

## **Freescale speeds embedded multicore adoption with new VortiQa software products and an expanded ecosystem**

Optimized for QorIQ and PowerQUICC communications platforms, production-ready VortiQa software shortens development cycles and boosts application performance for multicore designs

AUSTIN, Texas – June 15, 2009 – To address challenges threatening to slow industry adoption of embedded multicore technology, Freescale is introducing a comprehensive, solution-based approach to help networking and communications customers speed and simplify their migration to multicore processors.

Central to this new approach is VortiQa software from Freescale – tested, proven, production-ready application-level software specifically optimized to unleash the industry-leading performance of QorIQ and PowerQUICC processors. Today, Freescale launches the first four VortiQa product lines targeted at the service provider, enterprise, small business and SOHO/residential market segments.

VortiQa software, together with an expansion of Freescale's world-class ecosystem, offers the company's customers the solutions required to realize the performance and energy-efficiency benefits of advanced multicore processors. For example, VortiQa software for enterprise network equipment leverages Freescale hardware acceleration technology to provide up to 10x VPN performance in security-enabled network equipment compared to non-optimized solutions, while dramatically reducing development time.

"VortiQa software is about helping our customers innovate and win with technology that boosts silicon performance and dramatically speeds time-to-market," said Lisa Su, senior vice president and general manager of Freescale's Networking & Multimedia Group. "VortiQa products offer our customers distinct competitive advantages by unlocking the vast potential of today's highly advanced embedded multicore processors."

Freescale is providing flexibility and choice for vertical networking markets with a solution-based approach that combines VortiQa software with QorIQ platforms, PowerQUICC processors and joint collaborations with a range of well-respected industry partners. The recent addition of several top independent software vendors, original design manufacturers and systems integrators to Freescale's broad community of third party partners further extends the availability of solutions based on Freescale silicon.

### **About VortiQa software**

A large portion of the time required to develop products based on embedded multicore processors is spent on testing and optimizing application software. VortiQa solutions

speed development by providing fully integrated, architecturally compatible application software that eliminates or greatly reduces the time needed for these tasks.

VortiQa software is optimized to take full advantage of Freescale's QorIQ processor technology, including pattern matching engine, security accelerator, datapath acceleration and other features, thereby boosting performance in embedded systems. It eliminates the time-consuming task of creating application-optimal mapping of functionality and core assignments for asymmetric multi-processing (AMP), symmetric multi-processing (SMP) and hybrid AMP+SMP configurations.

With the launch of VortiQa software, Freescale introduces four product lines targeting key markets:

- VortiQa software for service provider equipment leverages hybrid software architecture and delivers high performance in both throughput and session processing for data plane applications. Example applications include routers and switches, metro carrier edge routers, UTM devices and IMS controllers.
- VortiQa software for enterprise equipment uses SMP-based software architecture and delivers scalable performance across multiple cores. Example applications include SSL and IPsec firewalls, UTM devices, converged media gateways and access gateways.
- VortiQa software for small business gateways uses either AMP- or SMP-based software architecture, delivers complete functionality for small business gateways and is performance-tuned for specific PowerQUICC silicon. Example applications include branch office routers and multi-service business gateways.
- VortiQa software for SOHO/residential gateways targets low-end gateways with additional capabilities for provisioning by service providers. Example applications include broadband routers and digital home gateways.

“With its new VortiQa software and expanded third-party ecosystem, Freescale has assumed a leadership role in helping the embedded networking market overcome key multicore software challenges,” said Linley Gwennap, founder and principal analyst with The Linley Group. “There are significant market opportunities for silicon vendors offering the expertise, technology and resources necessary to speed and simplify embedded multicore product development.”

Freescale's solution-centric approach and VortiQa software products utilize the technology and talent obtained through the October 2008 acquisition of Intoto, Inc., a leading provider of software products for networking and security equipment manufacturers. Freescale combined its PowerQUICC and QorIQ processors with Intoto's broad, application-based products built on modular, scalable software architecture, as well as the deep multicore software engineering expertise of both companies.

