, BIOS, firmware, operating system, board support package (BSP), middleware, and applications as the hardware), which means users can reap the benefits of using a pure software tool.

MAXIMIZE PRODUCT DEVELOPMENT VELOCITY

* Access: Speed time-to-market by providing instant access to a virtual hardware environment everyone can share.

* Collaboration: Consider the system's hardware, software, current state, and execution history as a single unit that can be copied, communicated, and replicated with ease by anyone on the team, anywhere in the world.

* Automation: Use the scripting and programmability of Simics to automate and parallelize testing and reconfiguration. Automate your complete test environment, with unlimited numbers of target systems to run tests in parallel.

WHAT CAN YOU DO WITH SIMICS?

* Experiment: Simics makes it easy to experiment with different hardware setups, software applications, and platform configurations to validate assumptions before committing to system design.

* Test and run: Run your software on the virtual system just as it would run on the physical system, without the limitations of physical systems. The software binaries you run on the virtual system are the same you'll run on the real target—and all developers can run them from the very start.
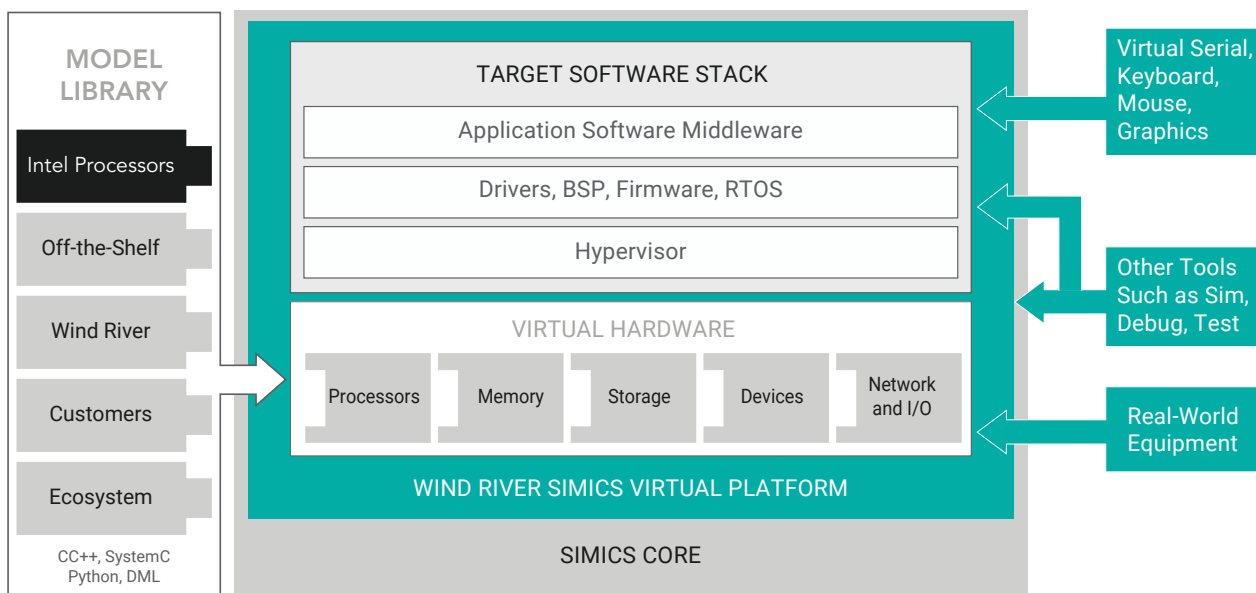
Figure 2. Simulate your entire target system

- **Debug:** Simics makes problem isolation and analysis much more efficient. Debug all your software (including BIOS, drivers, low-level software, and OS-level code) without access to hardware and with perfect control over the virtual target.

- **Develop:** With Simics, application developers can use the real target from the start, with the same toolchain, libraries, operating system API, and operating system behavior. This eliminates the issue of using a different toolchain and not finding problems until the code is compiled for the real target and integrated into the target system.

- **Share:** Enable all of your product users with virtual systems in all phases of the product lifecycle. Internal teams, platform integrators, and partners all have access to virtual boards while the real board is being designed.

- **Configure:** With Simics, a target system setup is just software, so you can control almost any parameter—simple to complex—of the target system using scripts and Simics modules. Set up an infinite supply of boards, with no need to physically visit the lab to change configurations.

- **Communicate:** Simics makes it possible to consider the system's hardware, software, current state, and execution history as a single unit that can be copied, communicated, and replicated with ease by anyone on the team, anywhere in the world. With Simics, communication between development, test, integration, support, and sustain teams is effortless.

REMOVE OBSTACLES WITH A VIRTUAL LAB

One of the biggest obstacles with developing, debugging, integrating, and testing an electronic system is that target hardware and physical labs are not always available in an operational state for everyone, or access to them is subject to long waiting times. This means engineers have to make do with less-than-ideal substitutes such as reference boards or host-based development. With Simics, you can have a virtual lab that is available on demand—for any team member, at any point in time, at any location in the world, and with any amount of hardware. Furthermore, the virtual lab is not just a piece of the system; it can be the entire system. This allows users to do their work in the context of a complete system instead of just a part of it.

To learn more, visit www.windriver.com/simics or contact us at salesinquiry@windriver.com.

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