







 [Click here to print](#)

[Go Back](#)

Informatics powerhouse

2008 October
by Amy Swinderman

-  [Biosof LLC](#)
-  [IBM](#)
-  [Columbia University](#)
-  [Sony](#)
-  [Toshiba](#)
-  [Email the author](#)

NEW YORK—Bioinformatics company [Biosof LLC](#) has tapped [IBM](#) to provide a server platform for PredictProtein, Biosof's genomics data analysis software. The collaboration will allow Biosof's customers to run PredictProtein's resource-intensive algorithms on IBM's high-performance computing hardware via a virtual private network (VPN).

Guy Yachdav, a [Columbia University](#) graduate who co-founded New York-based Biosof in 2004 with Columbia professor Dr. Burkhard Rost, says the partnership will help both companies' clients get a better grasp on high-throughput analysis.

"Up until now, the current hardware being used in proteomics research was OK, but there has been a real shift to high-throughput analysis," Yachdav says. "Our software is very resource-intensive and can be used for storage and to reduce overall response time. The hardware acceleration our clients were demanding was critical, and we knew we needed to find new alternatives. We examined a few systems that offered better processing time and better access to storage technology, but IBM's architecture and some of their software tools made our software perform in a superior way."

PredictProtein offers algorithms to help to predict protein structure and function and to study such aspects as binding and active sites, subcellular localization, sequence motifs, fold recognition, secondary structure, and solvent accessibility and has nearly 3,000 users a month. Biosof had installed a Web portal that allowed its users to run PredictProtein on a shared Linux cluster.

Now, the collaboration will enable Biosof's customers to use ProteinPredict through IBM's Deep Computing Capacity on Demand, a VPN, while running IBM's high-performance computing hardware. This arrangement eliminates the need for Biosof to run the VPN while maintaining both the hardware and software systems.

IBM will provide Biosof with power, space, cooling and IT support for the hardware and give Biosof the opportunity to develop and benchmark the application on different platforms. IBM will

also do testing on various Linux options.

In addition, both companies will explore whether IBM's Cell Broadband Engine (CBE), a multiprocessor with high-performance features, can be used to accelerate components of the PredictProtein algorithm. Initially developed by IBM, [Sony](#) and [Toshiba](#) for Sony's Playstation 3 game console, CBE is being explored in the field of bioinformatics because it can handle intensive computational operations and offers a high bandwidth-memory subsystem.

Biosof demonstrated the solution in July at the ISMB 2008 Conference in Toronto. Rost says the deal is a "win-win" for both companies because the solution will be marketed by both companies, giving IBM access to Biosof's clients and giving Biosof access to IBM's resources in a safe connection. He says he also views the collaboration as "historic" in the field of biotechnology.

"Historically, biological testing has not been conducted using the latest technology," Rost says. "There is a good reason for that, because the longer something is on the market, the more stale it is considered. The result of this is that research is not as precise, thorough and stable. Right now, in the high throughput environment, tests need to be validated, consolidated and delivered to people much sooner than they would normally get them. This could be the means to get new research results into a company." DDN

Code: E100807

[Back](#)