



INFORMATION & IMPACT

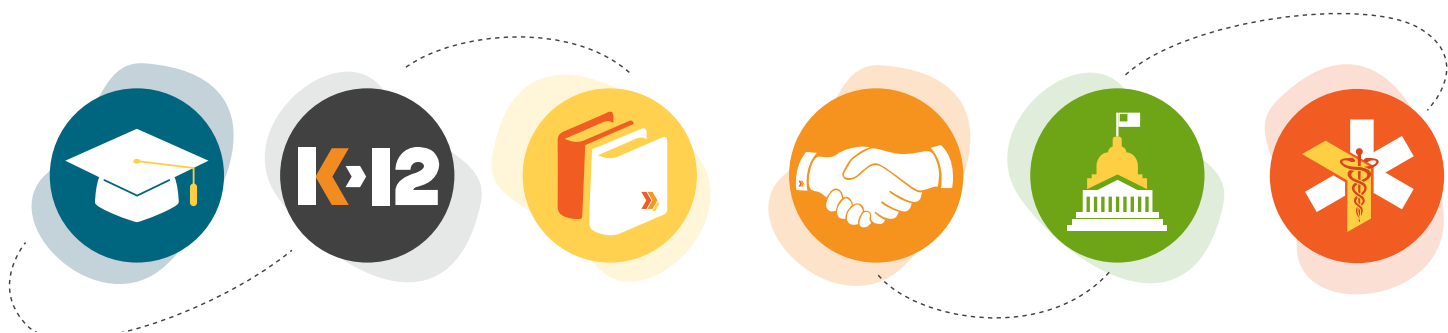
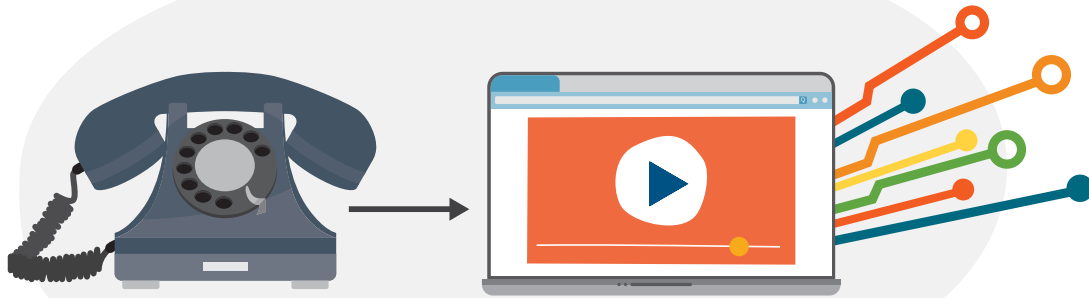


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The history of the MOREnet network

MOREnet was one of the nation's first research and education networks, leading the way in technology and organizational collaboration. In 1991, the idea of the network came from the desire for 13 public college and universities to link together to the electronic interchange that would later be named the World Wide Web and coined the "Internet".

Our robust fiber backbone and network access is routinely and continually enhanced to ensure we are always ready to support the demand and performance needs for all our connected members.

It's hard to believe we started with a 56 Kilobit per second (Kbps) network and today we have a 100 Gigabit per second (Gbps) backbone with the groundwork laid to meet future demands and support capacities of up to 1 Terabit per second (Tbps) per optical path. Take a look at the history of our progress over the last 30 years.

- | | |
|------|---|
| 1991 | 56 Kbps network – Connected 13 public college and university charter members with the purpose to develop, maintain and cultivate application for electronic interchange. |
| 1993 | 1.5 Megabits per second (Mbps) network - A pilot project with the Department of Elementary and Secondary Education (DESE) involving 100 K-12 school districts began. |
| 1997 | MOREnet2 backbone increased to 45 Mbps, 30 times faster. |
| 1999 | MOREnet3 backbone initiative increased the backbone to 155 Mbps enabling full-scale interactive video services and additional multimedia applications. |
| 2003 | A network upgrade resulted in a fourfold increase of bandwidth from 155 Mbps to 622 Mbps. |
| 2009 | Existing network backbone is migrated to a fiber-optic infrastructure named the Next Generation Network and supported 10 Gbps capacity. |
| 2013 | Began a backbone fiber expansion project, changing our connectivity model and bringing much needed infrastructure to the underserved and unserved region of southeast Missouri. |

