

Merit Network and REACH-3MC Overview



Michigan Commission of
Agriculture and Rural
Development

Don Welch
President & CEO



- Merit
 - History
 - Why Merit Exists
 - Mission, Vision, Activity
- REACH-3MC Project



Merit's History 1966-2008

- The Michigan Education Research Information Triad (MERIT) formed in 1966 because, “significant benefits might be gained from sharing computing resources via an electronic linkage...”
- 1969 NSF grant for computer networking with only comparable work at BBN (ARPANET)
- Dial-up “Hermes” service in 1973 (!)
- Designed, engineered, managed and operated the NSFNET backbone
- Received NSF Cooperative Agreement for Routing Arbiter in 1994 (2nd Solicitation for NSFNET)
- Merit provided dial-in access for educational technology through 2007
- Merit Embarked on a Fiber and Wireless Backbone Strategy in 2003
- 2006 Merit leads other R&E Networks in offering Converged/Cloud Services to its membership.
- 2010 Merit awarded \$102 MM grant funding to build 2300 miles of fiber.



Michigan
Educational Research
Information Triad



Why Does Merit Exist?

Merit exists to foster partnerships for community success through information technology. We succeed only when our members succeed. We facilitate connections with and between our Members and their communities. Merit is a trusted partner: we will always “do the right thing” while being honest and transparent. We believe in the future success of Michigan which will be driven by education and learning.



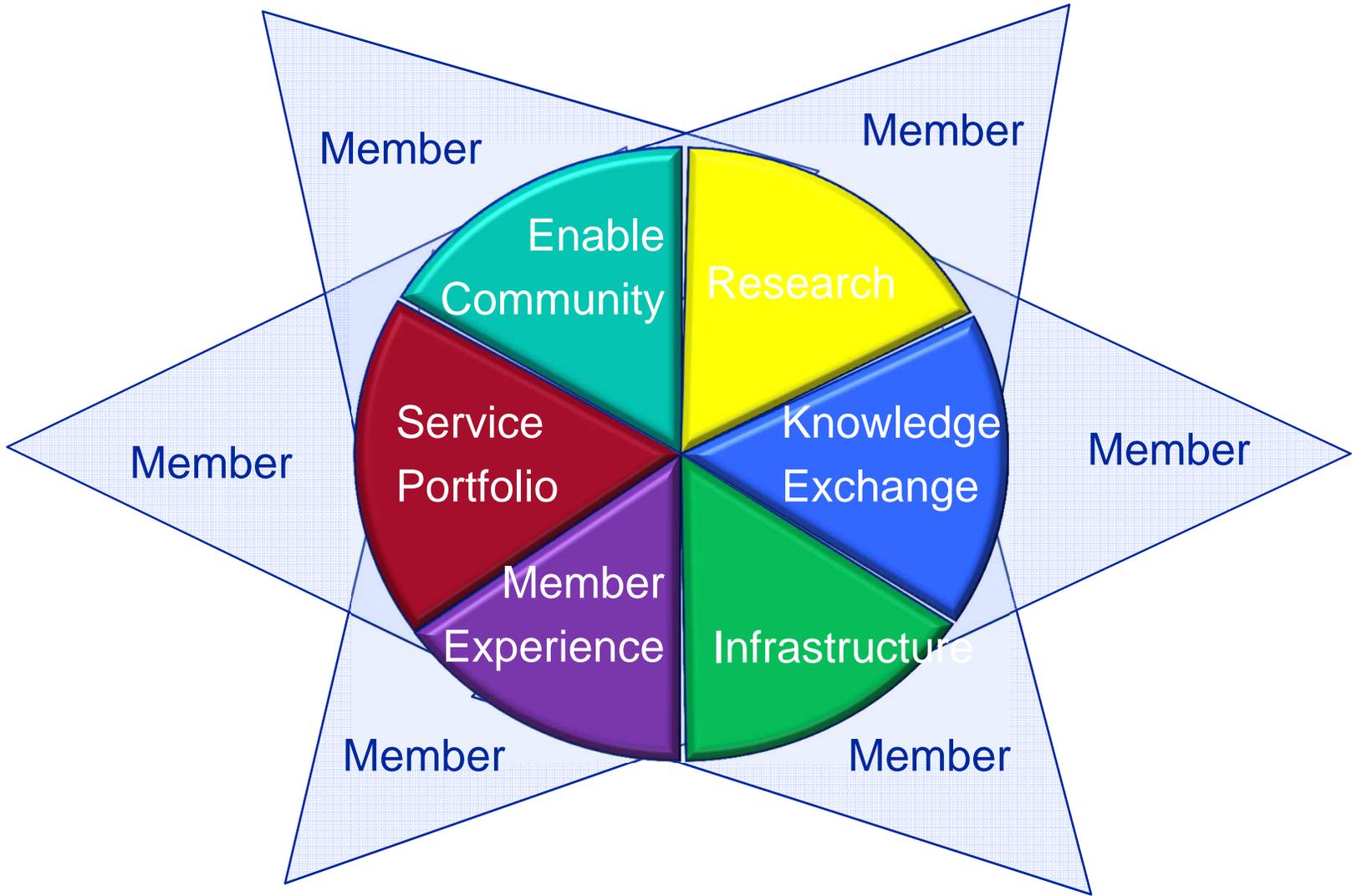
There is equal opportunity to access information and knowledge throughout all regions of Michigan and all sectors of society. Merit's members are strengthening and growing while Merit is acknowledged as a strategic asset with respect to technology services, collaboration, and learning.

