

2009 MOREnet Annual Report



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It is with sincere appreciation to our members, our sponsors and our staff that I thank you for allowing me to serve as the Executive Director of MOREnet since its inception nearly twenty years ago. Some of you have been along for the entire ride, and for your support and the friendships we have formed, I am grateful. To everyone, those who have been around the block and those who are just realizing the benefits of the rich set of services available to the consortium, thank you for being a part of MOREnet.

As previously announced, on Oct. 12, 2009, I will step aside from my duties as Executive Director. For the remainder of FY10, I will maintain a part-time role with MOREnet, ensuring a thorough and engaged legislative effort and a smooth transition for the new Executive Director, once identified.

From the first NSFNET circuit in 1991 for higher education to Internet2 advanced network connectivity; from a couple dozen K-12 schools in the beginning to a statewide educational consortium of nearly 800 members including school districts, higher-education institutions, public libraries and affiliated organizations; from ISDN video, to being the first educational network in the nation to implement IP-based videoconferencing in 2000, and now to telepresence video; from the initial dial-up and ATM frame relay T1 circuits, to Ethernet and gigabit member connections, I have been blessed to be part of an amazing journey.

This year, we completed our most significant network upgrade since MOREnet began - the implementation of the Next Generation Network. Overnight, the MOREnet backbone grew from one Gbps to 10 Gbps with the implementation of a new fiber backbone. This change alone will enable MOREnet to continue to deliver increased bandwidth capacity on the core network without incurring increasing costs. Your active participation, continued support and strong advocacy efforts have helped shape MOREnet into the valued services consortium that it is today. In addition to the fiber network upgrade, the MOREnet staff has accomplished some amazing projects over the last year, and these wouldn't be possible without each of you.

While MOREnet is known for its technology leadership, I believe our most important contribution to Missouri is an enduring collaboration across the entire education and library community. The relationships developed over the years have been the cornerstone for all that we have accomplished.

Twenty years ago, I could hardly have envisioned a better outcome than where we are today, and I couldn't be more proud of our accomplishments over the years. I hope you are just as pleased as I am with our latest round of achievements and the array of exciting opportunities that lie just ahead. Should you have any questions about the annual report or how to get more involved with member-related activities or advocacy efforts, I encourage you to contact a member of our executive leadership team.

I wish you all the best!

Sincerely,
William A. Mitchell
Executive Director

FY09 Highlights

Next Generation Network

Network Services completed the NGN fiber implementation in FY09. Optical equipment was installed in 28 facilities around the state, while 1,000-plus miles of fiber was lit. The hub facilities in Kansas City and St. Louis were moved to carrier hotels, and the Jefferson City hub facility was moved to Stoutland. Together, the St. Louis and Kansas City moves involved moving millions of dollars worth of equipment and more than two thirds of our member site connections to the new hubs.

With the installation of the fiber, Network Services upgraded the backbone to 10 Gbps and built a separate 10 Gbps network for the University of Missouri's Intercampus Network (ICN).

MOBridge

Project MOBridge was a ten-part video series on the design, demolition and erection of the Missouri River bridge at Glasgow, Mo. The video series was designed to tie real-world examples to science, math and social studies lessons for Missouri students. RoundTrips provided the production, on-air talent and educational design, including mapping the video segment to relevant federal and state curriculum standards in social studies, math and science. Segments were designed to include aspects of history, community and environmental concerns, demolition, engineering, math, science and career opportunities. Students in participating classrooms were able to join each session in an active two-way videoconference or receive a one-way video stream.

Project MOBridge had eight events from Dec. 8, 2008, through May 1, 2009. These events averaged, per event, 10 videoconferencing endpoints, 205 students and seven video streaming sites. The sites came from Missouri, Illinois, Kansas, Minnesota, New York, Ohio, Oregon, Pennsylvania, Texas, Washington and Canada. More than 150 unique visitors accessed the archive streams.

Telepresence

During FY09, the University of Missouri installed four Cisco 3200 CTS TelePresence room systems. One 3200 CTS unit is located in a dedicated TelePresence room on each University of Missouri campus in Columbia, Kansas City, Rolla and St. Louis. All sites connect over the University of Missouri inter-campus fiber network (ICN), managed by MOREnet, and TelePresence meeting rooms are scheduled via integration with Microsoft Exchange and Outlook.

