

# KINBER/PennREN Overview

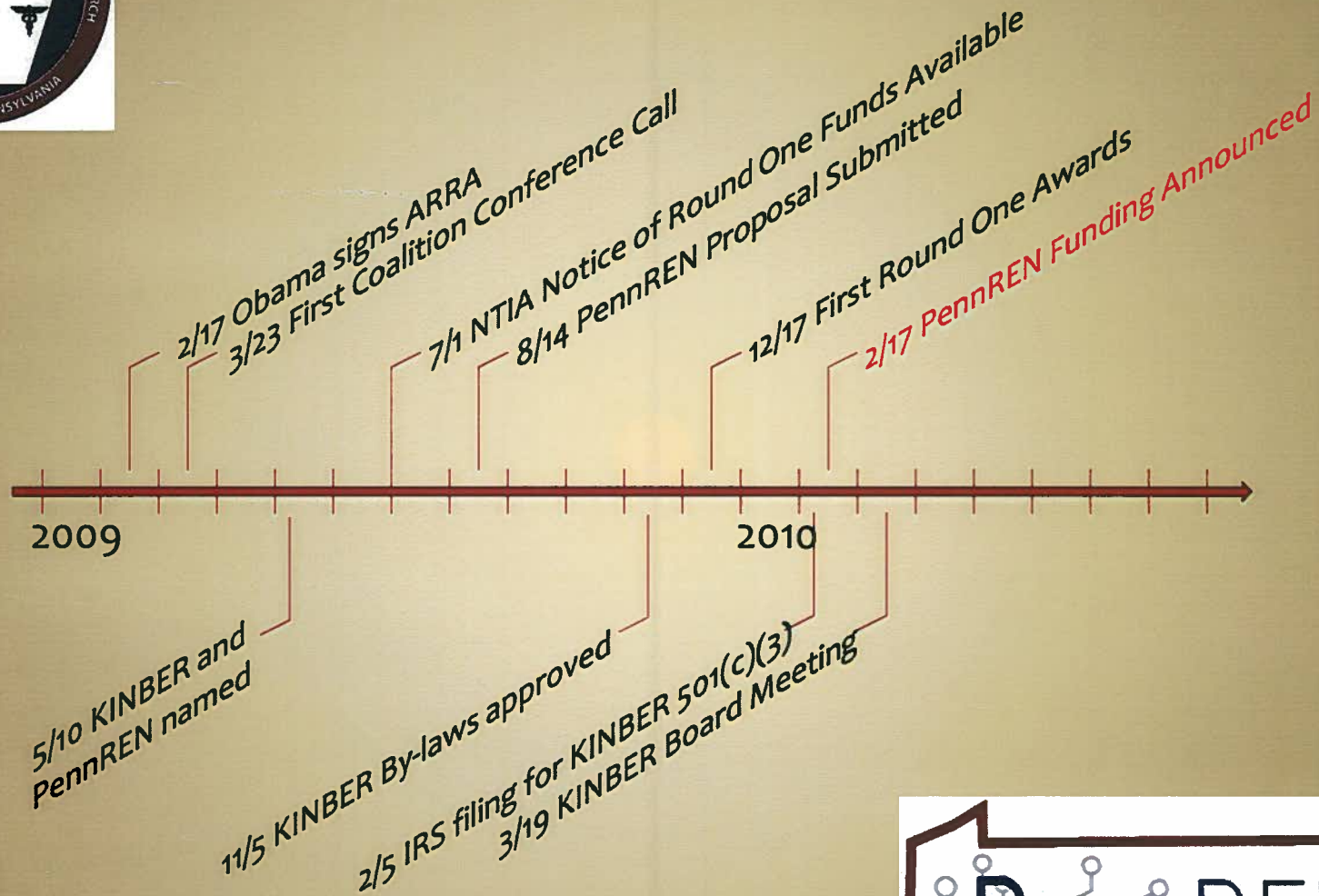
Senate Communications and Technology Committee

June 17, 2010





# Grant Timeline



# KINBER Proposal Collaborative Team

Institution
Association of Independent Colleges and Universities of Pennsylvania
Bucknell University
Carnegie Mellon University
Drexel University
eiNetwork
Lehigh University
MAGPI at the University of Pennsylvania
Pennsylvania Commission for Community Colleges
Pennsylvania State System of Higher Education
The Hospital & Healthsystem Association of Pennsylvania
The Pennsylvania State University
Three Rivers Optical Exchange (3ROX) Pittsburgh Supercomputing Center Carnegie Mellon University
University of Pittsburgh
Fibertech
Ciena

# Draft Project Timeline *(still being finalized)*

- ❑ **Grant Award:** February 17, 2010
- ❑ **Environmental Assessment & Design:** August 1, 2010
- ❑ **Proposed Construction:** August 1, 2010 – January 31, 2013
  - Construction will be completed by 6 teams across the state
  - Segments will be turned on when they are completed to take advantage of increased capabilities

