



**FLR**  
Florida LambdaRail

The Florida LambdaRail:  
Florida's Research and Education



# The Florida LambdaRail: Florida's Research and Education Network

## Organization

The Florida LambdaRail, LLC (FLR) was created to facilitate advanced research, education, and economic development activities in the State of Florida, utilizing next generation network technologies, protocols, and services. FLR is a not-for-profit limited liability corporation. FLR was incorporated in the state of Florida in May 2003 and achieved 501(c)(3) status in August 2005.

The FLR is complementary to the National LambdaRail (NLR) initiative, a national high-speed research network initiative for research universities and technology companies. The FLR provides opportunities for Florida university faculty members, researchers, and students to collaborate with colleagues around the world on leading edge research projects. The FLR also supports the State of Florida's economic development and high-tech aspirations.

## Mission

The FLR is committed to enabling higher education institutions and their partners to participate in advanced research, education, and economic development activities by providing a high-performance experimental, research, and production networking and support infrastructure.

## Governance

The FLR is governed by a Board of Directors comprised of representatives appointed by the equity member institutions.

## Commitment to Florida Research and Education

The primary goal of the FLR is to operate a statewide high performance fiber-optic network infrastructure linking Florida's research institutions in support of large-scale, public or private, research, education, and outreach partnerships.

For the first time, Florida has direct connectivity to a wide range of domestic and international research networks, including the Internet2/Abilene Network and the NLR networking infrastructure. This puts Florida universities on equal and competitive footing with the best institutions in the nation, with the ability to communicate in ways not possible using previous networks.

High-speed optical networking is a critical tool for achieving sophisticated learning, research, and collaboration, as well as a key differentiator for recruiting and retaining talented researchers, faculty, students, and other professionals. Through the FLR, members, affiliates, and associates are provided with a test-bed for innovation as well as increased opportunities for research funding and activities.

The FLR will help Florida colleges and universities prepare for future academic challenges and the demands of the knowledge economy.

## Members

The FLR currently has ten equity member institutions, which have committed significant resources to deploy the initial FLR infrastructure. These members are:

- Florida Atlantic University
- Florida Institute of Technology
- Florida International University
- Florida State University
- Nova Southeastern University
- University of Central Florida
- University of Florida
- University of Miami
- University of North Florida
- University of West Florida

## National LambdaRail Architecture



## Florida LambdaRail Architecture



### FLR Footprint – the NLR Build up in Florida

The FLR's more than 1,500 miles of fiber is readily accessible from every corner of the state and provides high-speed connectivity to the nation and the world.

### Next Generation Research Network

Many scientific disciplines are embarking upon ambitious projects driven by the incredible power of computers and networking which enhances collaborative efforts among researchers and scientists throughout the United States and in other nations. These projects generate vast amounts of data, which are often not readily accessible from other institutions because the current network connections are not fast enough. The FLR infrastructure addresses this problem, and will bring together research communities to solve the complex challenges of our time.

The FLR infrastructure provides a statewide, dedicated optical data facility linking major nodes located in Pensacola, Tallahassee, Tampa, Miami, Orlando, Gainesville, Melbourne, Ft. Lauderdale and Jacksonville, as well as interconnecting with NLR nodes located in Jacksonville and planned for Pensacola.

The FLR utilizes Dense Wave Division Multiplexing (DWDM) technology enabled by Cisco 15454 Long Haul optonics, which can support up to 32 channels (waves or separate networks). Each wave can support transmission speeds up to 10 billion bits per second (10-Gigabit/sec). There are multiple waves along the various network segments in support of primary and secondary access for each member, as well as dedicated waves for research activities.

The FLR infrastructure was designed explicitly to support the most demanding networking needs. Several participants are already actively leveraging the FLR infrastructure to:

- transfer large data files multiple times a day from the National Center For Atmospheric Research (NCAR)
- conduct Navy-sponsored research on the impact of hurricanes, tornadoes and thunderstorms on the natural environment and man-made structures
- set up large scale simulations
- enhance distance-learning capabilities
- transfer very large data file from the new high-energy physics facility at CERN
- collaborate on innovative research spanning national and international participants.

## The Florida LambdaRail: Florida's Research and Education Network

### **Service Offering Overview**

The FLR provides a scalable network solution that meets long-term system and network requirements. There are several advantages for Florida higher education entities including: a reliable and flexible network infrastructure that can grow and incorporate technological advancements; enhanced network performance and bandwidth capabilities; and collaboration and advanced communication among research participants.

The services offered by the FLR are:

- dedicated and shared (bandwidth on demand) 10-Gigabit Ethernet or single Gigabit Ethernet high-performance data circuits
- connectivity to the NLR, the Internet2/Abilene network, and other advanced research networks.
- connectivity to commercial Internet Service Providers
- shared network traffic transport between participants
- network traffic peering between the FLR and other data networks
- dedicated wavelengths between FLR participants or FLR and NLR participants

The FLR is Florida's research and education network and is committed to serving research and education needs today and in the future.

### **Contact FLR**

More detailed FLR information can be found on the web at [www.flrnet.org](http://www.flrnet.org) or by contacting the company at (850) 644-0066 or [info@flrnet.org](mailto:info@flrnet.org).



[www.flrnet.org](http://www.flrnet.org)