Collaboration!!
Changing the Conversation
&
Creating Possibilities

Internet2 Fall2009 Meeting
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Agenda

- Historical Prospective
- Change Agent
- Rebirth or Revelation?
- Merit Today?
- Merit Tomorrow?
- Q & A
Merit Network -

- Operates and manages Michigan’s Education and Research backbone network
- Has been in operation for 42 years
- Governed by 12 of the Public Universities in Michigan
- Provides Network Connectivity to:
  - Higher Education, K-12, Libraries, Non-Profits such as Museums, Healthcare, Governmental Agencies, Research Institutions, and few For-Profit organizations.
  - Serves: 50% of Higher Education – 80% of Students
    53% of ISDs (K-12) – 61% of Students
- Has approximately 70 staff members
Merit’s History 1966 -

- 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)
- Leader in Economic Development in the State with spinoffs: ANS, Interlink and GateD
- Merit provided dial-in access for educational technology through 2007
- Merit Embarks on a Fiber and Wireless Backbone Strategy in 2003
Michigan’s Geography

- Only state that consists of two peninsulas
  - Joined by 5-mile Mackinac Bridge

- 83 Counties in Michigan
  - 70% of the counties are rural
  - Creates challenges with middle-mile and last-mile
- Lease circuit based network
- High cost
- Slow to respond to capacity demands
- Purchase of fiber considered
- HVP – Goal was to move traffic to non-peak time
- Trend was not sustainable
- Member Relations – re-org!
- New approach was needed
20 Organizations
622M bps Connection to Abilene
SEGP Membership started in 2003
Minimum Capacity of at least 3M bps headroom
- MiLR was formed
- Merit “Blue Line” fiber project planned
- Acquired and started operating fiber rings in Lansing, Chicago, and Grand Rapids
- Limited fiber in other areas
- Continued to struggle with capacity requirements
Revenue dip…Moved to accrual accounting system in 2003
Uncovered 1.9M deficit in Affiliate Member Budget
Decline in 2004
Started slight recovery in 2005
Deficit ended in Affiliate Budget FY07-08
Recovering 2008-09
- Peak 88 2003
- Right-sized, laid-off 18 staff, $1.4M
- Downsized, laid-off 15 staff, $1.3M
- 2004 Shutdown Learning Systems
- 2007 Shutdown Dial-in
- Growing currently at 68 Staff, up 15
- Membership started to decline in 2004
- Member Relations reorganization in 2000
- Peak of 259
- Recovering 2008
- MiLR operational
- Merit “Blue Line” fiber project underway
- Merit managed fiber started to replace lease circuits
- $818K dial-in revenue decline
- FY06 made decision to shutdown dial-in service
- May 2006 New CEO: Don Welch selected
2006 – 52 Internet2 connections
Increase of 32 connections since 2002
2009: 127 Internet2 Connections
“To be a respected leader in developing and providing advanced networking services to the research and education community. Merit is a trusted source for providing high-quality network infrastructure; initiating and facilitating collaboration; and providing knowledge and technology transfer through outreach.”
Vision

- Strengthen and grow our community by being acknowledged as a strategic asset to our members with respect to advanced networking, network-based services, collaboration, and knowledge transfer.

- Merit’s goal is to connect every
  - Higher-Education Institution
  - Major K-12 (ISA, RESA)
  - Library Cooperatives
  - Hospitals

  in Michigan by 2014

- Institutions not in Merit’s community will feel they are falling behind.
 ● Develop and Maintain an Advanced Network
   - Fiber, backbone and laterals
   - Engineering and Consulting
   - Support

 ● Grow a Stronger Community
   - Do More for More
   - Facilitate Collaborations

 ● Leverage the Network
   - Provide Services up “The Stack”
   - Use Our Staff and Our Community Expertise
   - Bright, Innovative Staff
   - Better Access to Better Content
Merit Strategy

- Provide Economies of Scale
  - Commodity Services Cheaper
  - Really Hard Services
- Transfer Knowledge
  - Professional Forums
  - Training/Workshops/Events
  - Consulting/Training
- Advanced Network Research
  - Security
  - IP-based HDTV
  - Network Performance

Merit Network: Connecting Organizations, Building Community
- Fiber across the Straits of Mackinac
- Tripled the capacity to the U.P.
- Intra-domain traffic begins to increase
- OnNet/OffNet Services begin 7/1/07
- Connection to ORANO via the International tunnel (Detroit -- Windsor)
● Started to Click!
  ● Collaboration between Members and Merit – Wow!
  ● Collaboration between Members
  ● Member Engagement – Marketing
  ● Understanding of Membership organization
  ● Board & MAC
  ● Geographical Community concept explodes

● Merit Services
● Collaboration with OARNet
Three Cs!

Collaboration

Cooperation

Communication

C³
- Execution of Strategy paid-off -- Merit exists and moves forward!
- Agility in provisioning services and solutions for Members
- Prepared for future growth – able to reinvest in our Community
- Usage is changing
- 25% of traffic to Internet Service Provider
- 75% traffic to peering partners, including Internet2 CPS
- Intra-domain traffic is rising current 40% of core traffic
- Manage and operate 1,600 miles of fiber
- All Governing Members are connected optically to each other
- Upgraded core backbone to 10G
- Merit Board supports “loans” to build fiber laterals to Affiliate Members
Less is More…..
1st major price reduction, 33%
Possible revenue write-down was estimated at $1.5M
Realized a 11% growth
Network Utilization growth of 33%
Our organization and community is aligned with Merit’s Vision and Mission

- 43% of Members connected via fiber
- 20% of Members purchasing Merit Services, up from 5% in 2007

Slogan: Connecting Organizations, Building Community

Outreach Communication

Strategic Leadership within Merit and the Community
- **Community**
  - We exist solely for the benefit of our community and are dedicated to their success. We seek to do what is important and has unique value to society. We believe in Merit’s mission. We believe that community is built through partnership and cooperation. We respect all organizations in our work.

- **Integrity**
  - We will act with integrity with each other, peer organizations, vendors, partners and members of our community. We will say what we do and do what we say to the best of our ability. We will act in the best interest of our community.

- **People**
  - We believe that the core strength of Merit is our people. We will respect all individuals and treat everyone fairly. We will strive to help every person achieve their full potential, through coaching, training and development opportunities. We will maintain an environment that fosters learning, teamwork and cooperation.

- **Innovation**
  - We will be thought leaders in our areas of expertise. We value the quality of ideas regardless of where they come from. We will not be afraid to try new things and we will learn from our successes and failures. We will seek to anticipate change and help our community to do the same.
Merit Network, Inc.

Overview

Merit is a member-focused provider of network and related services; a trusted strategic partner to the education and non-profit community for over 40 years.
What We Learned

- Our Mission has not changed, we were miss applying it!
- Our approach could not be ‘one size’ fits all
- Community focus approach was critical
- Do not lead with technology – the technology is the solution
- Creating Possibilities – ending the hurdles to communicate with one another without restrictions
- Members want us to support their essential services so they can concentrate on their strategic mission
- One Merit! – Branding the Merit name and no more silos within the organization
- Strengthening Collaborative Partnerships
- Public Relations
- Working with Communities to build Tomorrow’s Network
- Expanding the Merit branding beyond the boundaries of Michigan
- ARRA BTOP proposal
- Managing Growth!
- Geo Communities
- Services

Merit Network: Connecting Organizations, Building Community
Creativity and Possibilities

- Build tomorrow’s network infrastructure, not yesterday’s network.
- Leverages community resources.
  - Opens up creativity and possibilities.
  - Builds Community Cooperation and Collaboration!

A Different Kind of Conversation!