Virtualizer: Next-Generation Virtual Prototyping

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Introducing Virtualizer: Next-Generation Virtual Prototyping Solution

• Accelerates software development schedules by up to nine months and delivers up to 5X increase in design productivity compared to traditional methods

• Leverages proven virtual prototyping technologies deployed at more than 50 leading semiconductor and electronic systems companies

• Fast and accurate simulation with comprehensive system visibility and control delivers near real-time software execution with unparalleled debug and analysis efficiency

• Integral part of the industry’s most comprehensive solution of tools, models and services for early software development, hardware/software integration, and system validation

• Enables efficient software-driven verification by linking to Synopsys’ HAPS® FPGA-based prototyping systems and VCS® functional verification solution, as well as other environments
Consumer Software Problems ...

Google’s Clunky Honeycomb Software Ruins The Motorola Xoom ...
[Mar 4, 2011] Google’s Clunky Honeycomb Software Ruins The Motorola Xoom [REVIEW] ... The real problem with the Xoom is the user experience on Honeycomb. Here's what ... (71 Comments)
www.businessinsider.com/google-honeycomb-motorola-xoom...

Update: Volvo recalls 360,000 cars
by Chris Tutor (RSS feed) on Nov 25th 2006 at 11:21 AM

Looks like Volvo’s bad recall news we told you about Wednesday got worse. Reuters is reporting that Volvo will recall 360,000 cars, not 170,000 we said in the previous post.

According to the official NHTSA-ordered recall, Volvo will install new software to fix speed controls on the recalled cars. Models affected include the 1999-2002 V70, and C70 coupes and convertibles, the 1999-2002 S60, the 1999-2000 S70 and V70XC; 1999-2001 S80; and the recall number is 06V41000.

that Volvo spokesman Christer Gustafsson said the fixed the speed control problem on about 165,000 recall total after sending out notices to owners in March.

Research In Motion recalls about 1,000 BlackBerry PlayBooks
May 16, 2011 | 9:21 am

Research In Motion recalled about 1,000 BlackBerry PlayBooks on Monday due to a software glitch that prevents users from getting their tablets set up after purchase.

E71 firmware v400.21.013 power consumption
06-Dec-2009 08:00 AM

I recently upgraded the firmware of my E71 from version 300 to 400.21.013. Previously the battery lasted in normal use approximately three days. After the upgrade the battery drains in half a day. Has anyone noticed similar problem and is there a solution for it?
Enablement throughout the supply chain
- ISO 26262 automotive standard implementation for safety control

Exploding software complexity and cost
- 56% of projects are late & 28% of developers would improve debugging tools – EETimes 2010 Survey

Growing HW/SW complexity
- Nearly 70% of engineers writing SW for 45nm

SoC verification bottlenecks
- 60% of design failures due to logic or functional errors - Collett International Research, Inc., 2005 and SNUG 2009 Survey
How and Where Can Virtual Prototypes Help?

Fast, fully functional software model of systems under development executing unmodified production code and providing higher debugging/analysis efficiency

- Earlier availability
- Easier deployment
- Better developer productivity

- SW development, integration & test
- Verification
- SoC HW/SW integration
- System validation
- Supply chain enablement

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Accelerate Time-to-Market with Higher Quality and Fewer Resources

Traditional Flow

- HW Development
- SW Development
- Integration & Test
- Product Support & Maintenance

w/Virtual Prototyping

- HW
- SW
- Integration & Test
- Product Support & Maintenance

Higher Productivity

Earlier TTM

Higher Quality
Introducing Virtualizer

- Supports a **complete virtual prototyping flow**

- Leverages **proven and deployed technologies** from Virtio, VaST and CoWare through model reuse

- Increases productivity with **new debug & analysis capabilities**
Virtualizer Supports a Complete Prototyping Flow

Virtual Prototyping Development Flow

- Model Libraries
- Component Modeling
- Assembly
- Debugging

Virtualizer: VP Creation

- HW/SW Debug & Analysis Tools
- Virtual Prototype
- VDKs

Software Tool Interfaces

Design Tasks:
- SW-driven verification
- SoC HW/SW integration
- SW development
- System validation & test
- Supply chain enablement

Co-Simulation & External Connectivity
Integrated Flows Accelerate Adoption and Deployment

Virtualizer integrations and APIs:

System Validation
- Physical system & distributed simulation, testbenches & Virtual I/Os

Software Development
- 3rd Party debuggers (ARM, Lauterbach, gdb, etc.), OS-aware debug & analysis

SoC Integration
- FPGA Prototyping (HAPS FPGA-based prototypes)

Verification
- RTL Simulation (VCS), Emulation (EVE ZeBu)
Virtualizer:  
*The Complete Virtual Prototyping Solution*

- Largest portfolio of models
- Intuitive and efficient virtual prototype creation tools
- Expanded with advanced HW/SW debugging & analysis tools
- Integration with existing flows and tools from semi to systems
- Worldwide support and technical expertise
- Proven deployment at >50 companies

“Synopsys delivers a virtual prototyping solution that directly **addresses** the debug and analysis **needs of embedded software developers in semiconductor and electronic products companies**, while bridging the gap with hardware development flows.”

- Steve Balacco, Director, Embedded Software and Tools Practice, VDC Research