



# Louisiana Optical Network Initiative

“LONI”

## LONI Strategic Planning

October 8, 2013

# LONI

## *Strategic Planning through the Years*

- **Governor's Information Technology Initiative  
FY2001-02 (Outgrowth of State's Vision 2020 Plan)**
- **LONI Strategic Plan Elements  
FY2004-05**
- **LONI Strategic Priorities from Strategic Planning  
Meeting, November 2008**

# Governor's Information Technology Initiative

## FY2001-02

Keyed on the following targets:

- Developing technologies that create new companies, jobs, and wealth
- Developing a highly trained workforce for the IT-intensive workplaces
- Exploiting the six targeted technology clusters identified in Vision 2020
  - Information Technology
  - Medical/Biomedical
  - Micromanufacturing
  - Environmental Technologies
  - Food Technologies
  - Advanced Materials

# Governor's Information Technology Initiative

FY2001-02

Investment strategies will focus resources on:

- Building the technology, research and communications infrastructure necessary for Louisiana's institutions to effectively perform in today's high-tech research environment
- Recruit and retain nationally competitive faculty in specific IT fields related to computer science, engineering, management information systems, and related fields
- Provide new degree and non-credit programs to grow the workforce required by the IT-intensive areas of current and new businesses sought for Louisiana

# **Governor's Information Technology Initiative**

## **(FY2001-02)**

### **Investment returns will be:**

- Development of new and improved technologies ripe for advancement into the marketplace
- Attraction of entrepreneurs to high-tech business incubators through the use of university expertise in technology and business development
- Deployment of the infrastructure necessary to support IT research, education and training, and business development

# **Governor's Information Technology Initiative**

**(FY2001-02)**

*Through the Governor's Information Technology Initiative the state will make an investment that has the potential to provide high levels of return in terms of business development, job creation, a higher skilled workforce, a sophisticated research capability, and a new environment for overall economic development*

# Original LONI Strategic Plan Elements

FY2004-05

## Goals Near-term (Year 1 and 2)

- establish and sustain the Louisiana Optical Network infrastructure
- establish and sustain the Louisiana Grid Computing infrastructure
- empower the postsecondary education research community to leverage the LONI infrastructure in association with the National LambdaRail network
- utilize LONI infrastructure to form collaborative relationships with business, contribute to science, and create jobs

# **Strategic Plan Elements**

## **(FY2004-05)**

### **Goals Near-term (Year 1 and 2) - continued**

- Establish collaborative relationships with all appropriate stakeholders on a state, national , and international scale to ensure an environment focused upon common derived benefit from research tools and products resulting from the LONI investment
- Create a long-term funding strategy designed to expand the LONI infrastructure
- Where appropriate, utilize LONI infrastructure for research, and educational/Telemedicine/Telehealth as funding is available

# Strategic Plan Elements

FY2004-05

## Goals Long-term (Year 3 and Beyond)

- increase the economic benefits of high speed and Grid computing as shared resources in Louisiana
- increase computing resource support to all postsecondary institutions
- create a comprehensive bandwidth strategy for higher education in collaboration with state agencies, and bandwidth providers

# Strategic Priorities from Strategic Planning Meeting

November 2008

**Vision:** LONI is a world-class cyber infrastructure and communication resource that provides research prominence, networking and long-term economic development for the State of Louisiana

**Mission:** LONI enables research and the development of technologies and applications through operations, high speed computing, collaboration and networking to enhance education and economic development in Louisiana

# **Strategic Priorities from Strategic Planning Meeting**

**November 2008**

## **Organizational Goals and Strategic Objectives**

- High-Performance Cyber Infrastructure
- Shared Support Services
- Research and Development Support
- Business Development Support
- Teaching and Learning Support

# Strategic Priorities from Strategic Planning Meeting

November 2008

## Goals and Strategic Objectives

### High-Performance Cyber Infrastructure

Provide easily accessible high-performance network and computing infrastructure to the State's research institutions to support large-scale endeavors and enhance multi-institutional research collaborations.

- Provide connectivity to other peer, national and international networks
- Acquire and sustain the necessary optical fiber, electronics and related equipment to connect LONI participating institutions with multiple high speed Lambdas
- Establish a premier state-wide HPC computing environment.
- Identify other infrastructure needs such as mass storage and visualization facilities, and develop strategies to acquire these resources for shared use among participating institutions

# Strategic Priorities from Strategic Planning Meeting

November 2008

## Goals and Strategic Objectives

### Shared Support Services

Supply the services necessary to operate the network in support of both research and production operations to ensure that the network's users will have a highly reliable and accessible network.