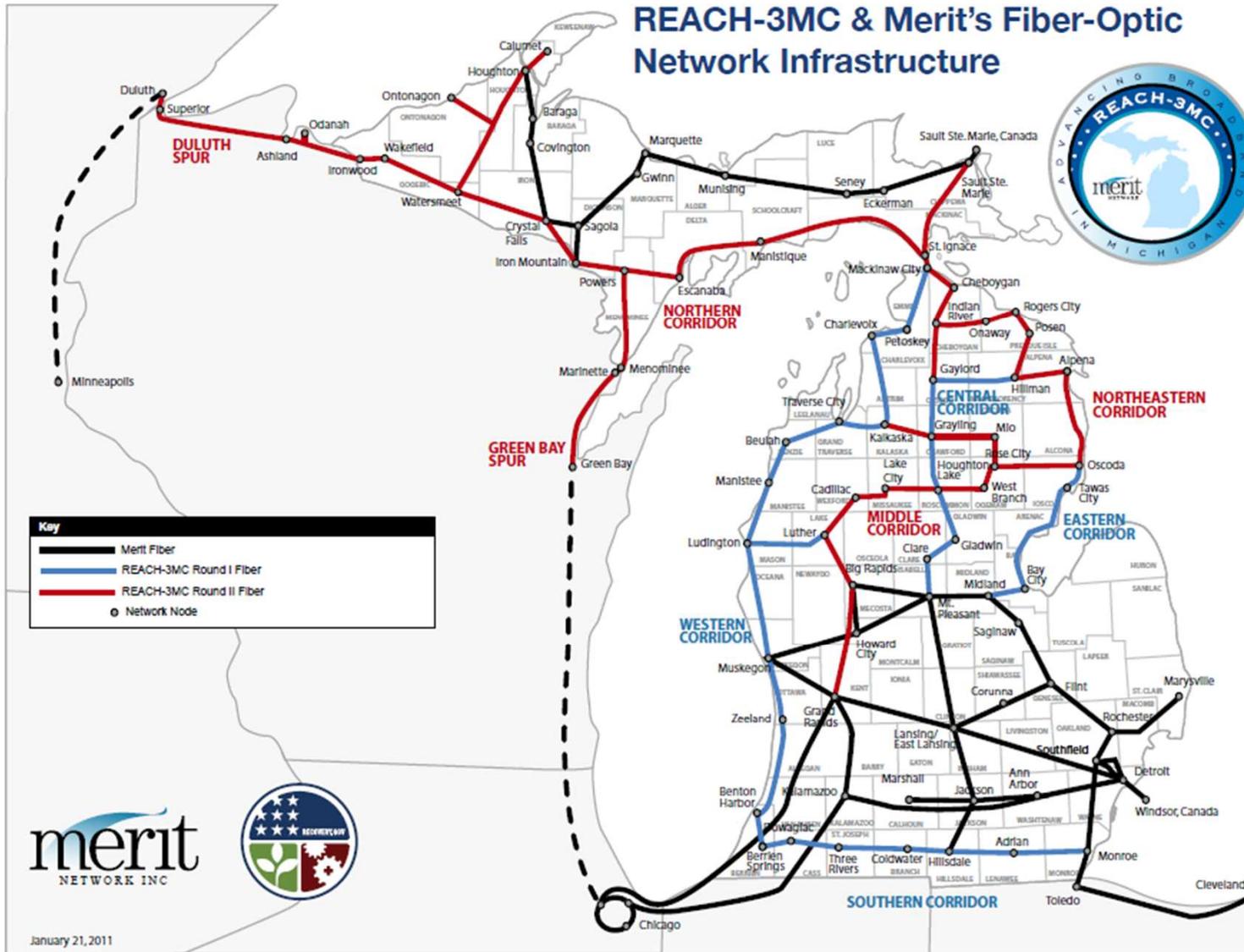




- Independent not-for-profit 501 (c) 3
- Governed by 12 public universities (Board of Directors)
 - Control Merit and its assets on behalf of the public
- Elected Advisory Council
- Serve: research, education, libraries, government, health care and other non-profit organizations
- No state funding
- Support research over the network and on the network
- Represents Michigan in national research & education networking and technology community