## **Ecosystem expansion**

Freescale has expanded its world-class ecosystem of partner alliances and plans to provide its partners with software, training, support and communications platforms to offer comprehensive solutions for specific vertical segments.

Freescale's expanded ecosystem includes:

- Hardware and JDM/ODM partners, including Advantech and Flextronics, to provide turn-key manufacturing, fulfillment and pre-build hardware manufacturing.
- OS, tools and development solutions partners, including Green Hills Software, MontaVista and Virtutech to provide development tools, operating systems and BSP support.
- Independent software vendors (ISVs), including 6WIND, Dimark Technologies, D2 Technologies, Mocana and Synology America, to provide software applications, stacks and related services in specific vertical segments. These products and services can be delivered either independently of, or integrated with, Freescale VortiQa software.
- Systems integrators, including Aricent, GDA Technologies and Patni Computer Systems, to provide product development, integration and professional services capabilities.

### **Availability**

Freescale's VortiQa software products are available on QorIQ, PowerQUICC II Pro and PowerQUICC III communications platforms and are offered now under commercial license from Freescale. For additional information on availability please visit [www.freescale.com](http://www.freescale.com). Evaluation versions of the software also are made available on the website and can be downloaded at [www.freescale.com/download](http://www.freescale.com/download).

### **PowerQUICC processors and QorIQ communication platforms**

Recognized as the premier communications processors in the market today, Freescale's PowerQUICC processors are used widely in a broad range of networking devices. QorIQ communications platforms are Freescale's next-generation evolution of PowerQUICC processors. QorIQ single-, dual- and multicore processors offer superior performance and programmability in a single-core power budget and are designed to take embedded [multicore](#) to new levels of adoption.

### **About Freescale Semiconductor**

Freescale Semiconductor is a global leader in the design and manufacture of embedded semiconductors for the automotive, consumer, industrial and networking markets. The privately held company is based in Austin, Texas, and has design, research and development, manufacturing or sales operations around the world. [www.freescale.com](http://www.freescale.com).

### **Supporting Comments from Freescale Multicore Ecosystem Partners Follow**

#### **6WIND**

“6WIND provides 6WINDGate™, an embedded middleware for multicore that today is known as the industry’s reference solution for delivering layer 2-3 ready-to-use networking features alongside a seamless ability for application design and integration,” said Eric Carmès, chief executive officer of 6WIND. “6WINDGate has been ported and validated on Freescale multicore processors, making it an excellent foundation for VortiQa technology as application-level software. Combined, these technologies help pave a simpler path for the entire Freescale multicore design process.”

### **Advantech**

“Freescale’s QorIQ processors and VortiQa software solutions allow Advantech to develop NCP-7560 network computing platforms designed for mission-critical, performance-demanding applications, especially for data communication, video infrastructure, DPI and LTE solutions,” said Byron Lin, director of Advantech’s Network Processor Systems Division. “As we broaden the scope of our high-end NCP-7560 packet processing platform, we believe Freescale’s approach will give customers wider networking software choice, greater flexibility to optimize performance and clear time-to-market benefits.”

### **Aricent**

“Freescale’s VortiQa software products, along with QorIQ and PowerQUICC communications processors, are driving solution innovation in networking market verticals,” said C.P. Murali, senior vice president at Aricent. “We expect our collaboration with Freescale to result in very targeted solutions for telecom equipment manufacturers, enabling them to develop high-performance, scalable systems for the wireless infrastructure market.”

### **D2 Technologies**

“D2 Technologies is making rich voice features a reality for varied business applications with its vPort VoIP software optimized for Freescale’s PowerQUICC II Pro System-on-Chip platform,” said Doug Makishima, vice president of Marketing and Sales for D2 Technologies. “Our collaboration with Freescale is a great example of how D2’s software engines ensure that a broad range of manufacturers are able to quickly and affordably deliver on the promise of VoIP.”

