

## **Freescale and Virtutech connect to simplify multi-core development**

Now sampling, the dual-core MPC8572 is first of many Freescale devices planned to feature virtualized software development support

AUSTIN, Texas, – June 18, 2007 – To address growing demand for technology that simplifies development within increasingly complex multi-core environments, Freescale Semiconductor and Virtutech, Inc. have collaborated to dramatically shorten development cycles and help developers unleash the full potential of embedded multi-core technology.

The proliferation of multi-core processors is outpacing the ability of traditional embedded development technology to manage added complexity. As a result, developers and system designers are relying on virtualized or simulated development environments for defining, confirming, and optimizing their software architecture performance.

Freescale and Virtutech plan to jointly create highly advanced simulation models for a host of current and future Freescale multi-core processors. The first product supported is the MPC8572E – a high performance, dual-core processor now shipping in sample quantities. Simics, a high performance development environment from Virtutech that simulates the MPC8572E, is available now to give customers a head start in creating products based on the device. Customers can use Simics prior to receiving silicon to develop and validate entire software stacks from low level firmware up through the operating system and application layers.

“The processing potential of multi-core devices remains untapped because multi-core systems are only as effective as software’s ability to handle parallelism,” said Chekib Akrouf, vice president and general manager of Freescale’s Networking System Division. “Our customers are asking for highly advanced multi-core processors, but they also want the expertise and tools required to harness the performance of these devices. By working closely with the industry’s top system simulation firm, we are addressing customer needs and advancing the embedded multi-core movement.”

### **Virtualized software means better code and faster, simpler development**

Virtualized software development provides Freescale customers with a simulated environment where everything is deterministic, everything can be seen, everything can be controlled and software developers can perform “what if” scenarios without real-world hardware constraints. Using Simics, developers can partition cores and code, deploy and bring up operating systems, as well as develop, debug and test software. Entire multiprocessor systems can be stopped

and restarted, and code can be run backwards, step by step, providing a new level of visibility into the inner workings of the cores.

"Multi-core processors like Freescale's MPC8572E require new approaches to software development," said Tom R. Halfhill, senior analyst for In-Stat's Microprocessor Report. "It's not enough for semiconductor companies to simply cram more processor cores on a chip and then expect their customers to figure out the rest. Freescale's partnership with Virtutech shows that the hardware designers are thinking ahead and helping to solve the problems of the software developers. Without this kind of collaboration, multi-core processors cannot realize their full potential."

A recent Virtutech survey conducted among more than 350 embedded software developers who attended the 2007 Embedded Systems Conference found that a dearth of adequate tools for multi-core development is causing mounting challenges for developers. Thirty three percent of the respondents cited the lack of determinism in multi-core debugging solutions as their biggest concern. Additionally, 22 percent of the respondents cited single-processor bias as the most difficult aspect of debugging software on multi-core systems.

Simulated hardware works seamlessly with traditional debuggers and compilers, providing a way to manage the entire product development lifecycle. The models are so accurate that developers can run unmodified binaries. And because Simics models are available months ahead of first silicon, customers can start development earlier and share virtual platforms on-time and on-demand everywhere.

"The sooner developers can have access to high fidelity and high performance models of complex multi-core processors in order to make critical software design decisions and undertake implementation, the better the return on time to market," said John Lambert, CEO of Virtutech, Inc. "We believe that the strategic partnership with Freescale will drive the success and adoption of multi-core into electronic devices, and we look forward to supporting Freescale customers and partners to make them more successful."

### **About the MPC8572E**

Available now, Freescale's dual-core MPC8572E device offers a powerful blend of high performance networking technologies. In addition to two Freescale e500 Power Architecture™ cores, the MPC8572E integrates a Layer 4-7 Pattern Matching Engine for advanced security processing, and security offload pattern matching capabilities that enable deep packet inspection and full content processing. In addition, the MPC8572E facilitates table look-ups for access control lists and header inspections to offload packet routing and forwarding policy decisions – all on a single chip.

### **Availability**

The MPC8572E is sampling now, and general availability is scheduled for the second quarter of 2008. A Simics virtualized development environment for the device is available now.

### **About Freescale Semiconductor**

Freescale Semiconductor is a global leader in the design and manufacture of embedded semiconductors for the automotive, consumer, industrial, networking and wireless markets. The privately held company is based in Austin, Texas, and has design, research and development, manufacturing or sales operations in more than 30 countries. Freescale is one of the world's largest semiconductor companies with 2006 sales of \$6.4 billion (USD). [www.freescale.com](http://www.freescale.com)

### **About Virtutech**

Virtutech, Inc. is the leading provider of virtualized software development solutions. Virtutech's flagship solution Simics models electronic systems with high performance and fidelity, providing a programmer-friendly environment throughout the product development lifecycle. Simics eliminates software developers' dependence on hardware and drives concurrent hardware and software development, enabling its customers to optimize productivity, experience lower capital expenditure, accelerate time to market, improve the quality of the released product and reduce project risk. Virtutech serves the needs of the world's leading OEMs in the high-performance computing, aerospace and defense, telecommunications, and networking industries. Their customers include Cisco, Ericsson, Honeywell, IBM and Smiths Aerospace. Virtutech is headquartered in San Jose, Calif. For more information, visit [www.virtutech.com](http://www.virtutech.com).

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