- 2013 **SOUTHEAST FIBER PROJECT**
We expanded our fiber infrastructure for high capacity, low-cost Internet access in the southeastern region of Missouri, an area underserved by existing broadband infrastructure. The long-term commitment from MOREnet and the University of Missouri was to spur economic development in all areas of Missouri by further enabling distance learning and ensuring students receive equitable access as they prepare for college and career readiness.
- 2014 A network upgrade made us one of the first research and education (R&E) networks in the country to support 100 Gbps.
- In January 2014, we completed a series of network equipment upgrades to increase our current infrastructure to support up to 8.8 Tbps of network traffic in 100 Gbps optical paths. This upgrade ensured readiness to meet the demand of those who utilize the services of MOREnet and continue to rely more and more on Internet-based tools and resources. With this upgrade, MOREnet became one of the first research and education networks in the country to support 100 gigabit optical paths. Work on this project began in early 2013 when the University of Missouri was awarded a \$1 million Campus Cyberinfrastructure – Network Infrastructure and Engineering (CC-NIE) grant to fund the build out of a 100 Gbps circuit from Columbia to Kansas City and another 100 Gbps circuit from Columbia to St. Louis. Both circuits connected to Internet2's National Innovation Platform, making MOREnet the only research and education network providing network transport services for Internet2.
- 2016 We expanded this partnership to obtain use of unlit fiber strands for existing member sites in southwest and south-central Missouri.
- SOUTHWEST FIBER PROJECT**
Due to the overwhelming success of our previous Southeast Fiber backbone expansion project initiated in 2013, in 2016 we expanded to provide lit fiber service for up to 90 existing member sites in southwest and south-central Missouri.
- 2017 There were 92 member circuits in production in the Southeast and Southwest fiber projects. The capacity that is available to each participating site will be able to grow up to and beyond 1 Gbps and enables educators to accelerate the use of technology in their lessons, adopting innovative student-centered learning tools for both K-20 and lifelong learners.
- 2021 We currently have 615 tail circuits connected to our backbone serving our member consortium. The most common bandwidth tail circuit ordered by our members today is 1 Gbps.

