

## Ohio's 100 Gigabit-per-second Network and Innovation Center Fact Sheet

### *About Ohio's New 100 GB Network and Innovation Center*

The State of Ohio, led by the Ohio Board of Regents and the Ohio Academic Resources Network (OARnet), invested \$13 million in equipment to “open the faucet” of its current broadband network—increasing the speed of its former bandwidth of 10 Gigabits per second (Gbps) to an impressive 100 Gbps. It connects to Internet2's international 100 Gbps network backbone at data hubs in Cleveland and Cincinnati.

### *Statewide Broadband Speeds That Far Exceed the Rest of the Nation*

Ohio has long been a leader in its broadband fiber network and speeds. We recently deployed data at an impressive 10 Gbps, which is on par with the national average. While a few states have limited deployments of 100 Gbps, no other state has as far-reaching a network at these speeds benefitting as many sectors.

### *How Fast?*

These almost unfathomable speeds will open the doors to many opportunities for Ohio. At 100 Gbps:

- data equivalent to 80 million file cabinets filled with text can be transferred daily
- every one of Ohio's 1.8 million enrolled K-12 students could download an ebook simultaneously in just over two minutes
- 300,000 X-rays be transmitted in just one minute
- 8.5 million electronic medical records can be transmitted in 1 minute
- smartphone data can be sent at 50,000 time faster than current average speeds

### *Harnessing the Full Potential of Ohio's Statewide Broadband Network*

Ohio already has more fiber optical broadband installed per capita than any other state in the nation, connecting all of its major cities and research institutions. OARnet acquired dark fiber in 2001-02 and then lit its high-speed fiber-optic backbone with scalable architecture in 2004. This state-of-the-art network was designed so that it could be easily upgraded to higher bandwidths, such as 100 Gbps.

### *Cost and Timing*

Ohio invested \$13 million to connect Cleveland, Columbus, Cincinnati, Dayton, Toledo, Akron, Athens, Wooster, Portsmouth and Youngstown by the close of 2012. The investment also included offering limited dollars to Ohio colleges and universities with the slowest last-mile connections to the OARnet backbone to help fund upgrades of those connections to at least 1 Gbps.



Ohio public and private partners also are investing \$2.3 million in a state-of-the-art innovation center that will enable and test 100 Gbps technologies, promote the development of compelling broadband, software and advanced technology applications and expand upon Big Data research taking place at the Ohio Supercomputer Center and elsewhere. To be located at The Ohio State University, the center will operate in research collaboration with Internet2, NSF-Future Internet Infrastructure (GENI), UC-Berkeley and other national laboratories.

No federal funds are involved in this initiative. No additional fiber networks will need to be installed in Ohio. The entire network is already in place.

### ***Cutting Edge Research, Jobs and Economic Growth for Ohio***

Ohio's economic future depends on creating high-tech environments that support next-generation business applications. A 100 Gbps network throughout Ohio creates a research and economic engine that provides JobsOhio with a valuable tool that can entice and retain businesses to Ohio. The statewide 100 Gbps network puts Ohio at the forefront of a technology-based economy by:

- Serving as a statewide incubator for public private partnerships aimed at commercializing the next generation Internet applications and hardware to use the 100 Gigabit network.
- Attracting new employers with access to the research network and its stakeholders, including 90 4-year and 2-year colleges and universities, hospitals, K-12 schools and state and local governments.
- Offering private sector businesses, such as a major commercial data center, access to the 100 Gbps network as a partner with JobsOhio.
- Serving as a platform for developing new applications in large-scale scientific research.