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Through an agreement with the university, MOREnet provides first point of contact help desk support and back office support for the TelePresence equipment for all campuses, including management of the Cisco Call Manager, CTS Manager and the Cisco TelePresence Multipoint Switch (CTMS). MOREnet also manages the AT&T AVPN and Gateway Connect services for the AT&T Business Exchange, providing off-network multipoint meet-me bridging capabilities to all rooms.

Through this opportunity, MOREnet staff have taken an active leadership role within The Quilt TelePresence working group, as other research and education networks are adopting similar technology.

Member Satisfaction

MOREnet completed its annual member satisfaction survey in the fourth quarter of FY09. Survey participation increased by 47 percent over FY08. Based on 221 responses, 94 percent of survey respondents are satisfied or very satisfied with MOREnet's service offerings, and 93 percent say that MOREnet is a good or excellent value for the money. In addition, 93 percent of members rate their overall satisfaction with MOREnet as good or excellent.

Broadband stimulus

In response to American Recovery and Reinvestment Act of 2009 (ARRA), MOREnet drafted a proposal for a public/private partnership to create a high-speed, high-capacity fiber-optic backbone through rural Missouri. This backbone would provide fiber connectivity to many rural MOREnet members and other state anchor institutions as well as providing "middle-mile" connectivity for private partners to serve the rural residential and commercial consumers. ARRA grants require 20 percent match funding from the proposers.

Lacking matching funds, MOREnet has partnered with the state of Missouri to call for partners and evaluate "middle mile" proposals. MOREnet expects to receive connectivity to applicable rural sites from any successful grant proposal.

Network Update

FY09 Program Increase/Growth Rate

- DESE - 1.32 Gbps (41 percent)
- REAL - 106.9 Mbps (16 percent)
- MERC - 842.5 Mbps (35 percent)

Demand for bandwidth continues to increase at tremendous rates. By comparison, the FY08 growth rates for DESE, REAL and MERC were 42 percent, 38 percent and 51 percent, respectively, while the number of connections remained nearly constant.

The need for additional bandwidth continues to be driven largely by the increase of vendor-hosted solutions, by members adding computers and the explosion of multimedia-based content and social networking sites.

The University of Missouri System, which includes UM, TeleHealth and University Hospital, saw an FY09 growth rate of nine percent, down from 23 percent in FY08.

Fiscal Year Comparison (total tail circuit capacity/annual growth rate)

- FY09 - 9.171 Gbps / 35 percent
- FY08 - 6.801 Gbps / 44 percent

If current growth rates continue, tail circuit capacity is projected to be approximately 23 Gbps by the end of FY12.

Network Reliability

- Core Network Uptime: 99.900 percent
- UNIX/Windows Server Uptime: 99.675 percent
- Application Server Uptime: 99.538 percent

Note: Information provided is the daily average (including planned maintenance) and does not correlate to “service” uptime.

MOREnet implemented equipment and procedures for ensuring that the network is compliant with the Communications Assistance for Law Enforcement Act (CALEA). As a result, MOREnet members who obtain all of their Internet access from MOREnet are automatically CALEA compliant.

Internet1 capacity increased to 5.5 Gbps. This represents a 31 percent growth of Internet capacity over FY08.

Programs Update

TNP

The dominating issue for the K-12 Technology Network Program in FY09 was bandwidth. Approximately 30 percent, 159 districts, of the K-12 membership received upgrades. MOREnet now provides each member school with bandwidth ranging from 1.5 Mbps to 250 Mbps. As of the end of FY09, nine school districts are receiving a 100 Mbps connection or greater. Only districts that have an increase in bandwidth or an increase in student enrollment saw a fee increase in FY09, making FY09 the second year in which the fee structure was unchanged.

REAL

T-1 connections are increasingly inadequate for medium sized libraries, leading to a growing trend toward larger connections. Currently, a T-1 connection is the predominant connection type and will continue to be so. However, the number of T-1 connections will continue to diminish as bandwidth needs increase. The largest libraries, which had been using 10 and 20 Mbps Ethernet connections, are now moving to 20 - 100 Mbps connections due to increased bandwidth needs. This trend will likely continue.

REAL EZ Web provides two years of subsidized service for participating libraries. FY09 was the last year of subsidized service for the first round of participating libraries. These libraries had the option of renewing the service under *kinetic* at the *kinetic* annual fee or to cancel their service. Of the 18 libraries in this round, 16 renewed their service under *kinetic*.