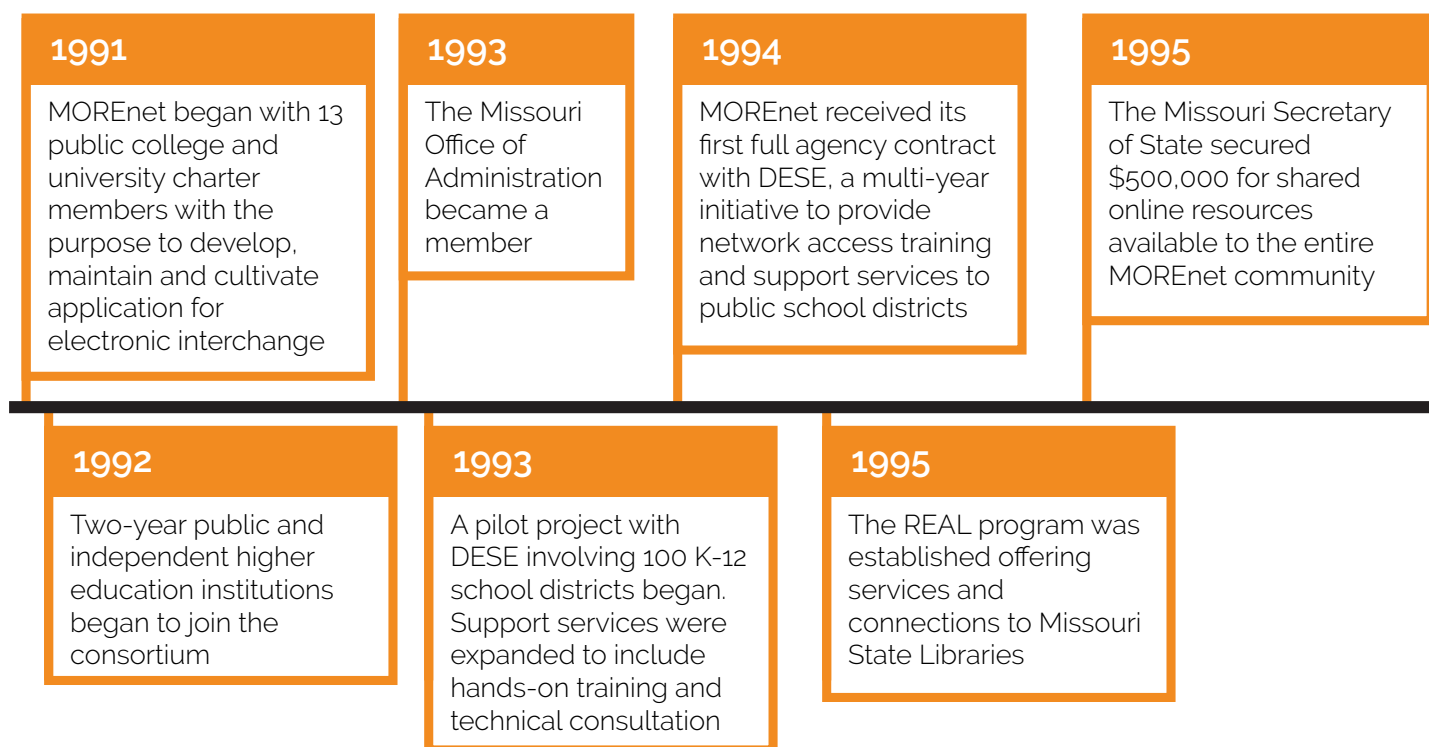
Membership Impact

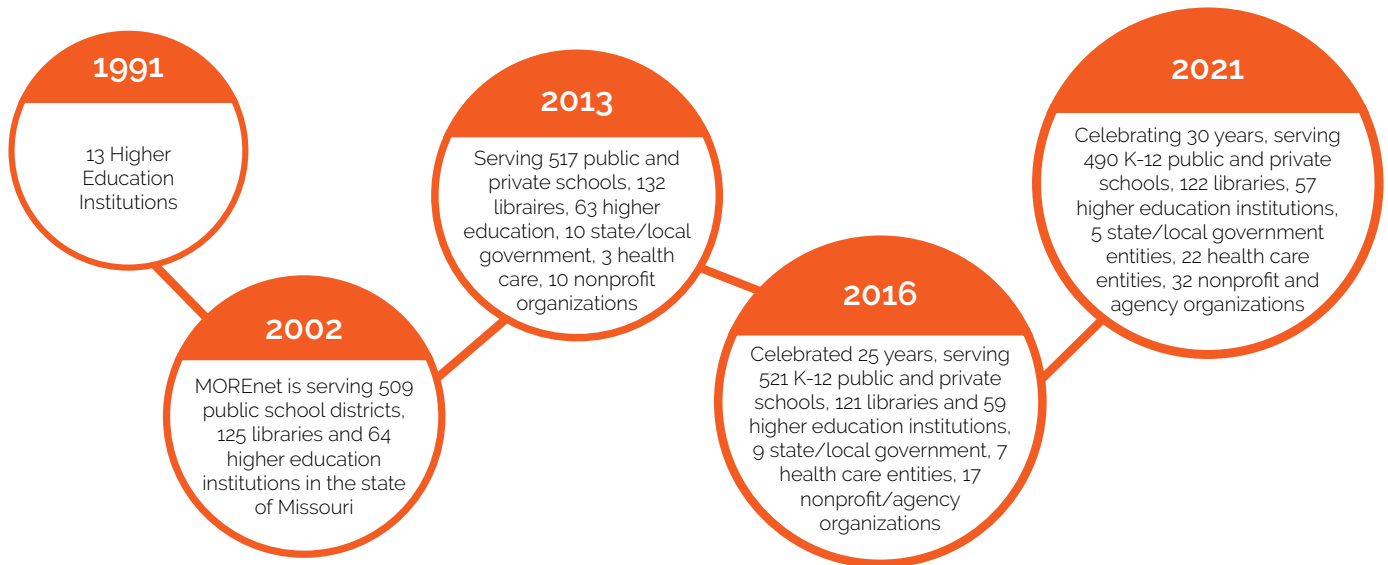
In 1991, Missouri's four-year public colleges expressed the desire to become connected to the NSFnet, a precursor to today's Internet. The result was the creation of one of the first statewide higher education networks in the country, the Missouri Research and Education Network (MOREnet).

Over the next 10 years we grew rapidly. MOREnet collaborated between the Department of Elementary and Secondary Education, the Secretary of State's Office, the Missouri Office of Administration and the Department of Higher Education, to begin delivering secure, reliable and robust Internet connectivity and technology services to all of our now "member" organizations.

Today, we are a proud technology partner to a member-driven consortium serving 728 organizations in academia and the public sector. We know how important a forward-thinking, service-oriented business model is to advance the technology needs of our members.

As you stroll down memory lane in the timeline below, we want you to remember that we rely on every one of our members and we will always believe that offering high quality services with superior customer service is the most fundamental part of your consortium membership.





