



# Merit's ARRA Projects

## REACH-3MC Fiber-Optic Network Update

Dec. 2011



## Merit Network is Building 2,287 Mile-Long Fiber-Optic Network Extension in Michigan

This summer, construction crews in several parts of Michigan are busy building fiber-optic infrastructure for Merit Network's REACH-3MC project, which is being funded through federal stimulus grants and private investment. The Rural, Education, Anchor, Community and Health care – Michigan Middle Mile Collaborative (REACH-3MC) is a collaboration that will build much-needed infrastructure in many parts of the state.

In 2010, Merit Network, Inc. was awarded federal stimulus funding for two broadband projects in Michigan. In January 2010, Merit's REACH-3MC project was awarded a \$33.3 million federal grant from funds allocated through the American Recovery and Reinvestment Act (ARRA) of 2009 to create a 1,017-mile open-access network in Michigan's Lower Peninsula. Seven months later, Merit was awarded \$69.6 million in funding to build 1,270 miles of fiber-optic infrastructure in the Northern Lower and Upper Peninsulas of Michigan. Both stimulus grants were awarded through a program funded by the National Telecommunications and Information Administration (NTIA).

"Years ago Merit embarked on a strategy to own our backbone fiber-optic infrastructure. This was the best way to provide the performance and the price our Membership needs now and in the future," said Merit President and CEO, Don Welch. "We knew it would take a long time, but also knew we had to get infrastructure in these areas somehow. The stimulus funding accelerates that plan to the benefit of the entire State."



CONNECTING COMMUNITIES



STIMULATING THE ECONOMY



CREATING JOBS

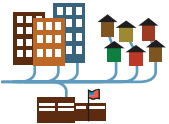
### Key Points About the Broadband Project



Merit will create a statewide fiber-optic network for Community Anchor Institutions (education, libraries, health care, government, public safety).



Merit, a Michigan-based company, has contracted with Michigan companies to engineer and construct the network, creating jobs in Michigan!



REACH-3MC is a Public-Private Collaboration that will benefit Michigan communities. Merit will connect Community Anchor Institutions, such as libraries, education, government and healthcare. Commercial Sub-recipients will provide service to homes and businesses.



Through REACH-3MC, Merit facilitates resource-sharing over its network, enabling our public institutions to manage costs and provide more services to Michigan residents.



REACH-3MC will create economic development opportunities in Michigan by building 21st century infrastructure to better position our state in today's global economy.



REACH-3MC is an open-access network that will support not harm local Internet Service Providers (ISP). Any ISP will be granted access to the network at reasonable rates and terms.