Compelling Value Bundle





REACH-3MC Projects

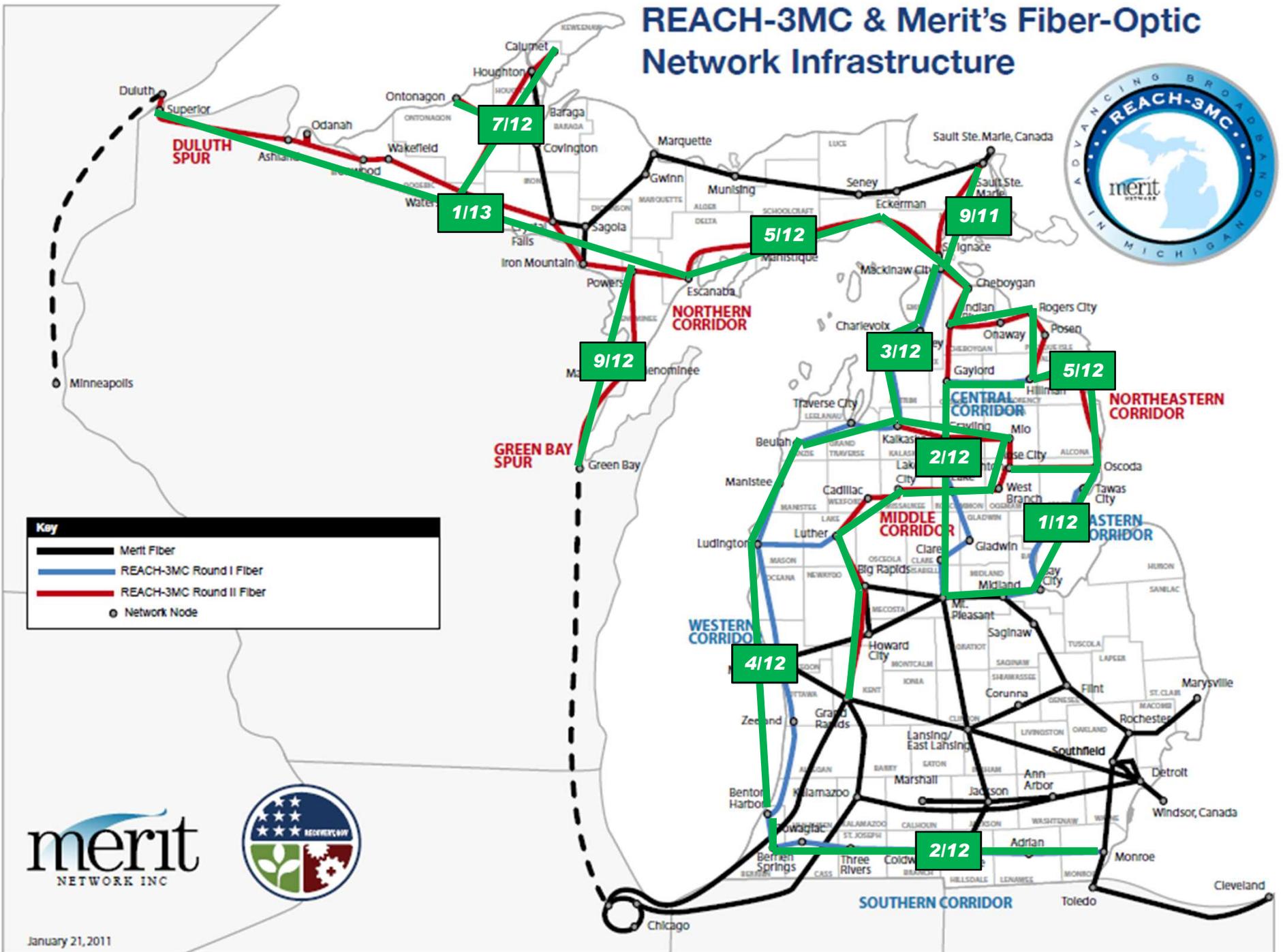
- REACH-3MC
 - \$41.6 MM (\$33.3 MM Grant)
 - 955 (now over 1000) miles of fiber in 4 corridors
 - 4 (now 3) commercial sub-recipient partners
 - 72 strands, 15 access points, mostly aerial
- REACH-3MC II
 - \$87 MM (\$69.6 MM Grant)
 - 1272 (now over 1300) miles of fiber in 3 corridors and 3 states
 - 7 (now 6) commercial sub-recipient partners (2 also in round 1)
 - 96-168 strands, 28 access points, half trenched



- Wage Determinations all approved
- One last approval for Round 2 Environmental Assessment (FONSI)
 - Bad River Tribe
- July Aerial Construction Starts
 - Consumers Power - all make-ready complete by EOY
 - Underground will be complete before aerial
 - Aerial will start in July
 - 234 aerial miles on other utility poles
 - 160 miles complete by October
 - July 1 - 55 miles of conduit installed
 - Oct 1 - 130 miles of conduit installed; 600 miles of fiber installed
 - Jan 1 - 870 miles of fiber installed



REACH-3MC & Merit's Fiber-Optic Network Infrastructure



Key	
	Merit Fiber
	REACH-3MC Round I Fiber
	REACH-3MC Round II Fiber
	Network Node



- Allows Communities like Hillsdale & Alpena that are already working together to leverage the grant
- Is a catalyst for communities to begin working together to leverage the grant
- Economic development requires:
 - Educated workforce of life-long learners
 - Interchange of information
- Majority of the fiber is owned by 7 private companies
- Service Offerings
 - Sub-recipients have diverse business models
 - Merit is different still
 - All sectors of society benefit



Network – Highway Metaphor



- Bandwidth – Lanes
- Hops – Routes
- Latency/Congestion/
Routing – Speed Limit
- Diverse Paths – Alternate
Routes
- Service & Support –
Construction, Roadside
and Emergency Services
- Security & Privacy – Legal,
Police



- Middle-mile project
 - Like limited access highways
- Equal opportunity for access to information throughout Michigan by 2013
- 7 private companies and Merit working together