2010
As MOREnet began moving to a member-funded business model, we developed a series of membership packages so our members may choose and pay for only what they needed. Full, Basic and Connection-only Membership Service Packages were created

2012
A new Membership Service Package was designed to help provide services to cities and counties across Missouri

2018
We expanded our nonprofit membership service packages to serve smaller nonprofits and agencies across Missouri

2006
University of Missouri Telehealth Network became a member

2011
With the development of our "pay for what you need" membership packages, MOREnet was able to begin offering our valuable membership services to private and parochial schools without the required Internet connection

2015
Established the MOREnet Health Care Consortium to enable discounted connectivity for Missouri's eligible rural and nonprofit health care providers

2020
Created the Zoom Health Care Membership Service Package to ensure smaller health care providers have patient care access over an encrypted videoconferencing platform



The Impact of 2020

Adjusting to a Pandemic

On March 13, 2020, Missouri Governor Mike Parson issued a state emergency to combat COVID-19. Our members in academia transferred all courses and non-essential workers remotely for the remainder of the spring 2020 semester. Our charge was to support the critical decision to shutter doors to their brick-and-mortar institutions and assist them as they relied heavily on the technology they had in place to run their organizations. Our experts enabled them to quickly divert resources to new technologies that were needed to be successful in this unprecedented time.

It took only three days for MOREnet to move our own classroom training online, while quickly adding additional topics to help academia and public sector cope with remote work and virtual learning. We hosted a series of virtual round table discussions with members to facilitate ideas and develop solutions with one another on how to best approach this new era.

First Six Weeks

Over the course of the first six weeks, we were

inspired by our members and staff who stepped up with resources and expertise to help, by creating an environment with resources to share and making remote learning happen across their institutions. Just in the first six weeks:

- Our Zoom account members held over 220,000 Zoom meetings with 2.1 million people.
- We hosted 10 quick turnaround “how to” classes on Zoom & Google Classroom in March and continued to host Zoom tutorial classes several times a week, through April and May.
- We were able to donate Zoom licenses to telehealth around the state to ensure they could continue health care appointments and internal training in small-rural areas virtually.
- We assisted multiple members to add VPN to their firewalls so essential staff had the ability to securely complete their work from home.
- Our technical staff worked with EBSCOhost, that donated additional databases, to help expand resources to member schools and libraries for remote learning.

- Our technical teams facilitated alignment of wireless access points to reach beyond walls, attempting to bridge the digital divide. Members began offering Internet to individual students and groups in school and library parking lots, on buses and in local community retailers and restaurants.
- 350 leaders from the MOREnet Consortium celebrated successes, shared best practices and solved challenges through 12 virtual round tables.

In May, MOREnet announced it would credit 15% of each connected member's Network Connectivity Fee (NCF) toward the next year to help ease a budget impacts due to COVID-19.

You are invited to a
VIRTUAL ROUND TABLE

Date/Time: Monday-Wednesday-Friday
March 30-April 24, 2020
Log in from 3:30-4:30 p.m.

We have identified topics of interest, but please know that any question or brainstorm is okay to bring to these virtual round table discussions, hosted via Zoom.

Monday, March 30: Large District Discussion: Best Practices for Remote Teaching & Learning

Wednesday, April 1: Cybersecurity Tips for Remote Environments

Friday, April 3: Best Practices for Zoom in K-12 Environment

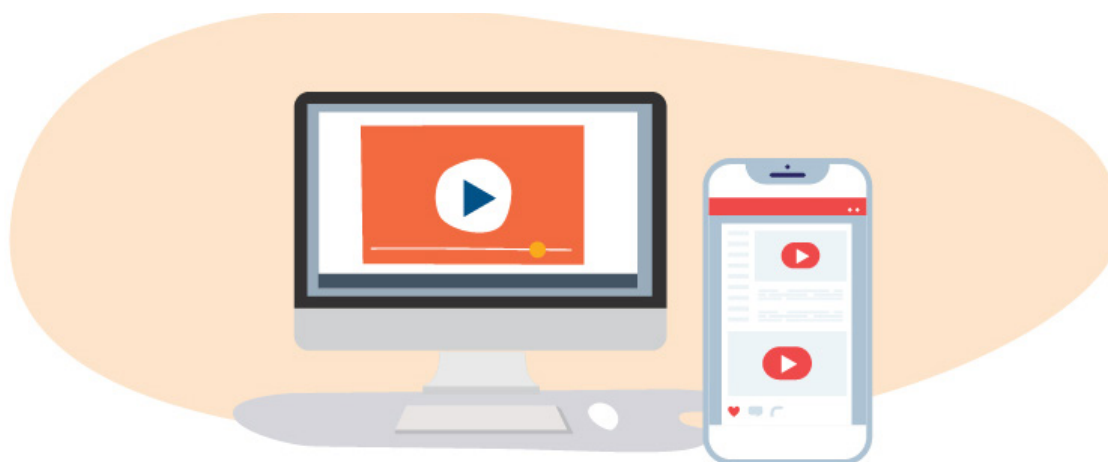
Monday, April 6: Google Admin

Wednesday, April 8: Small District Discussion: Best Practices for Remote Teaching & Learning

