

Internet2 (<http://www.internet2.edu>)
KY Internet2 Initiative (<http://i2.ky.gov>)

I. What is Internet2?

Internet2 is a not-for-profit advanced networking consortium comprising more than 200 U.S. universities in cooperation with 70 leading corporations, 45 government agencies, laboratories and other institutions of higher learning as well as over 50 international partner organizations. Led by the research and education community since 1996, Internet2 promotes the missions of its members by providing both leading-edge network capabilities and unique partnership opportunities that together facilitate the development, deployment and use of revolutionary Internet technologies. By bringing research and academia together with technology leaders from industry, government and the international community, Internet2 promotes collaboration and innovation that has a fundamental impact on the future of the Internet.

II. Who has access to Internet2 in Kentucky?

Only University of Kentucky and University of Louisville have been members of Internet2 having access to the Abilene backbone. The Sponsored Education Group Participants (SEGP) program, initiated in 2001, allows expanded access to Abilene for state and regional networks, through sponsorship by Internet2 university members. State and regional networks may include non-profit and for-profit K-20 educational institutions, museums, libraries, art galleries, or hospitals that require routine collaboration on instructional, clinical and/or research projects, services and content with Internet2 members or with other sponsored participants. In 2005, there were already 33 state K-12/K-20 networks participating when Kentucky joined as the 34th state in the SEGP program under the sponsorship of the University of Kentucky. This opens the Internet2 access to comprehensive universities, KCTCS, K-12, and the Education Cabinet.

III. What does this mean to education in Kentucky?

Internet2 applications, via high bandwidth and high performance, enable collaboration among researchers, instructors, students and interactive access to information and resources in a way not possible on today's Internet. For example:

1. K-20 interactive collaboration – A science teacher in Owsley county can dissect an anatomical specimen for her class, zooming, rotating and putting it back together, and discuss this virtual dissection with researchers at Murray State University and Stanford University in real time.
2. Resource-sharing – Math teachers in Clay county can interactively participate professional development workshops conducted live from University of North Texas and Western Kentucky University without leaving their classrooms.
3. Remote instrumentation – A student in Frankfort High School taking a biology class can operate a microscope located in Lehigh University in real time.
4. Digital libraries – A student in Bowling Green can perform simultaneous, intelligent search and retrieval of KET's rich reservoir of videos, Kentucky History Center's oral tapes and artifacts, and Filson Club's photographs as she works on her multimedia assignment on Western Kentucky's history.
5. Performing arts – A student of violin in Powell county can audition or take a master class with the Manhattan School of Music via Internet2 H.323 videoconferencing with low latency in audio and video.