

NXP LX2160A AND CURTISS-WRIGHT VPX3-1708 MODELS FOR INTEL SIMICS 6

WIND RIVER PRE-BUILT SOLUTIONS FOR INTEL SIMICS

When embedded system software development and testing are constrained by the availability of target hardware and systems, the entire business faces problems. Issues include slow time-to-market, high capital and operating expenses (CapEx and OpEx), suboptimal quality management, and limited security testing. For certification programs in particular, lack of hardware makes it difficult or impossible to kick-start the project, and any supply chain constraints or delays translate into significant losses.

Now, with pre-built and optimized Wind River® models for Intel® Simics®, developers, testers, and certification professionals can collaborate in virtual environments and have on-demand access to any target system at any time. Using software-based simulations for NXP Layerscape LX2160 and Curtiss-Wright VPX3-1708, companies can mitigate the delays and shift-left the certification efforts.

ADVANTAGES OF WIND RIVER PRE-BUILT AND OPTIMIZED MODELS

Simics enables more efficient development and higher velocity for development and testing. With seamless and reliable access to virtual platforms, teams can refine in real time; iterate continuously; and move through design, development, and test quickly to build their system incrementally. Simics improves team interaction and collaboration by providing an environment where cross-functional members can share actual running systems and system setups, rather than documenting and describing setups and software behavior. Furthermore, the availability of Simics early in the product development lifecycle helps shorten overall effort, reduce costs, and increase testing cycles through automation.

Leveraging the already available and optimized models, teams can start right away and not worry about building model-development expertise or long-term support and maintenance. Our dedicated services team can assist you throughout entire product lifecycle, from design through product deployment and maintenance.

Learn more about our safety and certification services at www.windriver.com/studio/services/safety-and-certification.



INTEL SIMICS SIMULATOR

Intel[®] Simics[®], with its simulator and virtual platforms, is used extensively for pre-silicon software enabling and development, computer and system architecture, hardware validation, ecosystem enablement, and more. The simulator framework has proven capable of modeling the most complex hardware platforms in existence, including the many firmwaredriven engines embedded inside modern systemson-chip (SoCs). Virtual platforms can integrate and interact with all types of external tools and other simulator models, including cycle-accurate computer architecture simulators, debuggers, physical world simulations, big-box emulators, and more.

Learn more at

www.intel.com/content/ www/us/en/developer/ articles/technical/simicssimulator-technology.html.

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INCLUDED MODEL FEATURES AND CAPABILITIES

The following features and capabilities have been validated and optimized for the best developer experience. They come with support for VxWorks[®].

These models use the PCVP Arm Library Performance bundle, which is available as an optional add-on for Simics and can be purchased directly from Wind River.

NXP LX2160A

- 16 Cortex A72 cores
- Arm® MMU-500
- Arm CoreLink GIC-500
- SDRAM
- PCIe controller
- UART
- I2C
- 2 PCA9547 I2C multiplexers
- FlexTimer
- FlexSPI
- SPI
- SD/eMMC
- GPIO

- SMMU
- Queue Direct Memory Access (qDMA)
- SATA 3.0
- TrustZone (TZC-400)
- USB 3.0
- FlexCAN
- DPAA2

CW VPX3-1708

Adds to the LX2160A list:

- VPX3-1708 configuration
- Elapsed time counter (ETC)
- Real-time clock (RTC)
- E²PROM

HIGH-SPEED NETWORK PACKET PROCESSING

The hardware architecture designed for high-speed network packet processing relies on DPAA2 (Data Path Acceleration Architecture Gen2).¹ DPAA2 consists of sophisticated mechanisms to enhance networking performance, streamline packet processing, and provide a robust architecture for high-speed network systems. DPAA2 allows for independent and efficient operation at each level of packet processing, making it a powerful architecture for networking applications in certification programs.

CONTINUOUS PRACTICES THROUGHOUT THE ENTIRE PRODUCT LIFECYCLE

Use these models together with world-class support and maintence from Wind River for all development phases, including the certification program:

- In the design phase, assess the hardware architecture to validate design assumptions before committing.
- In the development phase, test and run software on virtual systems that perform exactly as they would in the physical world.
- In the validation phase, perform debugging without the overhead of expensive hardware setups and with perfect control over the virtual target, to isolate problems efficiently.
- Throughout the entire process, work on the real target system with the same toolchain, libraries, operating system API, and operating system behavior.

Find out how you can leverage these models for your project. Contact us at salesinquiry@windriver.com for more details.

1. DPAA2 (Data Path Acceleration Architecture Gen2) Overview, www.kernel.org/doc/html/v4.17/networking/dpaa2/overview.html.

WNDRVR

Wind River is a global leader of software for mission-critical intelligent systems. For 40 years, the company has been an innovator and pioneer, powering billions of devices and systems that require the highest levels of security, safety, and reliability. Wind River offers a comprehensive portfolio of software and expertise that are accelerating digital transformation across industries.

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