Friday, April 10: Utilizing Online Resources from Home



MOREnet 
Be better connected



Videoconferencing Impact on Remote Working and Virtual Learning

We were fortunate to be ahead of the curve when we began offering discounted Zoom accounts to our members in 2016. We set up and trained our members on the latest in videoconferencing software over the next four years. Even so, in the first half of 2020, we had deployed nearly 23,000 Zoom Pro licenses to our members, and over the next six months, we would see our Zoom licensing double that number. By the end of 2020, we purchased close to 46,000 Zoom licenses for our members and trained 4,420 participants for 626 total hours.

In addition to offering discounted Zoom licenses, we worked with multiple agencies to help our

members navigate FERPA/COPPA regulations and to follow safety issues created by virtual learning. We developed an online tutorial walking our members through privacy settings and created online materials and training classes to help our members utilize Zoom safely, efficiently and creatively.

At the beginning of 2021, and as we celebrate our 30-year anniversary, we reflect on 2020 and all the challenges and opportunities it provided us. We know we grew as an organization during this time and we also were deeply appreciative of the confirmation that the technology we are researching, developing and deploying is of vital importance to our members and the Missourians they serve. We are honored that our members put their trust in us, and we will continue to rise to new and different challenges over the next 30 years.

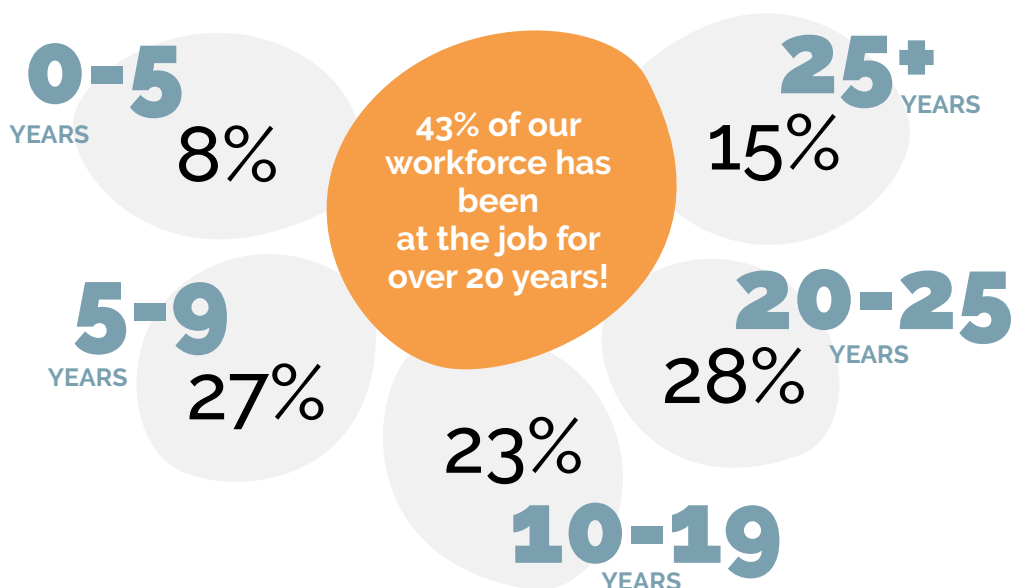


Employee Longevity = First Class Service

Some experts say that employee longevity can be an indicator that an organization is growing and staying relevant, as length of service allows team members to develop a complex understanding of the market, products and services. At MOREnet, we believe having a workforce of experienced employees who can easily solve complex problems means first-class customer service, and

the most relevant and trusted products available for our members. We couldn't be prouder of the MOREnet team and their dedication to supporting our members and our mission.

Wow! How many businesses can say 43% of their workforce has been at the job for over 20 years?



