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Neurome Selects IBM Technology for Brain Research

IBM eServer p690 and FAStTstorage systems will help Neurome map 3-D brain images to gene expressions

LA JOLLA, CA - Neurome, Inc. today announced that it will deploy IBM high-performance computing and storage technologies in its new state-of-the-art datacenter for neuroscience research.

In addition to in-house biomedical research, Neurome conducts studies of mice brains for pharmaceutical and biotechnology customers to shed light on human neurological disorders, such as epilepsy, Parkinson's Disease, and schizophrenia. This research includes preparing 3-D atlas databases, which map out gene and protein data of mice brains to determine how genes are expressed -- turned on or off -- in diseased or healthy states.

Neurome will use the IBM eServer p690 system to process 3-D models of mouse brain structures, circuits and cells to pinpoint gene expression patterns. The server will run on IBM's AIX™ UNIX™ operating system, with 64-bit Java technology, providing enhanced scalability for data-intensive operations and very large data structures.

IBM TotalStorage FAStT500 storage server will provide up to seven terabytes of storage capacity to maintain Neurome's extensive 3-D atlas databases of genetic and proteomic data.

"The key decision in going with the IBM technology was the scalability, performance, and reliability," said Dr. Warren Young, President and Chief Technology Officer at Neurome. "Neurome runs a 24/7 business, using high-throughput data acquisition, analysis, and visualization methodologies. IBM's eServer allows us to scale up rapidly as the need arises, run compute-intensive models more effectively, and reduce down-time associated with less costly and lower quality systems."

The similarities between the genetic makeup of mice and men make the mouse an ideal subject for biomedical research. Studies of mice can yield important medical insights into gene expressions and help identify drugs that will be effective gene targets for enhancing brain function and treating diseases.

Neurome has created proprietary methods of controlling microscopes to image the brain sections, collecting dozens of serial sections automatically, each image ranging from 125 megabytes to 20 gigabytes in size. Data from the images are then extracted using other proprietary Neurome software, and linked to the genotypes of these brains.

Neurome has developed standardized, quantitative databases that accurately depict and integrate gene expression patterns in the 3-dimensional context of the brain's structures, circuits and cells. These databases are used in primary research to discover and develop gene targets for treating brain-based ailments.

"This deployment brings together IBM's leadership in high-performance computing and Neurome's cutting edge work in neuroscience research," said Dr. James Coffin, Vice President, IBM Life Sciences Solutions. "Neurome's information technology infrastructure will address the company's needs now and scale to meet future requirements."

Neurome will be the first biotech company in San Diego County to take delivery of the new IBM eServer™ p690 system. This system, code named "Regatta", is based on IBM's next-generation POWER4 microprocessor, a system on a chip containing two one-gigahertz-plus processors. The p690 system also features self-healing technologies that can help provide uninterrupted operation, even through major power outages and system failures.

Neurome's core technologies include: **MiceSlice™** for standardized preparation of brain section tissues, the foundation material for development of standardized experimental protocols; **NeuroZoom™** for precise, computer-aided extraction, analyses, and display of quantitative data from microscope images of brain; **BrainArchive™**, an electronic brain "atlas" for archiving, integration and comparison of brain structure and circuitry data; and, **BrainPrint™** for automated comparison of quantitative, spatial, and volumetric data from mice, whether genetically-manipulated, wild-type, or control.

About Neurome

Neurome, Inc., develops standardized, quantitative databases that accurately depict and integrate gene expression patterns in the 3-dimensional context of the brain's structures, circuits and cells, and deploys these databases in primary

research directed toward the discovery and development of gene targets for enhancement of brain function and treatment of brain-based disease. Neurome performs contract brain research for pharmaceutical and biotechnology companies while at the same time pursuing its own in-house and collaborative research protocols. The data collected from these efforts will populate an evolving, comprehensive database available by subscription and useful on a broad level for analyses of mouse models of brain function and disease. In this regard, the application of the Neurome Technologies will provide rigorous, quantitative data that are optimally suited to the measurement of subtle cell-type specific shifts in gene expression, as well as progression and prevention of degenerative events affecting specific cell classes and brain regions.

For more information, please contact Neurome, Inc., 11149 North Torrey Pines Road, La Jolla, California 92037-1031. Telephone: (858) 677-0466; Fax (858) 677-0458; Web site: www.neurome.com.

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