Two libraries joined the REAL program in FY09: Chaffee Public Library and Advance Community Library. Unfortunately, Brunswick Public Library, which joined in FY08, became ineligible for the REAL program by declining tax revenues.

MERC

- Ever increasing needs for bandwidth continue to be a central theme among the higher education community. Tail circuit growth for MERC members during FY09 was 35 percent and 842.5 Mbps.
- The annual fall IR meeting was well attended and included a presentation from the Indiana Higher Education Business Continuity/Disaster Recovery Working Group.
- Attendance for HELIX 2009 was down significantly due to the travel budget cutbacks experienced by most campuses across the state. The low attendance notwithstanding, overall attendee feedback was very positive and the conference did not lose money.
- MERC Board of Directors approved raising the annual membership fee tiers by 12 percent for FY10 in order to maintain an adequate reserve balance.

Affiliates

- In FY09, the Affiliate program saw the addition of Columbia Independent School and St. Joseph School as members.
- The Texas County Rural Area Information Network (TRAIN) and SuccessLink left the Affiliate program.

Missouri Telehealth Network

- Added 20 telemedicine sites in FY09, bringing the total number of connected sites to 150.
- Status of the Rural Healthcare Pilot Program – MOREnet completed the network design necessary to support a two Gbps backbone infrastructure dedicated to telehealth in Missouri and received the optical equipment to support the new telehealth backbone.

Events Update

Conference Highlights

In FY09, a total of 965 attendees and 152 exhibitors attended MOREnet's four annual conferences. The fall conference received top reviews for keynote speaker Kevin Honeycutt's presentation "Opening the 21st Century Toolbox," as did the Security Symposium's keynote speaker John Strand who presented "Emerging Threats in the Public Sector Space." MOREnet's placement of the Security Symposium the day before the Connections and HELIX conferences was a great success with only six attendees registering for only the Symposium and not staying for the entire three-and-a-half days. A discount was offered for attendees to attend both the Security Symposium and either the Connections or HELIX conference. Plans to offer the same line-up and discount are underway for spring 2010.



Conferences also marked the fourth year in a row the exhibit hall was sold out for the spring conferences. Additionally, the spring conference's sponsorship was stronger than ever, with 13 exhibitors sponsoring items or activities. These sponsorships help offset expenses, keeping registration down.

New Hosted Event Management System

Cvent, MOREnet's new hosted event management software, was successfully implemented for conference attendees during the second half of FY09, reducing staff time, improving the member's registration experience and improving the ability to communicate with registrants. Cvent will also be implemented as the registration process for training, conference presenters and exhibitors in early FY10.

Regional Member Meetings

MOREnet hosted regional member meetings in September and November 2008 and February and April 2009 in areas around Missouri. At the 14 meetings, close to 200 members heard updates on MOREnet, received valuable information, networked with peers in their area and offered feedback on existing and potential MOREnet services.

Internet Safety Night

On April 28, 2009, MOREnet conducted its spring 2009 Internet safety discussion. Targeting students, this ongoing series features topics related to Internet safety. April's topic was cyberbullying. More than 1,500 students from 14 states and three countries tuned in to the discussion via video-conference or live video stream. Students were able to interact with Lt. Joe Laramie of the Missouri Internet Crimes Against Children Task Force and the professional educators of RoundTrips. Response to the discussion was positive, and future events are being planned. Future events will be posted at <http://besafe.more.net>.

Services Update

Online Resources

LearningExpress Library was funded for an additional two years through the K-12 TNP and REAL programs. The two-year renewal begins Oct. 1, 2010. Gale Cengage Learning was awarded the contract for the general periodical, health, business and K-12 online resources. The service began July 1, 2009, and replaced the resources available through EBSCO. Gale provided a transition site that allowed members access before the July 1 start date, giving MOREnet members a chance to familiarize themselves with the new service and to make changes to the materials they use to support their users. This site also gave MOREnet Technical Support the opportunity to begin conversion of the service before July 1.

Internet Content Filtering

MOREnet contracted with Netsweeper Inc. as the new vendor for its Internet Content Filtering service, effective July 1, 2009. The product allows for member-hosted or MOREnet-hosted solutions, with the added benefit of being able to filter laptops that leave an organization's premises. Staff worked with each subscribing organization to migrate from the old product to the new one so that most members were migrated before the existing contract expired. Staff also provided conference sessions, training and webinars to give administrators the information they needed to effectively manage their service.