Member Statistics

As a department within the University of Missouri System, the Missouri Research and Education Network (MOREnet) maintains a statewide fiber network spanning more than 3,600 route miles, providing robust and secure Internet connectivity as well as essential technical services to more than 700 Missouri organizations.



the MOREnet network connects members to other Missouri entities and the Internet



MOREnet's technical services include cybersecurity, network consulting, videoconferencing, technical training, help desk support and access to online resource databases

Higher Education



57 public and independent higher education institutions serving more than 255,000 students

33
connect to
MOREnet
network

55
subscribe to
our technical
services

K-12 Schools



490 public and private K-12 schools serving more than 860,000 students

335
connect to
MOREnet
network

485
subscribe to
our technical
services

Libraries



122 public libraries that serve nearly 3 million Missourians

101
connect to
MOREnet
network

121
subscribe to
our technical
services

Government, Health Care & Nonprofit



59 state/local government, health care or nonprofit entities utilize MOREnet connectivity and/or technical services as they support their users and local communities

In the course of providing connectivity to our members, nearly 50% of our annual expenditures are spent directly for telecommunications services from companies doing business in Missouri; this centralized purchasing saves our members time and resources and stimulates local economic development.

MOREnet Membership

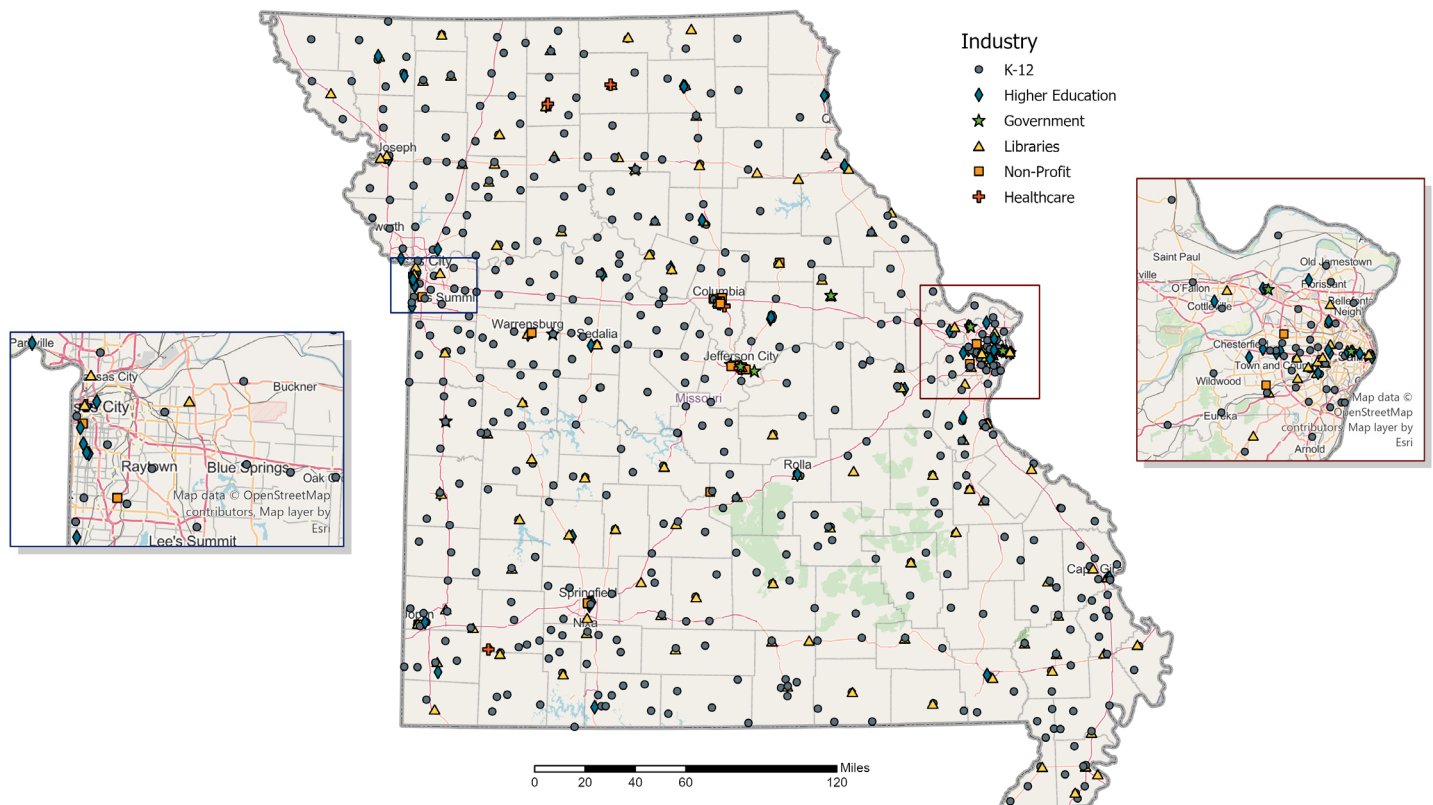
MOREnet Consortium members have access to a broad spectrum of technology solutions, subject matter experts for consulting and help desk support, as well as professional development topics.

