

# World Community Grid—the power of sharing



Members of the Scripps Research Institute team, collaborating on the FightAids@Home project, display a three dimensional molecular model.

#### The Power of Sharing

What if each of the world's estimated 650 million PCs could be linked to focus on humanity's most pressing issues?

World Community Grid--launched in November 2004 and dedicated to becoming the world's largest public computing grid working on humanitarian research -- is making this dream a reality.

This initiative allows hundreds of thousands of volunteers to donate unused PC time to researchers around the world. Progress on critical health issues, such as HIV/ Aids, has already been achieved.

## **Grid Computing**

Grid computing joins together many individual computers, creating a large system with massive computational power that far surpasses the power of several supercomputers.

Because the work is split into small pieces that can be processed simultaneously, research time is reduced from years to

"World Community Grid has enabled my lab at Scripps to engage in critical computational research to design new anti-HIV drugs based on molecular structure. This is work that we would not have attempted in the absence of this powerful public computing grid. World Community Grid has allowed us to complete very complex research studies in six months that would have taken five years."

Professor Arthur Olson Department of Molecular Biology The Scripps Research Institute



World Community Grid will "FightAIDS@Home" by completing computational calculations related to molecular structures of potential anti-HIV drugs. World Community Grid is easy, safe and free to use.

months, or even days. The technology is also more cost-effective, enabling better use of critical funds.

There have been smaller examples of grid technology for humanitarian projects. However, most of them required the scientific community to solicit volunteers and establish a new grid infrastructure before running each project.

World Community Grid, in contrast, establishes a permanent, flexible infrastructure that gives researchers a much larger – and continuous -- pool of available resources.

"What this means is that the power of grid technology enables us to analyze hundreds of arrays of cancer tissue statistical data that allow multiple experiments to be conducted simultaneiously and more rapidly," said Dr. David J. Foran, professor and lead researcher at The Cancer Institute of New Jersey, UMDNJ-Robert Wood Johnson Medical School.

"World Community Grid makes it possible to analyze in one day the number of specimens that would take approximately 130 years to complete using a traditional computer."

## Join Today

Besides individuals who contribute the unused cycle time of their computers, other leaders in the corporate, not-for-profit and academic communities are teaming with World Community Grid and encouraging their employees, members, students and faculty to participate.

#### World Community Grid projects include\*\*:

- FightAIDS@Home. (November 2005). Accelerates research to identify effective and inexpensive anti-HIV drugs. The first stage, which involved more than two quadrillion calculations, has been completed.
- Fiocruz Genome Comparison (November 2006) Provides researchers with improved cataloguing and annotation capabilities regarding complex gene sequencing data.
- Help Cure Muscular Dystrophy (December 2006) Will help researchers design molecules to inhibit or enhance binding of particular macromolecules, with the hope of finding better treatments for muscular dystrophy and other neuromuscular diseases.
- Help Defeat Cancer. (July 2006) Analyzes cancer tissue microarrays that will lead to a rich data base to help doctors diagnose, treat and provide more accurate prognoses for cancer patients.
- Human Proteome Folding Project 2. (June 2006) Holds great promise in uncovering the role of proteins and their impact on diseases such as malaria.
- \*\* Additional projects focusing on cancer research, climate prediction, hunger, and Dengue Fever are planned.

To join World Community Grid, go to www.worldcommunitygrid.org and simply follow the instructions to download and install the small software program.