E-mail Virus and Spam Filtering

The EVSF service has seen continued growth, both in number of subscribers and in the number of spam messages blocked. The service has blocked more than 2.2 billion spam and virus-infected messages in the past 12 months, representing 94 percent of all incoming messages for all EVSF subscribers. Server upgrades have allowed us to begin marking the remaining six percent of all messages sent to end users with additional scores indicating which messages are likely to still be spam messages. Members who implement an additional local spam filter may use that information to clean even more spam from their inboxes.

***kinetic* E-mail and Web Hosting**

In March 2009, MOREnet announced the E-mail Retention Policy for *kinetic* e-mail accounts. E-mail will be retained for three years, after which it will be destroyed. Access to retained e-mail is available only in response to a legal request. Subscribing organizations can choose to opt-out of e-mail retention by submitting the request in writing to MOREnet.

SecondWeb

In December 2008, MOREnet announced its SecondWeb service. This service is designed as a failover website in the event of a catastrophe occurring to a member's website. This service is only available to members who do not subscribe to MOREnet's *kinetic* E-mail and Web Hosting service.

Training

MOREnet's trainers were highly sought for member training, with the most popular topics being SMART Boards and online resources. The training sessions took place at a variety of locations, including MOREnet in Columbia, Mo., member locations, conferences and online. In an effort to better understand members' needs, Training also conducted a member survey. The survey results showed that members' needs differed, with a few notable exceptions. The need to control costs was universal, and many of the most-mentioned training topics are already in MOREnet's training catalog.

MOREnet FY09 Year-end Statistics by Member Group (July 1, 2008 - June 30, 2009)

Type	Measurement	MERC	K-12 TNP	REAL	Affiliate	State Agency	Other	Total
Members ¹	Participants	66	519	133	42	2	28	790
Member Connections ²	Total Connections	100	544	258	236	0	8	1,146
Help Desk Tickets ³	Application Service Provider	26	486	176	56	271	26	1,041
	Conferences	0	0	0	0	0	0	0
	Connectivity	320	1,478	373	63	25	31	2,290
	Online Learning and Meetings	734	367	50	630	179	131	2,091
	Online Resources	68	128	65	5	3	0	269
	Security	534	1,259	294	28	10	119	2,244
	Training and Support	142	935	261	49	23	3	1,413
	Total Tickets	1,824	4,653	1,219	831	511	310	9,348
Training	Total Attendees ⁴	392	4,094	565	40	142	176	5,409
	Total Contact Hours ⁵	1,585	12,851.5	1,628.75	191.25	805.75	1,014.25	18,076.50
Videoconferencing	Total Events ⁶	7,676	11,606	18	69	95	255	19,719
Online Resources	Total EBSCOhost Searches	9,375,619	4,519,037	727,259	75,962	17,240	9,161	14,724,276
	Total Gale Discovering Collection Searches	50,350	362,143	36,651	1,748	183	1,824	452,899
	Total NewsBank Full-text Searches	57,577	35,034	135,686	13,120	106	135	241,658
	Total LearningExpress Library Searches	4,088	34,607	13,179	285	0	1,153	53,312
MOREnet-hosted Conferences	MOREnet Instructional Technology Conference 2008							455
	Advanced Technical Security Symposium 2009							120
	Higher Education Learning and Information Exchange 2009							127
	Connections 2009							260

FY09 Year-end Statistics Footnotes

1. **Members:** Organizations that have been approved to receive services through a MOREnet program structure and have an active membership participation agreement in place. These organizations may have multiple sites. The programs are defined based on sponsoring state agencies or non-profit business affiliation.

2. **Member Connections:** The number of entry points into the MOREnet network for members. MOREnet defines a connection as the type and measurement of maximum bandwidth through each available tail circuit to a given site. The connection contains three components: the physical circuits, logical circuits (which are delivered through the physical circuits), and equipment needed to provide a unique logical path for delivery of data or video services. A “site” is a physical location where MOREnet delivers physical circuits, equipment or services. Tail circuits are the physical circuits between the telecommunications company and the participating organizations’ various sites that contribute to their connection to MOREnet. Currently, MOREnet is supporting 102 connections delivered via DSL.

3. **Help Desk Tickets:** Number of help desk tickets created during the fiscal year. Tickets are created when members contact MOREnet for technical or administrative assistance.

4. **Total Attendees:** Individuals attending multiple training sessions within the fiscal year are counted in the “Total number of attendees” each time they attended a session.