# “Michigan’s Comprehensive Community Catalyst”

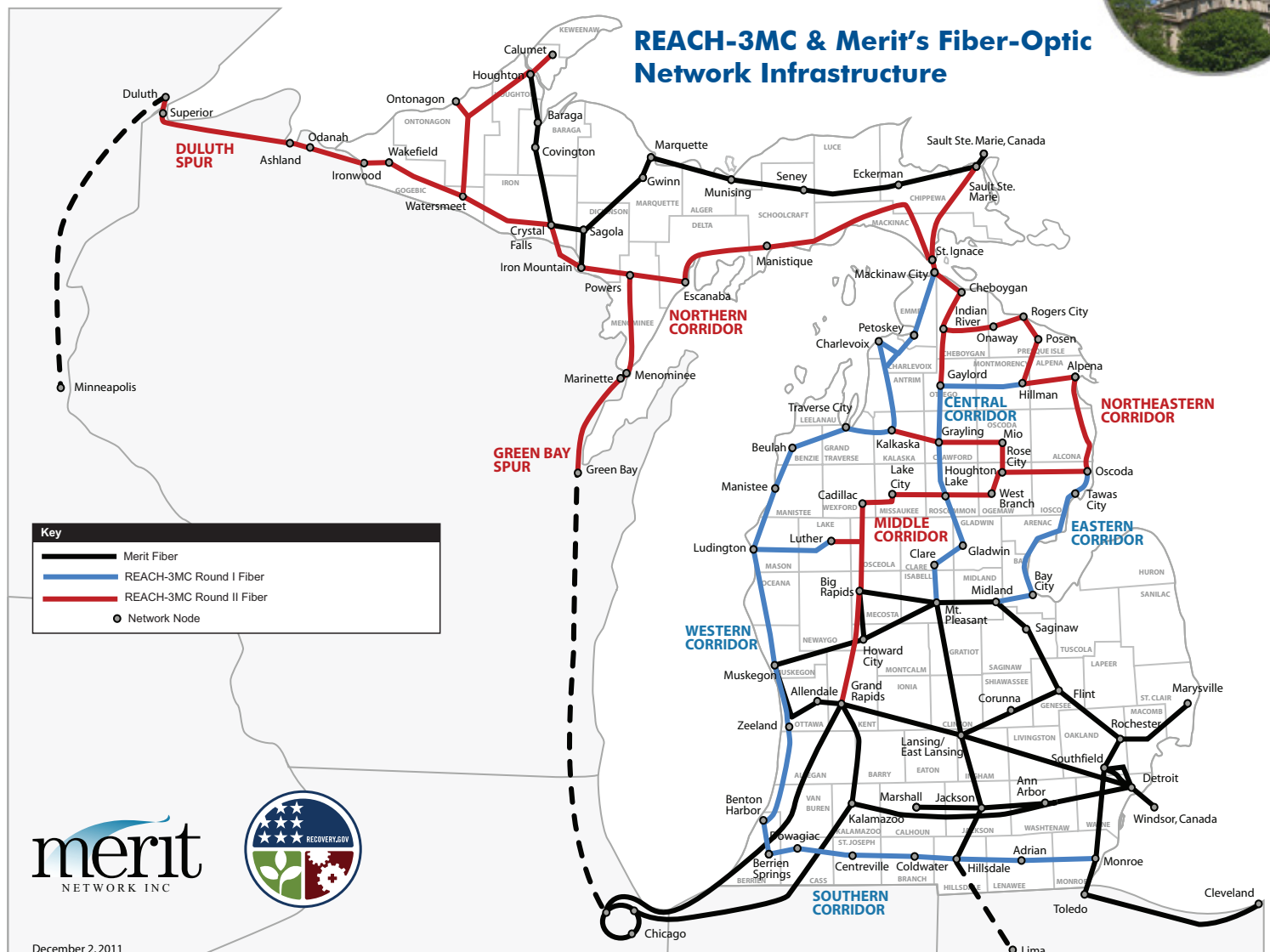
Merit’s mission is centered in serving community anchor institutions. Merit provides high-performance networking solutions to Michigan’s public universities, colleges, K-12 organizations, libraries, state government, healthcare, and other non-profit organizations. Merit, a Michigan-based company, is a member-focused provider and has been a trusted strategic partner to the education and non-profit community for over 40 years.



Today counting among our membership (Percentages in Michigan):

- 40% of Private Universities
- 59% of Community Colleges
- 58% of K-12 Intermediate School Districts
- 92% of Public Universities
- 45% of Library Cooperatives
- 26% of Public Libraries

Merit’s existing fiber infrastructure combined with the new REACH-3MC network infrastructure creates a robust footprint in the state, providing Michigan with a strategic asset to leverage in the future. Only those organizations connected to Merit’s network can take advantage of Merit’s statewide fiber infrastructure.



December 2, 2011



## Experienced Provider for Michigan

For over 40 years Merit Network has remained Michigan's trusted source for leading-edge networking solutions. Since its inception in 1966, our organization has undergone significant changes to adapt to the unique needs of the growing Merit community. From our beginnings as a computer network for Michigan's leading public universities, to our leadership role in the National Science Foundation Network (NSFNET)—the pre-cursor to today's commercial Internet—Merit has always sought to leverage the accomplishments which precede us.

Merit has partnered with over 20 networks to provide peering relationships between Merit and their network—a direct path to and from their networks for exchanging data. Merit is Michigan's only connector to the Internet2 Network, the national high-performance network that connects research universities, K-12 organizations, healthcare organizations, government institutions, and others in the United States.

Merit developed and maintains a leading-edge, 24x7 support center that monitors the network and Merit services.

## Benefits of Fiber-Optic Connectivity

The data capacity of the fiber is limited only by the speed of light, which is to say that the capacity is (theoretically) unlimited. Today, the most cost-effective fiber-optic electronics provide for transmission rates of 1 gigabit-per-second (Gbps) with speeds up to 10 Gbps, but as more powerful electronics become available, the speed of a fiber-optic connection can be upgraded without replacing the fiber-optic cable.