- Provide operational support for monitoring, maintaining and enhancing the network
- Provide systems administration support for the HPC and peripheral hardware
- Develop the software necessary to manage the cyber infrastructure

# **Strategic Priorities from Strategic Planning Meeting**

## **November 2008**

### **Goals and Strategic Objectives**

#### **Research and Development Support**

Provide the necessary faculty training to facilitate productive use of LONI in increasing federally funded research projects. Assist research faculty in capitalizing upon the LONI infrastructure to enhance the State's national and international research prominence

- Foster multi-institutional and federal agency research collaborations
- Provide support for development and modification of software that enables faculty members from all disciplines to rapidly adapt to HPC environments

# **Strategic Priorities from Strategic Planning Meeting**

## **November 2008**

### **Goals and Strategic Objectives**

#### **Business Development Support**

Promote the development and growth of Louisiana business through research and development in high-speed networking and HPC

- Develop requirements, policies, and procedures for companies to readily access LONI and collaborate with LONI institutions
- Foster R&D collaborations between partner institutions and businesses
- Provide expertise and training to help companies implement advanced information technology capabilities for improving prospects for success

# Strategic Priorities from Strategic Planning Meeting

## November 2008

### Goals and Strategic Objectives

#### Teaching and Learning Support

Become a leader in the innovative application of high-speed networking and computing that supports teaching and learning; remove the obstacles of time or place; deliver or enhance technology-supported learning, provided both on and off-campus. Create or utilize a high-speed networking and computing environment to facilitate:

- Access to the teaching resources within Louisiana's higher education institutions.
- Elimination or reduction in constraints owed to time, place, method of instruction, or format within traditional campus settings.
- Advancement in quality instructional content for use with information technology.
- Greater teacher/student interaction and active student engagement.
- Greater variety within instructional formats,
- A seamless transport environment for the development of a genuine distributed learning community for both students and faculty

# Strategic Priorities from Strategic Planning Meeting

November 2008

## Strategic Priorities

- Develop long-term funding model for LONI in line with needs and goals
- Define economic development for LONI
- Build Federal funding and national prominence
- Assess serving K-12 education

# **Strategic Priorities from Strategic Planning Meeting**

**November 2008**

## **Strategic Priorities**

### **Develop long-term funding model in line with needs and goals**

- Determine costs to address hardware life cycle, software licenses
- Services to keep LONI operational, staffing
- Need strategic plans, timelines and appropriate presenters for each level - Need easy to understand successes, path forward for prominence and business model to align with political vision (workforce, economic development, research etc.)

# **Strategic Priorities from Strategic Planning Meeting**

## **November 2008**

### **Strategic Priorities**

#### **Define economic development for LONI**

- Approach the administration's vision/expectations
- Know regulatory issues
- Money – costs – summary business plan and model
- Market
- During marketing- how to measure the success?

# Strategic Priorities from Strategic Planning Meeting

## November 2008

### Strategic Priorities

#### Build Federal \$ and national prominence

- Large collaboration research project
- Have someone in national conventions/projects
- Put someone in charge of this – volunteered or paid position
- Strategic partnership with those in HPC
- K-12 brings e-rate \$ to LA
- Strategic partners with Cancer Researchers etc.
- Physical place to bring guests
- Get a research center here
- NAS faculty in state
- Conference to spotlight LONI
- Staffers of federal congressional delegation to sell LONI

# Strategic Priorities from Strategic Planning Meeting

## November 2008

### Strategic Priorities

**Assess serving K-12 education – connect every school house – meet professors**

- **Feasibility** - Is it doable? What is the funding model? Most expenses are e-rate and reimbursable. What are the regulatory and legal issues? Has it been successful in other states?
- **Appropriateness** - Will it impede us, will it distract us, will it cause a lack of focus on higher ed., are we biased toward our own silos, can we reach out and not pre-empt our original intent and become sustainable
- **Build Support** – Higher Ed, Elementary and Secondary Ed, state government