# Proposed Network Details

- **Capital Budget - \$128,958,031**
  - Matching Funds - \$29,297,353
  - Federal Stimulus Funds - \$99,660,678

By January 2013

- Fibertech Match - \$23,691,770
- Ciena Match - \$500,000
- KINBER Match - \$5,105,583

- **96 Strands Constructed by Fibertech**
  - 48 Strands to KINBER for PennREN
  - Over 1600 Route Miles
  - Fibertech to Maintain Fiber
- **13 Optical Regeneration Service Core Nodes**
- **47 Service Distribution Local Nodes**



# Mission

KINBER, a non-profit corporation, provides services to Pennsylvania through the establishment and operation of a high-speed network for research and education purposes. The network connects institutions of higher education, preK-12 programs, health care entities, non-profits and other partners to advance Pennsylvania's capabilities and services in education, health care, workforce development, economic development that supports sustainable growth, and enables enhanced services.

# Vision

- Institutions of higher education will have affordable access to scalable high-speed broadband capabilities with connections to national research institutions and networks.
- Higher education networks will be connected to preK-12 education networks to facilitate a more seamless, collaborative, and higher quality learning environment to empower the development of knowledge workers, citizens and Commonwealth leaders.
- Health care entities will have access to the capabilities to expand linkages to world-class medical research and clinical case institutions to improve the quality and efficiency of medical care across the Commonwealth.
- Local economic development organizations will have access to network capabilities and capacity through regional collaborative partnerships to advance Keystone Innovation Zones, workforce development opportunities and other sustainable economic development initiatives.

# Guiding Principles

## Access through Anchor institutions

- Enable the infrastructure to connect PA's research and educational communities with affordable access to high speed broadband network capabilities for research, health care, education and economic development purposes.
- Through these capabilities, anchor institutions will be able to stimulate enhanced delivery of services to the local community.

## Access to Unserved/Underserved

- Elevate the availability of community connections to broadband capabilities for unserved and underserved by ensuring the network capacity, connection points and portals are available to meet their needs. These connections could include community pilot programs, connectivity nodes, wireless solutions, cell modem solutions, and cable, DSL and FIOS peering.

## Leverage Existing Assets

- Leverage existing investments in current and planned regional wide-area networks to support cost effective fiber deployment throughout the Commonwealth.

## Collaborative and neutral

- The network will be institution, research network and carrier independent .

# KINBER

## Board Members

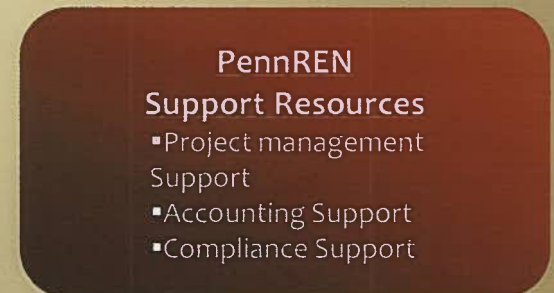
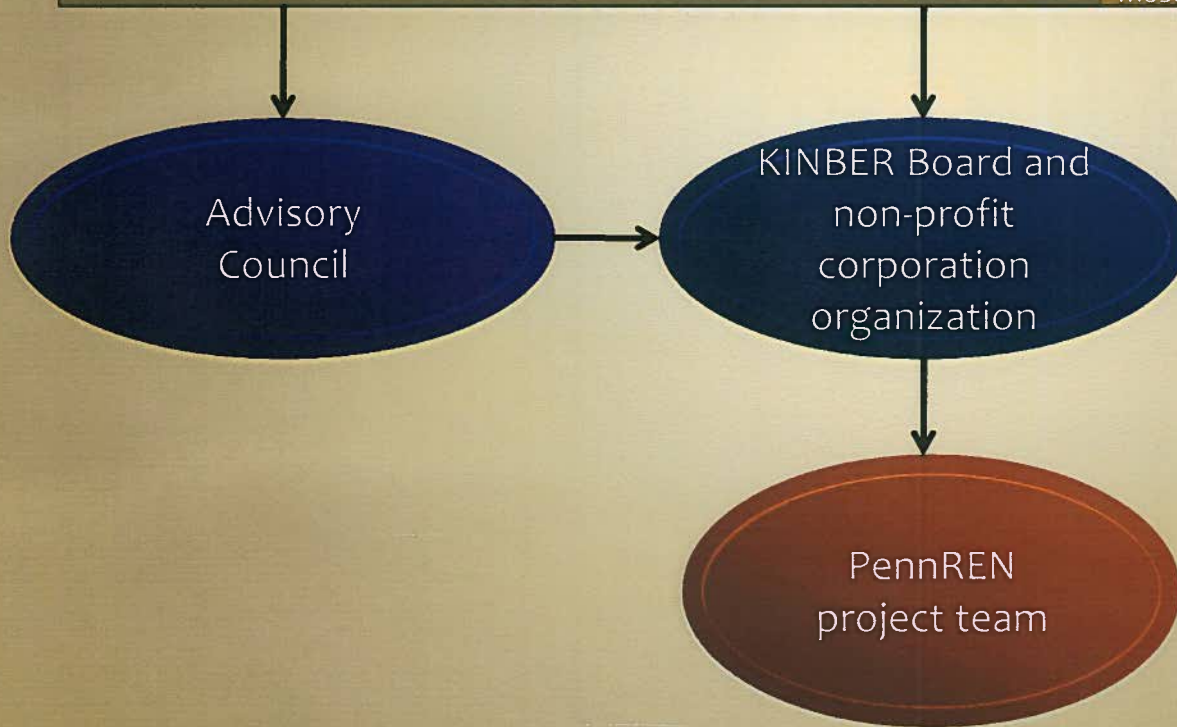
Bucknell University  
Drexel University  
University of Pittsburgh  
The Pennsylvania State University  
Pennsylvania State System of Higher Education  
Commission for Community Colleges  
Hospital and Healthcare Association of Pennsylvania  
Association of Independent Colleges and Universities of PA