5. **Total Contact Hours:** A contact hour is computed as the total delivery time for each course, multiplied by the number of participants in each course. (For example, a five (5) hour course with 14 attendees totals 70 contact hours.) Total contact hours for all completed training classes are shown.

6. **Total Videoconferencing Events:** Includes video events where an organization joined as the event host or as a site participant.

	Shared Network	Shared Online Resources	TNP	Public Library Related	Higher Education	Affiliates	Other Fees and Restricted	Pass Through	Total
HB3 (Net Withholding) ¹	\$ 5.691		\$ 4.949		\$ 1.113				\$ 11.753
HB12		\$ 1.394		\$ 1.715					\$ 3.109
Other State			\$ 0.050						\$ 0.050
E-rate ²	\$ 1.957	\$ 0.256	\$ 4.307	\$ 0.798				\$ 0.056	\$ 7.374
Membership Fees			\$ 2.829	\$ 0.439	\$ 1.166	\$ 0.560			\$ 4.994
Shared Network Support ³	\$ 4.895		\$ (2.778)	\$ (0.580)	\$ (1.177)	\$ (0.359)			\$ 0.001
Other Fees and Misc.	\$ 0.152		\$ 0.033	\$ 0.004	\$ 0.043	\$ 0.226	\$ 1.275	\$ 1.583	\$ 3.316
Transfers ⁴	\$ 0.027			\$ (0.014)	\$ (0.006)		\$ 0.020	\$ (0.027)	
Total Revenue	\$ 12.722	\$ 1.650	\$ 9.390	\$ 2.362	\$ 1.139	\$ 0.427	\$ 1.295	\$ 1.612	\$ 30.597
Telecommunications	\$ 7.258		\$ 6.641	\$ 1.786	\$ 0.798			\$ 1.612	\$ 18.095
Salaries and Benefits	\$ 4.575		\$ 1.390	\$ 0.551	\$ 0.290	\$ 0.134	\$ 0.183		\$ 7.123
Operating Expenses	\$ 0.610		\$ 0.209	\$ 0.083	\$ 0.044	\$ 0.018	\$ 0.030		\$ 0.994
Online Resources		\$ 1.650							\$ 1.650
Other Expenditures	\$ 0.003		\$ 0.119	\$ 0.067	\$ 0.015		\$ 0.389		\$ 0.593
Total Expenditures	\$ 12.446	\$ 1.650	\$ 8.359	\$ 2.487	\$ 1.147	\$ 0.152	\$ 0.602	\$ 1.612	\$ 28.455
Revenue over Expenses	\$ 0.276		\$ 1.031	\$ (0.125)	\$ (0.008)	\$ 0.275	\$ 0.693		\$ 2.142
Fund Balance Start FY	\$ 4.304		\$ 6.838	\$ 4.344	\$ 0.412		\$ 0.071		\$ 15.969
Ending Balance Transfers						\$ (0.275)	\$ (0.698)		\$ (0.973)
Fiscal Exigency Reserve	\$ (1.450)		\$ (0.860)	\$ (0.600)	\$ (0.090)				\$ (3.000)
Fund Balance End FY	\$ 3.130		\$ 7.009	\$ 3.619	\$ 0.314		\$ 0.066		\$ 14.138

Colors: Pink = state funds; Green = E-rate; Yellow = Customer fees for services

1. The HB3 appropriation is subject to the governor's standard three percent withholding. Originally expected HB3 funds were allocated according to the percentage split agreed to by the MOREnet Council in February 2009: 51 percent Shared Network; 40 percent TNP; and nine percent MERC. Additional withholding of 4.85 percent was allocated solely to the Shared Network portion of HB3.

2. E-rate benefits are allocated according to community. TNP and Public Library Related are based on their tail (local loop) circuit benefits, while Shared Network benefits are from Network Backbone and Internet access circuit benefits.

3. The Shared Network Support attributable to each member group is based on the cost allocation estimates at the February 2008 MOREnet Council meeting. Dec. 31, 2007, census data, preliminary FY09 revenue and expense estimates and a partial recovery of additional HB3 withholding based on proportional vacancy savings and operating expense reductions.

4. FY09 transfers were: circuit pricing to recover shared network costs; REAL support of customized web hosting (\$8,022); REAL support for spring conference registrations (\$4,995); REAL support of remote vulnerability assessments (\$500); REAL support of contracted training classes (\$563); and MERC subsidy of HELIX conference (\$6,290).