### **Dimark Technologies**

“Dimark provides wired and wireless CPE remote management solutions integrated with VortiQa software and optimized for Freescale’s silicon,” said Larry Woodard, president of Dimark. “Our partnership with Freescale is a great example of how our remote management software engines ensure that a broad range of manufacturers are able to quickly and affordably deliver on the promise of CPE equipment.”

### **Flextronics**

“Flextronics is a proud member of Freescale’s expanded ecosystem focused on delivering comprehensive solutions based on QorIQ and PowerQUICC processors,” said Becky Roller, vice president of Flextronics Infrastructure Strategy and Marketing. “Working together, Flextronics and Freescale have established a solid track record of

delivering world-class networking solutions for our joint customers. Flextronics' sophisticated JDM services and Freescale's advanced silicon make for a winning combination that enables new generations of industry-leading communications and networking equipment."

### **GDA**

"Over the years, GDA Technologies Inc., a fully owned subsidiary of L&T Infotech Ltd., has built extensive expertise in Freescale processor technology and designed a variety of products and solutions from concept to implementation for telecommunication, networking and entertainment electronics markets," said Gopa Periyadan, vice president and general manager of GDA's System & Software Business Unit. "The introduction of VortiQa software and GDA's expanded role in Freescale's ecosystem will allow us to leverage this expertise to help customers quickly introduce products based on QorIQ platforms and PowerQUICC processors."

### **Green Hills Software**

"With its new VortiQa software, Freescale has shown tremendous vision in expanding on ways to speed and simplify development in embedded multicore environments for the network and communications market," said David Kleidermacher, chief technology officer, Green Hills Software. "Freescale and Green Hills have a long history of helping customers create successful products, and we look forward to enabling future innovation with the availability of the VortiQa software solutions integrated with our Platform for Secure Networking."

### **Mocana**

"Freescale's announcement underscores the value of having optimized software to unleash the power of silicon," said Adrian Turner, chief executive officer of Mocana, a company focused on device security. "Today Mocana provides the smallest, fastest security software available for Freescale's PowerQUICC processor line, and we look forward to providing native support for QorIQ platforms in the future. Mocana's Device Security Framework helps developers embed super-fast security in Freescale platforms quickly, easily and inexpensively."

### **MontaVista**

"MontaVista has a long track record of enabling comprehensive solutions for customers using Freescale processors and MontaVista Linux," said Joerg Bertholdt, vice president of Marketing at MontaVista. "VortiQa software is an impressive addition to Freescale's lineup of software for QorIQ and PowerQUICC processors, and we look forward to helping our joint customers deliver even greater performance and energy efficiency from Freescale processors moving forward."

### **Patni Computer Systems**

"Patni's expertise in embedded systems design, robust methodologies and processes will allow us to flexibly integrate with Freescale's QorIQ and PowerQUICC communication platforms," said Sanjay Salunkhe, senior vice president of Product

Engineering Systems for Patni Computers Systems Ltd. “The combination will allow us to bring new classes of services to customers in the storage and networking markets.”

### **Synology**

“The outstanding performance-per-watt capabilities of Freescale’s PowerQUICC family of embedded processors and the extensive security functionality of the VortiQa software product line are ideal for extending and showcasing the advanced performance and functionality of Synology’s NAS applications,” said Franklin Hua, technical product specialist at Synology America Corp. “We look forward to working with Freescale to support the creation of compelling new NAS products for our joint customers.”

### **Virtutech**

“Virtutech and Freescale have been collaborating on enablement for QorIQ platforms since 2007, including the validation and development of VortiQa software solutions,” said Michel Genard, vice president of marketing for Virtuech, Inc. “As a Virtualized Systems Development (VSD) partner, we welcome this news as an opportunity to unleash the full potential of multicore technology.”

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