There are two ways to become a member of the MOREnet Consortium: either by connecting to our unparalleled and robust fiber network or by subscribing to a Membership Service Package. Most members choose to take advantage of both to be better connected to the technology and services they require and count on from MOREnet.

All Membership Service Packages include a base amount of our most popular services including network consulting and video bridging, as well as unlimited help desk support, online research resources, online training and access to consortium discounts. Members can also choose to upgrade to a Full Membership Service Package and receive access to Zoom videoconferencing accounts, in person training, unlimited network consulting and video bridging.

Exclusively for local government and nonprofit entities, the Nonprofit/Agency Membership Package includes unique and valuable services such as Zoom, LearningExpress Library, a network assessment and cybersecurity resources. In 2020, we deployed a Zoom Health Care Membership Service Package to ensure smaller health care providers may enable remote patient care access over an encrypted videoconferencing platform.

MOREnet Members



	Unit of Measurement	K-12	Higher Education	Libraries	Government	Health Care	Nonprofit	TOTAL
Members ¹	Participants	490	57	122	5	22	32	728
Member Tail Circuits ²	Circuits	345	45	208	8	4	5	615
Tail Circuit Bandwidth	Mbps	146,184	50,180	7,109	20,535	850	70	224,928
Member Enterprise (WAN) Circuits	Circuits	13	1	0	1	0	0	15
Enterprise (WAN) Bandwidth	Mbps	7,270	1,000	0	1,000	0	0	8,320
Help Desk Cases	Cases Created	2,587	850	821	73	61	150	4,542
Training ³	Registered Attendees							6,042
	Deliverable Hours ⁴							141,578
Videoconferencing	Pro Zoom Licenses ⁵							45,855
Annual Conference 2019	Registered Attendees							567
Virtual Conference 2021	Registered Attendees							691
Online Resources	HeritageQuest Searches	7,474	19,931	442,720	1,825	23	0	471,973
	Learning Express Tests	14,406	3,877	7,435	25	0	3	25,746
	EBSCO Searches	13,446,710	80,898,004	18,209,394	0	826	101	112,555,035

1. Member: Members include eligible organizations that receive services from MOREnet and that have an active Participation Agreement in place. These organizations may have multiple sites. Member data is as of Sept. 30, 2020.

2. Member Tail Circuits: An Internet connection is a standard, but optional, MOREnet service offering. MOREnet provides its member sites with a router and circuit for access to the secure and reliable MOREnet statewide fiber network and the Internet. Circuits are the physical circuits between the telecommunications company and the participating organizations' sites that connect to the MOREnet backbone. Tail Circuit data is as of June 30, 2020.

3. Individuals attending multiple training sessions within the fiscal year are counted in the "Total Number of Training Attendees" each time they attended a session. Training data is as of June 30, 2020.

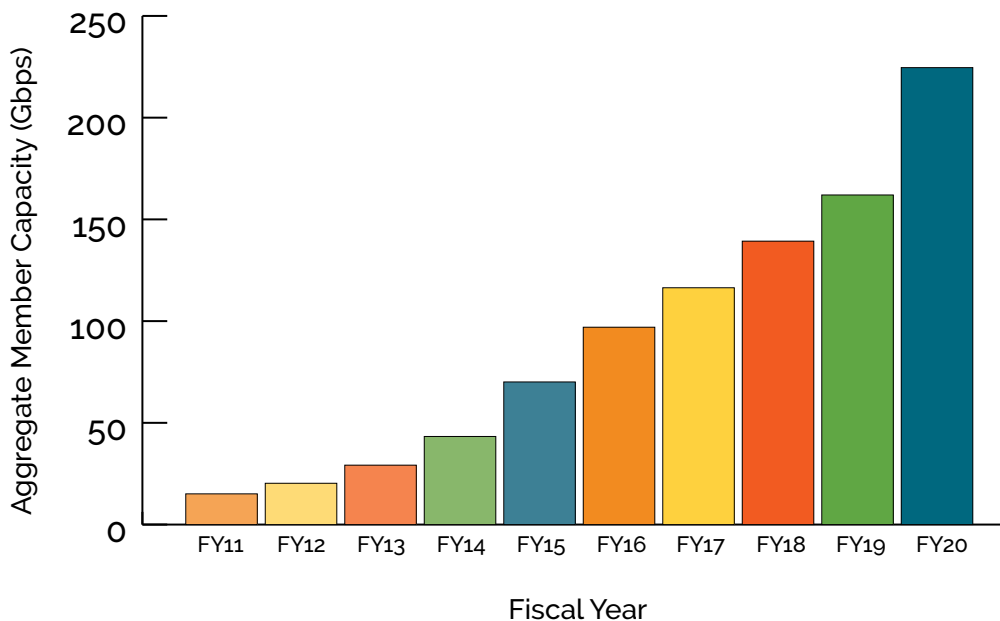
4. A contact hour is computed as the total delivery time for each course, multiplied by the number of attendees in each course. For example, a five (5) hour course with 14 attendees totals 70 contact hours. Total contact hours for all completed training classes are shown. Training data is as of June 30, 2020.