**BROADBANDUSA**  
CONNECTING AMERICA'S COMMUNITIES



# Louisiana Broadband Alliance

Broadband Technology Opportunities Program  
Infrastructure Project

# Potential Beneficiaries

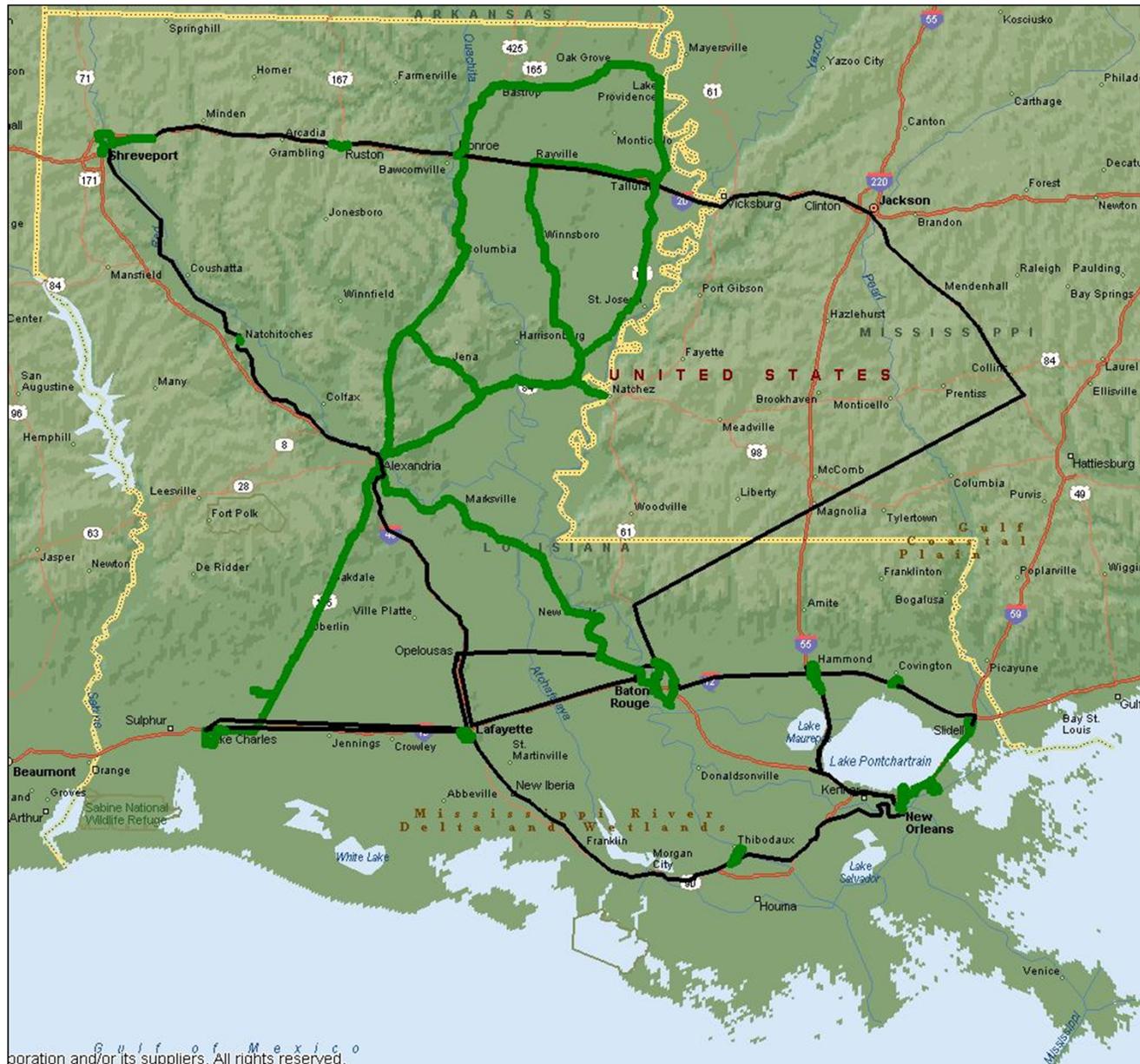
- 100,000 households served through private telecom provider connections to the network
- 15,000 businesses served through private telecom provider connections to the network

# BTOP Infrastructure Project Highlights

- March, 2010 – Board of Regents, on behalf of the Louisiana Broadband Alliance, was awarded \$80.5 million in federal funds to expand and extend the LONI fiber optic network
- The broad purposes of the grant are to:
  - extend broadband access to unserved and underserved areas of the state
  - provide broadband access to community anchor institutions (e.g., schools, libraries, medical facilities)
  - stimulate demand for broadband, economic growth, and job creation

# Technical

- 900 miles of “middle-mile” dark fiber
- 144-strand fiber cable
- 38 new interconnect points
- 2.5 years for construction
- IP over Optical delivery
- Last-mile connectivity and services provided by private telecom providers



Map Key	
	Existing LONI Network
	Proposed Network

LONI

- 1,050 Route Miles
- (32) 10,000Mbps Links
- Three complete fiber rings
- (15) Interconnection points
- 100% fiber protection
- 100% card protection
- 100% device protection
- (63) Cisco 15454
- (51) Cisco 6500
- 24x7x365 Network Operations
- All Interconnect sites have UPS and Generator with either natural gas or diesel with supply contracts.

Proposed

- 910 Route Miles
- (24) 10,000Mbps Links
- (724) 1,000Mbps Links
- Meshed Rings
- (38) Interconnection points
- 100% fiber protection
- 100% card protection
- 100% device protection
- (71) Cisco 15454
- (17) Cisco 6500
- 24x7x365 Network Operations
- All Interconnect sites have UPS and Generator with either natural gas or diesel with supply contracts.

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# Strategies

*As stipulated in the BTOP application, the Broadband Alliance is “open to each and every last-mile provider that can serve the proposed service area and every reasonable attempt will be made to negotiate with all interested parties for the ability to interconnect at every provider building for the middle-mile fiber route/span operations, and at every fiber splice point on the route/span.”*

# Scorecard on LONI?

# Scorecard on LONI?

- √+ • Development and operation of high-speed network
- √ • Provide computational resources to the research community
- √ • Establish and maintain national connectivity
- √- • Integrate and aggregate Louisiana's many strengths, currently geographically distributed across its universities and industries
- √-- • Development and use of *grids* to provide new models of computation and collaboration across large distances
- √ • Stimulate enhanced research productivity and grant awards
- √-- • Facilitate collaborations between universities, industries, and government, focused on creating and deploying new technologies, new jobs, new companies and enhanced economic development
- √ • Provide various added benefits to campuses and the State

# Discussion

