



PRE-HARDWARE DEVELOPMENT
SOLUTIONS FOR SOFTWARE AND
SYSTEM ENGINEERS

VIRTUAL PLATFORMS FOR ZYNQ-7000 EXTENSIBLE PROCESSING PLATFORM (EPP)

➤ Today's Market Challenges

- Complex products are difficult to specify
- Product features are largely driven by software content
- Software development is dependent on hardware availability
- System design must consider both hardware and software
- Modern systems are increasingly difficult to debug

➤ Zynq-7000 EPP Virtual Platforms: Streamlining software development

- Pre-hardware prototyping and configuration
- Hands-on system specification development
- System application development (Linux, RTOS, device drivers and bare metal applications)
- Full run control and hardware register visibility for enhanced debug capabilities
- Fault injection and Metric-driven hardware and software verification

Virtual Platform Overview

A virtual platform enables the development, integration and test of full software stacks without access to real hardware. Virtual platforms also provide new capabilities that can significantly reduce development time compared to traditional hardware-based approaches.

Xilinx provides multiple virtual platform choices to address the cost, capability and extensibility needs of different developers. Each virtual platform can be described as a functional simulator which includes a fast instruction set simulator for the ARM® Cortex™ A9 MPCore™ processor, models of the Zynq™-7000 EPP peripheral set, memory, and ancillary peripherals necessary to create a full development platform. Every device model is register-accurate, ensuring that they will run the same production binaries as the actual hardware.

Zynq-7000 EPP QEMU System Model

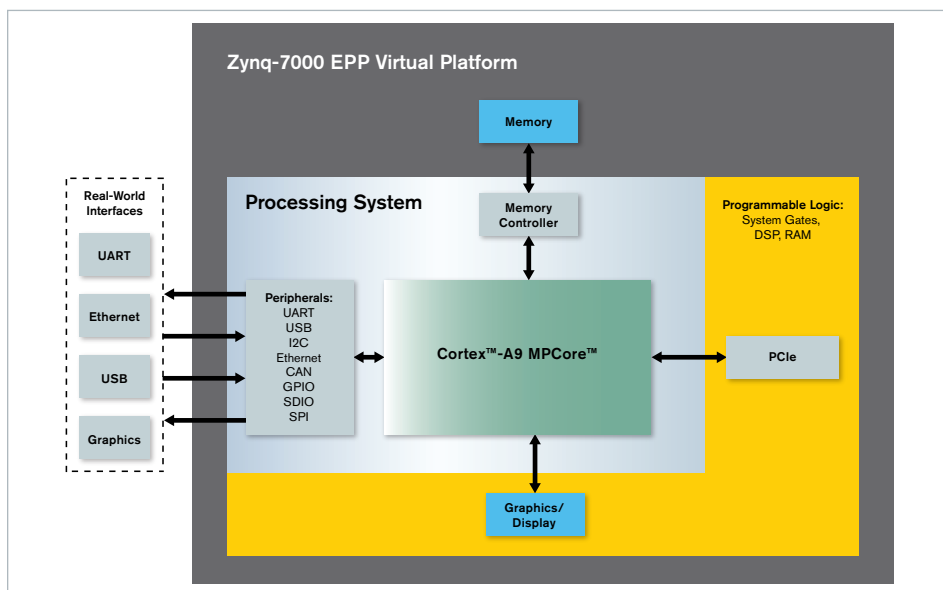
Open source-based solution for the Zynq-7000 EPP:

- Zero cost virtual platform for Zynq-7000 EPP
- Models key processing system peripherals
- Supports early software development: OS porting, device drivers, application development
- Hardware independent / pre-silicon solution
- Connects to real-world Ethernet, USB, video, and serial console

Extensible Virtual Platforms

Built upon Cadence® Virtual System Platform (VSP) technology, the Zynq-7000 EPP Software Developer and Zynq-7000 EPP System Creator virtual platforms provide stable, feature-rich, fast and functionally accurate models of the Zynq-7000 EPP processor system, its peripherals, memory and IO allowing developers to run a range of operating systems and applications. These high-performance virtual platforms allow Linux™ to boot in under ten seconds.

