

Accelerated Bioinformatics: CeBiTec FPGA Platform Runs Tera-BLAST Hundreds of Times Faster

TimeLogic



Bielefeld, Germany and Carlsbad, CA — The Center for Biotechnology (CeBiTec) at Bielefeld University has added TimeLogic's latest J-series Field Programmable Gate Array (FPGA) hardware to their computational tools platform. TimeLogic's DeCypher systems are designed to greatly increase the speed of sequence comparison by combining custom FPGA circuitry with optimized implementations of BLAST, Smith-Waterman, Hidden Markov Model and gene modeling algorithms.

According to Michael Murray, Manager of Sales & Marketing for TimeLogic products at Active Motif, "This purchase represents the expansion of an existing DeCypher system, and we're very proud of the fact that CeBiTec, like so many of our TimeLogic customers, continues to update their DeCypher platform with the inclusion of our latest FPGA hardware. This J-series FPGA platform will run Tera-BLAST, our accelerated BLAST implementation, many hundreds of times faster than the software-only version."

Ted DeFrank, President of Active Motif also added, "The TimeLogic brand is the one of the original pioneers in the field of accelerated bioinformatics. We're very excited about this latest hardware revision, as it will once again catapult TimeLogic far ahead of any other accelerated biocomputing solution and further strengthen our position as the leader in the field."

According to Prof. Dr. Alexander Goesmann, who was responsible as principal investigator for the acquisition of the systems and has recently been appointed professor at Giessen University, a broad range of analysis workflows in the research

areas of genome annotation, comparative genomics and metagenomics relying on sequence similarity searches can now be greatly accelerated.

Dr. Stefan Albaum, Executive Director of the Bioinformatics Resource Facility (BRF) at CeBiTec, added “We are really excited about the latest products from TimeLogic — not least since these systems allow us to release significant compute capacities on our general compute cluster for other bioinformatics applications.”

About CeBiTec

The CeBiTec is a central academic institution at Bielefeld University, Germany, dedicated to interdisciplinary research in life sciences. It aims to encourage and support the creation of innovative projects that cross discipline boundaries. For this purpose, it consolidates research activities in the fields of biotechnology, molecular biology, genome research, systems biology, biochemistry, nano- and biophysics, as well as bioinformatics and computer science. With respect to the scientific alliance of genome research and computer science, CeBiTec strives to provide both concrete bioinformatics support to ongoing research projects in genomics, and fundamental algorithms and tools applicable in the worldwide bioinformatics community. The Technology Platform Bioinformatics provides general hardware and software support for 400 researchers of the CeBiTec and more than 1,500 cooperation partners worldwide within genome and post genome projects.

About TimeLogic

TimeLogic, a division of Active Motif, is a leader in hardware accelerated bioinformatics search tools, which accelerate genome annotation by combining optimized bioinformatics applications with powerful FPGA-based PCIe accelerator cards. This blend of specialized hardware and optimized software provides a perfect combination of performance, accuracy and value. Furthermore, these systems are simple to maintain and scale easily. Utilizing a TimeLogic system reduces pressure on over-used CPU-clusters by off-loading BLAST, Smith-Waterman (SW) and Hidden Markov Model (HMM) tasks to a highly time- and energy-efficient solution. From the earliest genome sequencing projects in the 1990s to the largest metagenomics projects undertaken to date, TimeLogic has provided the enabling technology to make this research possible. Active Motif/TimeLogic operates globally through its corporate headquarters in Carlsbad, CA, European headquarters in Rixensart, Belgium and Japanese headquarters in Tokyo, Japan. Active Motif/TimeLogic applies a multi-disciplinary approach to create new and modify existing technologies to meet the current and future needs of life science researchers.

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