



## “Seeing is believing” and other benefits of high-definition videoconferencing

High-definition videoconferencing (HDVC) is rapidly becoming an alternative to the traditional standard-definition videoconferencing systems for applications in fields as diverse as education, health care, justice, and entertainment.

“The Ohio Supercomputer Center is playing a major role in the deployment of HDVC systems across Ohio universities, hospitals, and research labs,” said Prasad Calyam, an OSC system developer and engineer. “Additionally, various collaboration technologies, including tele-presence, have been tested at OSC for integration with HDVC systems.”

To illustrate: OSC and Nationwide Children’s Hospital in Columbus – the largest neonatal center in the country – are working with Adena Regional Medical Center, an hour’s drive to the south, to use HDVC to improve medical care for babies and provide comfort to their families.

The goal of the project is to improve remote medical consultation by allowing specialists in Columbus to view distressed newborns with exceptional clarity, examine detailed X-rays, take online electronic stethoscope readings, and consult with attending physicians in Chillicothe. This arrangement also will provide high-definition tele-visits to help pressure working families whose newborns have been transferred to Columbus for extended periods.

“Since HDVC is a recently developed technology, the network requirements and security issues for large-scale deployments are not well understood,” Calyam explained. “To address these issues, OSC engineers have conducted several studies to characterize HDVC network traffic in terms of bandwidth consumption and end-user quality-of-experience under different video encoding rates and network health conditions.”

In addition to the neonatal example above, OSC engineers have conducted studies of HDVC’s usability and reliability by deploying systems at the Organ-Transplant Preparation and Consultation Services office of Lifeline of Ohio, the Game Research and Immersive Design Lab at Ohio University and its partner site at Shawnee State University, and the Tele-Music Operations site at the Cleveland Institute of Music.

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- American Distance Education Consortium
- Ohio Board of Regents

**For more information:**  
[www.osc.edu/networking/videocon](http://www.osc.edu/networking/videocon)

