Convey to Partner with Virginia Bioinformatics Institute to Develop Next-Generation Computing Systems for Life and Medical Sciences

Convey to Deliver High-Performance FPGA Cluster to VBI

Richardson, Texas—August 23, 2011—Convey Computer announced today it will partner with Virginia Bioinformatics Institute (VBI) to develop new reconfigurable computing platforms for life and medical sciences. These new computing architectures are needed to keep pace with the data deluge flooding bioinformatics research.

VBI, recently awarded a $1.3 million grant from the National Science Foundation (NSF), intends to design and build high-performance scalable clusters using the FPGA-based Convey systems and complementary technologies.

“We are honored to be a technology partner with VBI on a project that will deliver the next generation of high-performance computing for bioinformatics. Data-intensive computing demands new architectures—you simply can't use traditional HPC architectures to analyze the data deluge flooding the bioinformatics market. You’ve got to do something different,” said Bruce Toal, co-founder and CEO of Convey Computer. “We believe that the ‘something different’ is the hybrid-core platform because our balanced architecture is much more power-and-performance efficient than today’s commodity servers.”

The explosion of data in biosciences and corresponding need to capture, manage, analyze, and understand that data is demanding that HPC technology keep pace with science by offering researchers reconfigurable architectures, application-specific performance improvements, and supercomputer-inspired memory subsystems.

"From our end, data are even more rich and intensive and therefore more difficult to analyze than they ever have been. We've sequenced the human genome—now we need to go beyond and discover what's waiting for us in the post-genome era," explains Dr. Harold "Skip" Garner, executive director of Virginia Bioinformatics Institute and professor in the Department of Biological Sciences at Virginia Tech. "For example, it is predicted that by 2020 a complete genome sequencing will cost around $300 and be recommended by doctors as part of a full medical evaluation. The data analysis problem will grow non-linearly. We will need new HPC architectures, such as those engineered by Convey, to help get us there."

For the past year, VBI has deployed Convey hybrid-core computers on a diverse suite of research projects including decision and policy informatics, microsatellite analysis, and text data mining. Convey's innovative architecture pairs classic Intel® x86 microprocessors with a coprocessor comprised of FPGAs. Particular algorithms—DNA sequence alignment, for example—are optimized and translated into code that's loadable onto the FPGAs at runtime to accelerate the applications that use them. Convey calls these accelerated algorithms "personalities."

About Convey Computer Corporation

Based in Richardson, Texas, Convey Computer breaks power, performance, and programmability barriers with the world's first hybrid-core computer—a system that marries the low cost and simple programming model of a commodity system with the performance of a customized hardware architecture. Convey brings

decades of experience and intellectual assets to performance problem solving. Its executive and design teams all come from successful backgrounds of building computer companies, most notably Convex Computer Corporation and Hewlett-Packard. Convey Computer investors include Braemar Energy Ventures, CenterPoint Ventures, Intel Capital, InterWest Partners, Rho Ventures, and Xilinx. More information can be found at: www.conveycomputer.com.

About the Virginia Bioinformatics Institute

The Virginia Bioinformatics Institute at Virginia Tech (www.vbi.vt.edu) is a premier bioinformatics, computational biology, and systems biology research facility that uses transdisciplinary approaches to science, combining information technology, biology, and medicine. These approaches are used to interpret and apply vast amounts of biological data generated from basic research to some of today's key challenges in the biomedical, environmental, and agricultural sciences. With more than 240 highly trained multidisciplinary, international personnel, research at the institute involves collaboration in diverse disciplines such as mathematics, computer science, biology, plant pathology, biochemistry, systems biology, statistics, economics, synthetic biology, and medicine. The large amounts of data generated by this approach are analyzed and interpreted to create new knowledge that is disseminated to the world's scientific, governmental, and wider communities.

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