

## BALL STATE BUSINESS CLASS PUTS OLD COMPUTERS TO GOOD USE

By BRIAN SAPARNIS  
The Star Press

**M**UNCIE - A Ball State University business class is trying to bring supercomputing to Middletown America.

The idea started during the fall semester when five students in a system analysis and design class in the College of Business wanted to build a supercomputer as a class project.

The primary goal of the first phase of the Cluster Computing Research Project was to build a working cluster computer. Old computers were salvaged when a computer lab in the business management department was renovated. Through word of mouth, unused equipment was gathered from various departments around Ball State, and more computers were received through private donations.

"These computers are old computers that could no longer be used in the home or office," said Alan J. Johnson, a senior management information systems major from Greenwood. "However, by combining the processing power of the computers, we are able to perform complicated algorithms. Currently, this type of cluster is used in the science arena, performing such tasks as weather forecasting and genome research."



The goal during the fall semester was to get a computer model up and running; this semester, the seven students involved in the project are trying to develop more applications that can be used in the business environment. The students would like to improve the accessibility of the system so that university faculty members can use it for research.

"What we want to do this semester is grow," senior Kevin Dunn said. "To do that, we need more hardware."

According to Johnson, the world's fastest computers are clusters of computers, rather than the stand-alone units of old. Beowulf-class supercomputers, named for the Scandinavian hero in the Old English epic, are the result of NASA's research in 1994.

Unlike some other cluster-computing designs, the Beowulf design accepts additional computers of any speed, manufacturer or configuration. The current system uses computers from excess inventory and from private donations. Parts from about 50 computers have been used for the project.

Current applications for other supercomputing projects across the country include astronomy, physics, chemistry, genome research and weather predictions. Desired applications include complex data mining and economic forecasting. Future applications could include reconciling accounts, economic modeling, engineering and simulations.

In bringing supercomputing to Ball State, senior Scott Stuck said other goals of the project included:

- providing education in cutting-edge technology
- providing research tools for students and faculty
- promoting business applications.

“The College of Business is delighted to provide innovative opportunities to our students and is supportive of the faculty who are offering such relevant projects in the classroom,” said Lynne Richardson, dean of the Business College.

A supercomputer costs \$8 million to buy, said Mark Cheeseman, a senior who is director of acquisitions for the project. So far, Cheeseman said, the Ball State project has cost \$500. “It has been a very cost-efficient program,” Cheeseman said.

Fred Kitchens, an assistant professor in the department of management, is the project director.

The supercomputer the class is working on is at the level of what a supercomputer would have been in the late 1970s, Cheeseman said. The class hopes to get it to the level of what a supercomputer would have been in the late 1990s.

For Johnson, the most beneficial part of the class has been the hands-on experience he has gained. He said he came from a less technical background, and he hopes the experience with the project helps him land a project-management or project-consultant job.

According to Dunn, students also have honed presentation and technical skills and problem-solving methods, all in an effort to bring supercomputing to Ball State and Middletown America.

Contact Brian Saparnis at [brians@thestarpress.com](mailto:brians@thestarpress.com)