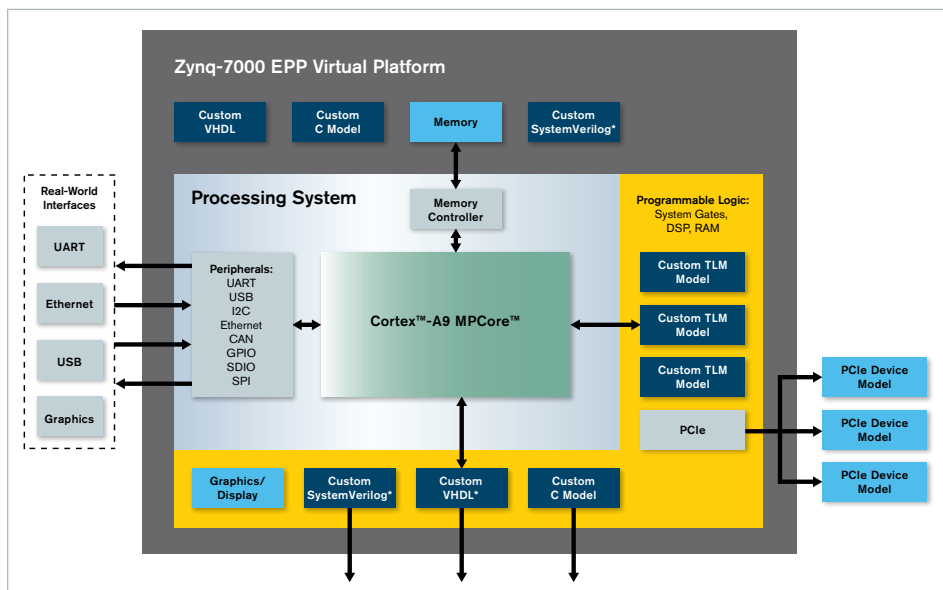
ZYNQ-7000 EPP VIRTUAL PLATFORM FOR SOFTWARE DEVELOPERS



Zynq-7000 EPP Software Developer Virtual Platform

- Models ARM Cortex™-A9 MPCore™ processor
- Fast simulator with NEON and floating point support
- Models all major blocks of Zynq-7000 EPP devices
- Full run control – pause/restart
- Runs Linux, RTOS and bare metal applications

ZYNQ-7000 EPP VIRTUAL PLATFORM FOR SYSTEM CREATORS



Zynq-7000 EPP System Creator Virtual Platform

- Supports advanced verification, analysis and profiling
- Integrated with Cadence System Development Suite
- Extensible with device and platform models written in TLM/SystemC and C
- SystemVerilog and VHDL are supported with additional Incisive® licenses
- Exports customized virtual platform for execution in the Software Developer Virtual Platform
- Supports metric-driven verification of hardware and software fault conditions

Take the NEXT STEP

For more information about the Zynq-7000 family, visit www.xilinx.com/zynq

Corporate Headquarters

Xilinx, Inc.
2100 Logic Drive
San Jose, CA 95124
USA
Tel: 408-559-7778
www.xilinx.com

Europe

Xilinx Europe
One Logic Drive
Citywest Business Campus
Saggart, County Dublin
Ireland
Tel: +353-1-464-0311
www.xilinx.com

Japan

Xilinx K.K.
Art Village Osaki Central Tower 4F
1-2-2 Osaki, Shinagawa-ku
Tokyo 141-0032 Japan
Tel: +81-3-6744-7777
japan.xilinx.com

Asia Pacific Pte. Ltd.

Xilinx, Asia Pacific
5 Changi Business Park
Singapore 486040
Tel: +65-6407-3000
www.xilinx.com



© Copyright 2011 Xilinx, Inc. XILINX, the Xilinx logo, Virtex, Spartan, ISE and other designated brands included herein are trademarks of Xilinx in the United States and other countries. All other trademarks are the property of their respective owners.

Printed in the U.S.A. PN 2492