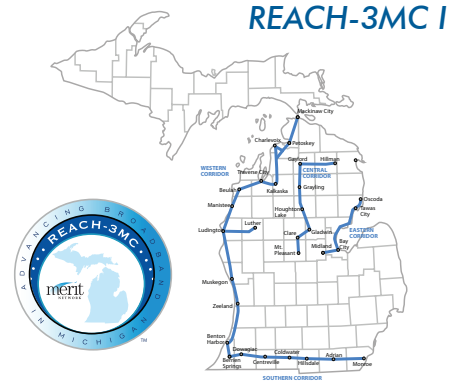
“With this system in place, it will be possible to upgrade to 40 Gbps and 100 Gbps with no optical layer changes,” according to Merit's Director of Network Engineering, Michael Milliken.

Fiber-optic connections enable organizations to use low-latency network applications, such as Voice over IP (VoIP), IPTV, and interactive videoconferencing.

Merit can provide fiber-optic connections to organizations that will be cost-effective and highly reliable. If your organization is interested in fiber-optic connectivity, please send an email to [info@merit.edu](mailto:info@merit.edu) for more information.



## Network Mileage



### Eastern Corridor:

Oscoda to Bay City to Midland  
(104 fiber miles)

### Central Corridor

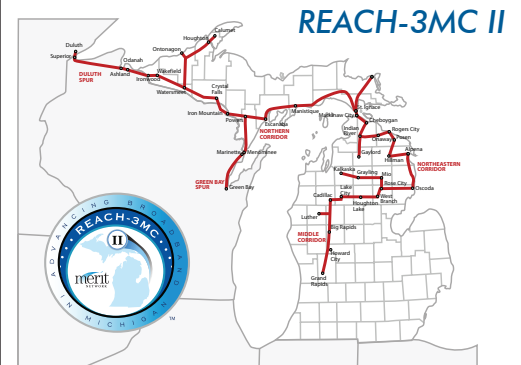
Gaylord via Hillman to Mt. Pleasant  
(221 fiber miles)

### Western Corridor:

Mackinaw City to Berrien Springs  
(356 fiber miles)

### Southern Corridor:

Berrien Springs to Monroe via Hillsdale  
(175 fiber miles)



### Middle Corridor:

Grand Rapids to Kalkaska and Oscoda  
(322 fiber miles)

### Northeastern Corridor:

Oscoda to Mackinaw City via Alpena  
(220 fiber miles)

### Northern Corridor:

St. Ignace to Ironwood & Houghton  
(425 fiber miles)

### Duluth Spur:

Ironwood to Duluth  
(115 fiber miles)

### Green Bay Spur:

Powers to Menominee & Green Bay  
(96 fiber miles)



## REACH-3MC Community Meetings

Since receiving the project award, Merit's management and staff have travelled to cities located near the proposed routes for the network and met with local government officials, organizations and individuals. These community meetings have helped to update and educate the community on the progress of network permitting, construction and related activities.

The network is being built in many areas of Michigan where broadband connectivity does not exist. The community meetings have helped provide attendees with information about the benefits and opportunities that can result from the new network infrastructure. Anchor institutions, organizations, and Internet service providers located near the new network routes have been invited to take advantage of the new infrastructure and connect to the network.

Merit's community-based approach to high-performance networking has helped several cities in Michigan, and the REACH-3MC project will provide even greater opportunities for community involvement in cities across Michigan. To view the dates and times of upcoming meetings and to register, please visit:

[www.merit.edu/meritformichigan/meetings/](http://www.merit.edu/meritformichigan/meetings/)



## How to Participate and Receive Updates

Merit is very interested in working with you and others to provide broadband access throughout Michigan. If your organization is interested in fiber-optic connectivity, visit the REACH-3MC web site and complete the Institution Interest Form. If you are a business or home user, please complete the Broadband Subscriber Interest Form.

### REACH-3MC Web Site

The REACH-3MC web site provides REACH-3MC project updates, community updates, project-related documents, and additional information. Please visit:

[www.merit.edu/meritformichigan/](http://www.merit.edu/meritformichigan/)

### E-Mail Mailing Lists

Merit has created email lists to keep communities up-to-date regarding progress on the REACH-3MC network projects and to provide details on upcoming community meetings. To sign up for a Community Update Email list, please visit:

[www.merit.edu/meritformichigan/email\\_list/](http://www.merit.edu/meritformichigan/email_list/)

### REACH-3MC RSS Feed

A dynamic RSS feed has been created to notify web site visitors when the REACH-3MC site has been updated. For the RSS Feed location, please see:

[www.merit.edu/news/rss/](http://www.merit.edu/news/rss/)



For more information, please email to [info@merit.edu](mailto:info@merit.edu)