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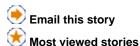


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UB upgrades its super- computer with cluster of servers

Dell participated in \$2.3 million project

By FRED O. WILLIAMS **News Business Reporter** 7/13/2005

The University at Buffalo has upgraded its supercomputer with a multimillion-dollar Dell "cluster" of high-end servers, a move that will preserve its spot among the nation's most powerful number crunchers, company and university officials said.

UB's supercomputer powers computational research on a range of scientific projects, from desiging earthquake-resistant buildings and modeling underground pollution flows to determining the shapes of human proteins linked to cancer.

"What you can do now is try and generate new knowledge (where) it's impossible to do physical experiments," said Russ Miller, director of UB's Center for Computation Research.

News of the upgrade was was reported previously, when university officials confirmed the approval of \$2.3 million for new hardware in February. The computers were delivered to UB's north campus in April and are expected to be fully operating within days.

The supercomputer center in Norton Hall at UB's North Campus is part of the state Center of Excellence in Bioinformatics and Life Sciences, following a UB reorganization earlier this year. The \$2.3 million outlay for the equipment came through federal grants, bioinformatics center director Bruce Holm said. He credited Rep. Thomas Reynolds and Sens. Charles M. Schumer and Hillary Rodham Clinton with helping obtain the funding.

Dell indicated the price reflected a discount from the full value of the equipment, but wouldn't specify the amount of the break. "It would not be unusual for us to make some sort of discount, that's something we do for research institutions," spokeswoman Michelle Mosmeyer said.

About 2,500 times as powerful as a desktop computer, the new Dell cluster has 834 "PowerEdge" machines each containing two Intel processors. It operates together with high-speed interconnections and a data storage system with vast amount of disk space.

"You need a balanced system, or you end up with choke points," Miller said.

The new cluster has been tagged "U2" by center staff, following the tradition of naming the university's number crunchers after inductees in the Rock and Roll Hall of Fame. Portions of the system have performed initial runs, helping produce animation for a local company that appeared on MTV2.

The peak performance of the cluster is about 10 trillion operations per second and expected sustained performance is 7 trillion, fast enough to keep UB among the nation's top academic computing centers, Dell said.

The power of the center's combined Dell machines would rank among the world's 50 most powerful computers, as compiled by Top500.org, according to Dell. The center's older "Joplin" cluster comes in at No. 200 on the current edition of the Top500 ranking.

UB acquired its initial high-performance Dell cluster with fanfare in 2002, when company head Michael Dell traveled to the Amherst campus to make the announcement.

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The upgrade greatly expands the computing power available to researchers campus-wide, Miller said. Two of the computation center's most powerful machines - an older Dell cluster and one from IBM - are dedicated to the protein function research of Jeffrey Skolnick, researcher and former director of the bioinformatics center.

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