New Research Network in Michigan transfers data at 10 billion bps

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The three largest public universities in Michigan—Michigan State University, the University of Michigan and Wayne State University - are creating a very high-performance network with the capacity to meet their emerging and demanding research needs. The project is especially critical for faculty whose research collaborations require the ability to transmit massive amounts of data across the network.

This new research network, the Michigan LambdaRail (MiLR/ pronounced 'MY—lar'), has the added benefit for the universities of acquiring high-speed network capacity at very competitive prices. During the 1990s, telecommunications companies installed excess fiber-optic cable for future expansion. Demand hasn't met expectations and, as a result, these companies are recovering some of their costs by making fiber available at affordable rates.

Initially MiLR, scheduled to be operational by January 2005, will enable researchers at MSU, U-M and WSU to transfer data at 10 billion bits per second—that's 1,000 to 10,000 times faster than the Internet connections normally used in homes and businesses today. Such network speed and capacity are a necessity to support the research occurring at each of the three universities, where researchers are trying to solve the most challenging problems in the physical, social, and life sciences.

The speed and reliability of the new network will, for example, enable doctors to perform virtual surgery at remote locations. Similarly, the network will provide the capacity for physicists to share exceptionally

large data sets with their colleagues around the world. The new network also will serve as a test-bed for experimental research on networking itself.

MiLR, which employs advanced optical electronics, will use more than 750 miles of fiber-optic cabling, most of it already in place, to connect the universities to each other and to national and international networking hubs in Chicago. Those hubs include the National LambdaRail, StarLight, and an emerging set of network connections that play key roles in the national cyberinfrastructure supporting advanced science and research.

"Creating MiLR will give MSU, U-M and WSU a competitive advantage in attracting external support for research and will attract students and faculty to our campuses," said John Camp, chief information officer at Wayne State. "We are now members of a small and elite group of universities nationally that are investing in high-performance networks to strengthen research and facilitate collaboration."

"More than ever before, higher education institutions need to collaborate on advanced networking to keep pace with rapid change and to meet the growing demands of research and teaching," said James Hilton, associate provost for information technology at U-M. "Additionally, costs are significant and can be reduced by working together. MiLR is a perfect example of such collaboration."

David Gift, vice provost for libraries, computing and technology at Michigan State agreed. "We are all very proud of this collaboration between the state's research universities, and very pleased by the progress we've made in implementing this complex, advanced networking project, which we expect will become a truly vital part of our research future," he said.

Partnering in computer networking is nothing new for the three universities. In 1966, responding to a need to interconnect mainframe computers, they formed Merit Network Inc. and created MichNet, the first regional research and education network in the country. Based in Ann Arbor, Merit Network is now owned and operated by the founding universities and 10 other public universities in the state.

Continuing their successful collaborations to create educational networks in Michigan, Merit and the three universities are planning to use MiLR for advanced research and education between the United States and Canada.

Source: University of Michigan