IBM Blue Gene/Q Supports the Largest Biomedical Research Initiative in Poland

Key Facts

- IBM Blue Gene/Q has been chosen by The Interdisciplinary Centre for Mathematical and Computational Modelling (ICM) of Poland to support country's largest biomedical and biotechnological research initiative called "Centre for Pre-clinical Research and Technology (CePT)".
- Physicians and researchers in the field of life sciences and biotechnologies from a consortium led by The Medical University of Warsaw (WUM) and consisting of three universities and seven research centers of the Polish Academy of Sciences, will use the supercomputer and its supporting e-infrastructure to gain further insight into chronic diseases.
- Estimations show that over one-fourth of Poland's aging population has developed at least one or, very often, more chronic diseases such as: cancer, diabetes, heart disease, respiratory conditions, stroke, neurological disorder.
- IBM delivered the most powerful single architecture supercomputer. It is able to process up to 16 TB of Big Data per one sequence by running simulations at the speed of 210 TFLOPS.
- Code named Nostromo, the POWER based Blue Gene/Q currently ranks #143 in Top500.org list and #9 in the Green500.org.
- The system has already been installed by IBM Poland and Qumak SA, IBM's Business Partner. The agreement was closed in the fourth quarter of last year.

Business Benefits

- Early detection and timely diagnosis of the chronic diseases can translate into well-targeted and optimized healthcare, as well as improved quality of a patient's life.
- IBM Blue Gene/Q has the potential to save years of research and bridge the gap between bench and bedside.
- ICM's new BlueGene/Q will help scientists process Big Data and use algorithms moving beyond the "routine" sequencing of human or animal genomes, to tackle more complex processes that will reveal the rare variants in human genetics, - i.e. those that cause predispositions to Alzheimer, cancer, diabetes, downs syndrome, etc

Why IBM

- "The process of developing and generating a new drug or treatment normally takes up to three years, and costs have nearly quadrupled in the past 15 years," said Prof. Marek Niezgódka, Director of ICM. "With Nostromo, we expect to increase the simulation speed which will bring us much closer to the era of "personalized medicine" when preventative approaches can be tailored to a specific condition."

About the client

ICM is a research institute affiliated with the University of Warsaw, does its own research in everything from weather prediction to quantum computing but also provides computational power for other researchers throughout Poland.

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