

Supercomputer soups-up research potential

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by [Sam Beard](#)



Ellen Booth|Photographer

Rustomji Vania, deputy director of research computing and cyberinfrastructure, left, and Babak Ahsant, doctoral candidate in electrical engineering, pose near one of the two centralized supercomputers at Illinois public universities on Monday in the Data Control Center in the basement of SIU's Wham Education Building.

The other supercomputer is located at the University of Illinois.

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In the age of information, data rules. A new supercomputer has been installed in the basement of the Wham Education Building to keep SIU on the cutting edge of technology.

SIU is the second Illinois state school to have a clustered supercomputer available to the faculty, said Rustomji Vania, deputy director of research computing and cyberinfrastructure. There are other clusters on campus, but this is the only one that is not department specific.

The supercomputer, which is actually 40 computers wired together, is centralized, meaning it is available to any researcher or faculty who demonstrates the technological need, Vania said.

The high-powered computer will sharply increase storage capacity and computation efficiency for its users, allowing for larger and more comprehensive research projects.

The "research overhead" fund allocated by the chancellor's office covered the \$356,000 cost of the machine.

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Vania said the centralized supercomputer will enhance research prospects for all departments on campus.

The computer has four terabytes of RAM — about 500 to 1,000 times more than the average laptop. It is open source, meaning there are no inbuilt restrictions to what can or cannot be done with it.

Vania, the supercomputer facilitator, said he is glad that computer is open source as opposed to running on a closed system, because it is ideal for research.

"You're not trapped by a [software] vendor's decision to do something you don't agree with," Vania said. "I can sleep at night because I can regression test it all day and night to make sure it's going to work."

Aside from faculty and researchers, students can utilize the power of the rig, too.

"This is a very big move for the university," said Babak Ahsant, a doctoral candidate in electrical engineering from Iran. "There used to be some other clusters [on campus] but they were not well maintained."

Ahsant said this was a wise purchase, and he is excited for the computer to go online this summer.

Several faculty members are being given accounts on the machine in order to undergo a variety of operational tests and an outside specialist will be brought in before it goes online.

Given the half-life that technology has, the supercomputer will remain state-of-the-art technology for about half a decade, Vania said.

"If it was on a five-year replacement cycle that would be good," he said. "Technology is twice as fast and twice as cheap every two years."

The prized rig is backed up by an outdoor diesel generator and will never lose power unless the building collapses. There are also two air conditioners and a ventilated floor to keep the equipment cool, Vania said.