Carnegie Mellon University  
Lehigh University  
University of Pennsylvania

## Potential Partners

Intermediate Units, PA Economic Development Assn, PA E-Health Initiative, Geisinger, public television stations, UPMC, Temple, University of Scranton, Magpi, 3ROX, County Government and other private sector providers

\*\*KINBER is currently in the discussion stage with most of the Potential Partners



# Background Materials

# Background and Purpose

## Improving Access to Education to Increase Pennsylvania's Competitiveness

- Higher education must continue to advance infrastructure capabilities to compete for federal research grants , support world class faculty and attract and retain the best students. Approximately 37 other states have a research and education network; Pennsylvania does not.
- Pennsylvania must increase the efficiency and quality of education and create a continuum of learning from preK-20 and continuing education opportunities.
- Economic development and research partnerships triggered by the Keystone Innovation Zones will create more sustainable growth opportunities.

## Enhance Opportunities in Rural and Underserved Areas

- Pennsylvania has a significant rural population that will benefit from the services provided via expanded capabilities at anchor institutions across the Commonwealth.

# Background and Purpose

## Meeting Dynamic Expectations of Students

- Students learn differently than they did 15 years ago. Today's learners have grown up with the Internet and expect technology solutions to be delivered to them where they are. This expanded infrastructure will help ensure institutions meet those expectations and help students to see Pennsylvania as an attractive home.

## Improve Access to Quality Health Care in a Cost Effective Manner

- Health care institutions and teaching facilities require expanded capabilities to cost effectively advance e-Health initiatives including radiology capabilities, access to medical expertise and expanded patient records.

# Proposed Core Nodes

- University of Scranton
- Lehigh University
- Philadelphia Switch and Data
- Penn State Hershey Medical Center
- D&E Communications State College
- Penn Stater Conference Center
- Indiana University of PA
- Pittsburgh Allegheny Center Mall
- Slippery Rock University
- Penn State - Behrend
- Clarion University
- Penn State Dubois
- Bucknell University

# Initial Local Nodes

## PASSHE, Pitt and others

- Bloomsburg University
- California University
- Cheyney University
- Clarion University
- East Stroudsburg University
- Edinboro University
- Kutztown University
- Lock Haven University
- Millersville University
- Shippensburg University
- West Chester University
- University of Pittsburgh – Main
- University of Pittsburgh – Johnstown
- University of Pittsburgh – Titusville
- University of Pittsburgh – Greensburg
- Fannett-Metal High School

## PA Community Colleges

- Community College of Allegheny County
- Community College of Beaver County
- Bucks County Community College
- Butler County Community College
- Delaware County Community College
- Harrisburg Area Community College
- Lehigh Carbon Community College
- Luzerne County Community College
- Montgomery County Community College
- Northampton Area Community College
- Pennsylvania Highlands Community College
- Community College of Philadelphia
- Reading Area Community College
- Westmoreland County Community College

Proposed

# Initial Local Nodes

## Penn State Local Nodes

- Penn State Harrisburg
- Penn State Greater Allegheny
- Penn State Abington
- Penn State Hazleton
- Penn State Berks
- Penn State Wilkes-Barre
- Penn State Lehigh Valley
- Penn State Beaver
- Penn State Delaware County
- Penn State Dickinson School of Law
- Penn State Great Valley
- Penn State New Kensington
- Penn State Schuylkill
- Penn State Shenango
- Penn State Worthington-Scranton
- Penn State York
- Penn State Altoona

Proposed