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Kasich, doctors highlight the future of OARnet -- Ohio's Academic Research Network

Written by Tyler O'Neal

Tenfold increase in speeds will boost medical research, education and patient care

Following his State of the State announcement of a tenfold boost to OARnet's statewide network bandwidth, Governor John R. Kasich joined medical researchers from across the state on Feb. 27 in a video teleconference to discuss how the faster network speeds will help enhance innovation.

Together with researchers at The Ohio State University Wexner Medical Center, Case Western Reserve University School of Medicine, Summa Western Reserve Hospital in Cuyahoga Falls, and the University of Cincinnati College of Medicine, Kasich showcased the latest research technology and discussed how Ohio's accelerated bandwidth of 100 Gigabits per second (Gbps) will allow them to more easily collaborate on a global scale—greatly enhancing Ohio's grant competitiveness and efforts to create a medical corridor as a leading hub for clinical innovation, research, patient care and medical education.

Under a recently approved agreement with leading network companies Cisco and Juniper, Ohio will invest approximately \$10 million to harness new innovative technology that will, in essence, "open the faucet" of Ohio's 1,850-mile broadband network, and increase its capacity from 10 Gbps to 100 Gbps.

Ali Rezai, M.D., professor of Neurosurgery and Neuroscience and director of the Center for Neuromodulation at Wexner Medical Center at The Ohio State University, discussed the benefits of high capacity broadband communications to advance patient care, clinical research, as well as medical training and education.

"Ohio's enhanced 100 Gbps broadband capability will help put us at the cutting edge of medical innovation and information sharing which will greatly facilitate our patient care, clinical research and training programs," Rezai said. "We can remotely evaluate and monitor our patients' clinical status, and further optimize their treatment and management remotely. Additionally, this capability will facilitate research collaborations across the state and nationally thus facilitating efficient, smooth and rapid exchange, and storage of large data files between researchers; including imaging, video, audio, physiological and many other research data sets."

Rezai discussed the importance of collaboration and training with his colleague George Jaskiw, M.D. a specialist in psychiatry and post-traumatic stress disorder from the Cleveland Veterans Affairs Hospital.

Dr. Joseph Broderick, Chairman of University of Cincinnati's College of Medicine Department of Neurology also spoke of how Ohio's broadband technology will benefit his clinical work using telemedicine to facilitate treatments for stroke patients. Broderick highlighted the technology challenges the medical research community faces in transmitting medical information, particularly complex genomic data that consumes so much capacity and bandwidth that current broadband speeds can't handle. Ohio's new 100 Gbps network will change that.

Up until now, the only way to transmit these data was to physically load them onto large external hard drives and ship them between institutions," Broderick said. "At these new unprecedented speeds, we will be able to transmit these data in minutes at the click of a button."

Dr. Samer Narouze M.D., Chairman, Center for Pain Medicine at Summa Western Reserve Hospital also joined by videoconference to discuss new, innovative procedures being used by the medical community in Akron and how Ohio's extensive broadband network will benefit the state for training doctors on the newest clinical procedures.

"Ohio is already a national leader both in advanced medical procedures and its unsurpassed connectivity within the state and to the broader national medical community," Narouze said. "Increasing the speed and capacity of this network will help expand medical training and make Ohio an advanced competitor for federal research grants."


"Ohio has a rich history as a pioneer of innovation whether it's our role in aviation, the Space Race, or, today, in the information technology race," said Governor Kasich. "Our state has tremendous advanced resources in medical research that are the envy of the nation, and this is just the beginning. Enhancing our already impressive broadband network with minimal investment is certain to reap benefits for our next chapter in innovation and growth."

This expansion leverages the fiber optic network operated by OARnet, a member of the Ohio Board of Regents Ohio Technology Consortium. The 100 Gbps network will connect Ohio's major metropolitan areas to northern and southern connection points of Internet2, a nationwide advanced networking consortium led by the research and education community, spanning U.S. and international institutions who are leaders in the worlds of research, academia, industry and government.

For the network, \$8.1 million will fund hardware development for Phase 1, which will connect Cleveland, Columbus, Cincinnati, Dayton, and Toledo by June 2012 and Phase 2 markets of Akron, Athens and Youngstown by October 2012.

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