



Coprocessor Systems
accelerating results

DRC Partners with Microway for Reconfigurable Computing Products Using AMD Opteron™ Processors and DRC RPUs

High-Value Solutions for Demanding 64-Bit Scientific Applications

SUPERCOMPUTING O6, Tampa, Florida—November 13, 2006—DRC Computer Corporation joins forces with Microway to deliver superior processing power to High Performance Computing (HPC) users. Microway's Linux-based NumberSmasher®-RPU™ systems will now use both dual-core AMD Opteron processors and the Reconfigurable Processor Unit (RPU) from DRC. These new systems provide high value through a savings on space, heat generation and power consumption and deliver a competitively priced, scalable, high-performance platform for scientific applications. The DRC RPUs will be showcased in the Microway booth, #402, and the AMD booth, #1413, at this week's Supercomputing show.

“We are delighted to be working closely with Microway to provide the industry's largest and most powerful RPU in the company's scalable, high-performance platforms,” said Larry Laurich, CEO at DRC. “We are excited to be able to show the quantifiable advantages of this solution at this year's Supercomputing show.”

“The Dual-Core AMD Opteron processor, with Direct Connect Architecture, combined with innovative high-performance computing technology, from DRC and Microway, offers a compelling solution to serve both HPC and enterprise data center environments,” said Pat Patla, director, server/workstation marketing, AMD. “DRC's coprocessors offer increased productivity within the same computing infrastructure that companies are using today, that's the advantage of AMD's Torrenza program, the open HyperTransport™ bus initiative. The HyperTransport environment allows close coupling of these types of devices that, when combined with AMD's dual-core Opteron technology, is especially beneficial in situations where maximum performance and decreased power consumption are critical needs.”

“The DRC RPU contains specialized cells that can be used to accelerate numeric tasks which work on arrays stored in the memory address space of an AMD Opteron,” commented Stephen Fried, Microway's president and CTO. “Reconfigurable processors

have had a strong historic advantage in signal processing applications, which they can today perform at up to 100 times faster than ordinary CISC processors. This is accomplished by incorporating specialized cells which contain the building blocks needed to carry out both integer and floating point arithmetic. With 96 such cells on chip, it becomes possible to perform both SIMD and pipelined parallel operations at very high speeds. These operations can be integrated with Opteron applications that communicate with the coprocessor using the message passing interface sent over the HTX bus that drive the FPGA using code generated by tools that start with kernels written in C. An exciting feature of the coprocessor, is its ability to execute vector primitive kernels using the built-in 2 MB SRAM cache as a vector register. This approach makes it possible to use the tools employed by Microway in the past to drive vector processors like the i860, while at the same time enabling historic vectorization tools like VAST, that can automatically convert serial Fortran codes into Fortran programs that utilize vector FPGA primitives.”

DRC makes a coprocessor module that plugs into a standard multi-processor AMD Opteron system, providing direct access to adjacent DDR memory and Opteron processors at HyperTransport speed and nanosecond latency. Tight coupling between CPU and memory means that bandwidth and latency bottlenecks are virtually eliminated. These benefits apply to the full range of high-performance computing systems, from entry level to the world’s largest supercomputers.

Microway's Linux-based NumberSmasher-RPU provides a complete solution for developing and deploying clusters of servers with a mix of CPUs and RPUs solving the world’s most compute-intensive problems. Microway’s integrated remote monitoring and advanced manageability features have been refined over years of development and hundreds of real-world cluster deployments. The NumberSmasher-RPU systems will start shipping immediately. A complete product description can be found at <http://www.microway.com/numbersmasher-opteron-drc.html>.

About DRC

DRC delivers complete solutions for compute-intensive problems and for accelerating high-performance applications in a tightly coupled coprocessing environment. DRC is the leading provider of coprocessor systems that plug directly into a systems processor socket. Offloading CPU-intensive software subroutines to hardware in a DRC Reconfigurable Processor Unit (RPU) makes applications run many times faster than ordinary solutions connected to a peripheral bus. Coprocessor bandwidth and latency bottlenecks are all but eliminated. The company’s RPU and development systems also solve the high-performance computing industry's growing physical limitations of heat, clock speed, and density. Industry leaders Cray, AMD, Xilinx and now Microway, are promoting, deploying and supporting DRC solutions to their customers. In addition, leading EDA providers Celoxica, CebaTech, DSPlogic, Impulse Accelerated Technologies, Mitronics, and Synplicity provide development software supporting the DRC RPU. More information about DRC is available at <http://www.drccomputer.com>.

About Microway, Inc.

Incorporated in 1982, Microway is a major vendor in the High Performance Computing market, designing state-of-the-art, high-end Linux clusters, InfiniBand products, and data storage solutions. Users worldwide pushing the limits of technology choose us for solutions. These include universities, life sciences, financial, military, Fortune 500s and research agencies. Microway partners with leading commercial software providers to include products such as SUSE and Red Hat Linux, Platform Computing LSF, PathScale and PGI Compilers on its AMD Opteron processor-based clusters. Microway is an AMD Platinum Partner, Novell Gold Partner and Microsoft Direct OEM for Windows Server HPC License. Classified as a small business, woman owned and operated, Microway's GSA Contract Number is GS-35F-0431N. For more information and a subscription to Microway's online technical newsletter, please visit <http://www.microway.com>.

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