National Public Lightpath

concept sheet

Parents and students in Lafayette, Louisiana, one of NPL's model communities, view a 3D model at Lafayette's new LITE Center, which is connected to the community's municipal fiber-optic network. Fiber enables enormous amounts of data to be transfered at the speed of light.

America's Next Generation Internet created in the public interest

the challenge

The Internet will require massive investment to effectively support increasing demands of media, interactivity, commerce and the public interest.

- Innovation in the United States will depend on increasing access to bandwidth to the end user
- Global collaboration requires new economic models for communications technology
- Diverse communities in the United States must develop equity in the infrastructure for public media

the solution

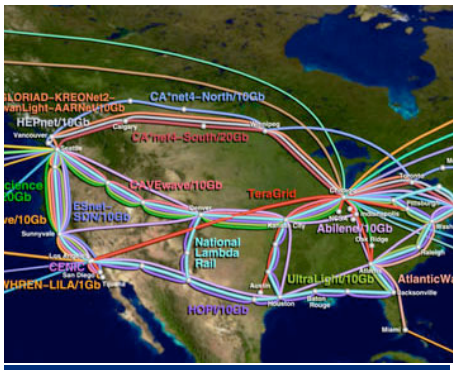
Designed as a collaboration across the public media, education, and technology sectors, National Public Lightpath (NPL) will create a high-speed fiber optic network to serve the public media and education communities. The infrastructure will build off of the National Lambda Rail network, which connects over 400 public universities across the U.S. at speeds of over 10Gbps. NPL will provide leadership of the initiative and a framework for collaboration across sectors, assert public equity in the network infrastructure, support its development and implementation, develop efficiencies and foster collaboration and innovation across the network, and enable the creation and distribution of next generation

public interest media. NPL will therefore enable the public media and education communities to better serve the American public, ushering in a new era of innovation and civic engagement.

background

We can look back on American history and see giant strides made through public interest investments: our railroads, our highways, our postal service, our educational system, our libraries, and our public broadcasting systems. These were all dramatic efforts by a great number of Americans, and though imperfect, they remain driving forces of our society and economy. They symbolize the recognition of a simple fact: that the strategic pooling of our resources and efforts for public infrastructure projects can not only benefit our entire society, but can serve as a catalyst for new waves of economic development, social investment, innovation, and global competitiveness.

As we approach the second decade of the twenty-first century, America has fallen behind in the areas that most affect our ability to innovate and compete. Today, the United States ranks seventh globally in information technology, thirty-third in public infrastructure, and fortieth in health and primary education. The greatest infrastructure project of our time -- the one that has changed the way we learn, consume, communicate, entertain, and collaborate -- is unquestionably the Internet. But while we use the Internet daily through a patchwork system of phone lines, cable, satellite, wireless routers, and cellular networks, we have rapidly outgrown the speed and reliability required by the current demands of media, technology, and next generation applications.



building on existing public infrastructure
NPL proposes using National Lambda Rail (NLR), our nation's most robust fiber-optic network, as its core backbone. NLR connects to Regional Optical Networks and hundreds of universities and communities nationwide.

"Today's Internet could be thought of as a Polynesian model, where you have all these islands, and people use canoes to get from one to another. We're changing that to a jet-age model."

--Larry Smarr, physicist, supercomputing expert, and "grandfather of the Internet" on fiber optic networks

classrooms of the future
A fiber-enabled classroom can put the world's best technologies and media at the fingertips of teachers and students. At left, a student and professor at University of Illinois Chicago stream maps, video, and data from several sources into one giant screen.

With support from the Ford Foundation, early adopter communities have become active in incubating the NPL model. These include Louisiana, San Francisco Bay Area, Washington D.C. region, Chicago, IL and the Pacific Northwest Seattle-Portland corridor. Each of these locations has embedded participation from the education, media, and government sectors.

architects

NPL architects include Joaquín Alvarado, Institute for Next Generation Internet; Ken Ikeda, Bay Area Video Coalition (BAVC); Jennifer Gilomen, BAVC; Tom West, National Lambda Rail (NLR); Joanne Hovis (National Association of Telecommunications Officers and Advisors/ NATOA) and Jim Dolgonas, Corporation for Education Networking Initiative in California (CENIC). In his tenure at the Association of Public Television Stations (APTS) and now at the Corporation for Public Broadcasting (CPB), Mark Erstling has also been a key architect of the initiative.

National Public Lightpath will reshape every aspect of the way we live, work, learn, and play. It will open a new chapter in American history – one of innovation, communication, and global competitiveness. National Public Lightpath will lead the way to a more connected, engaged and informed citizenry and a true digital democracy.

contact

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