5. Total Pro Zoom Licenses data is as of Dec. 30, 2020.

Internet Connectivity Today

Broadband

Our aggregate member bandwidth capacity has grown each year for the past 30 years as technology and connectivity have become essential for business operations, teaching and learning for our member consortium. Our priority will always be to deliver the high-quality services you expect with dedicated customer service in our traditional cost-recovery manner. For all connections, members purchase a bundled set of value-added services including utilization tools, cybersecurity monitoring, network support and router management. With continued growth, MOREnet has been able to steadily and for the past three years, aggressively, reduce the Network Connectivity Fee. We will continue to seek ways to drive costs down to ensure our members benefit from this valuable set of reliable services at the best possible price.



E-rate

On behalf of our schools and libraries, MOREnet files as a consortium for E-rate funding. We work to ensure our members with eligible Internet connectivity services receive the benefit of federal funding to help lower their broadband costs. Circuit pricing varies by provider, bandwidth speed and technology through which it is delivered. Based on our contracts with local providers and our ability to leverage economies of scale, we typically see improved per megabit pricing year over year.

Five-year E-rate Reimbursement*
K-12: \$ 25,323,628
Library: \$ 7,220,493

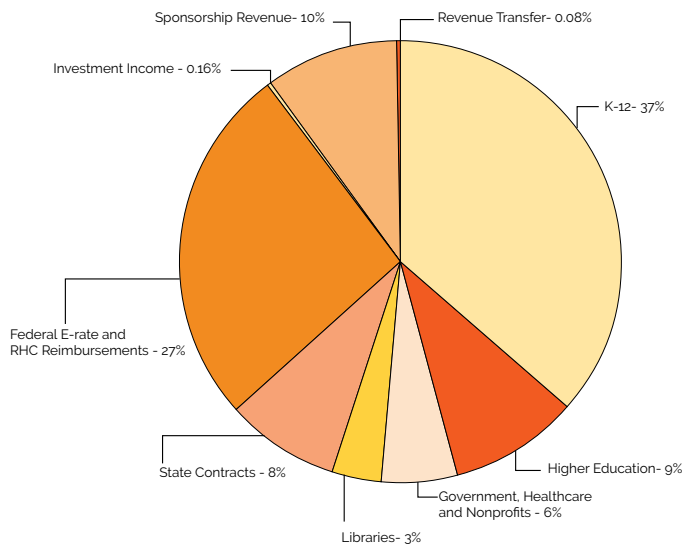
Avg. E-rate Discount 2020
K-12: 79.91%
Library: 79.27%

*2016-2020 Funds collected or expected to collect.

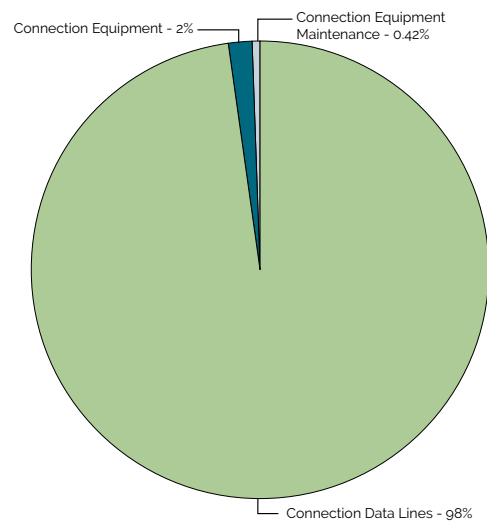
Financials

Year-to-date for period ending June 30, 2020

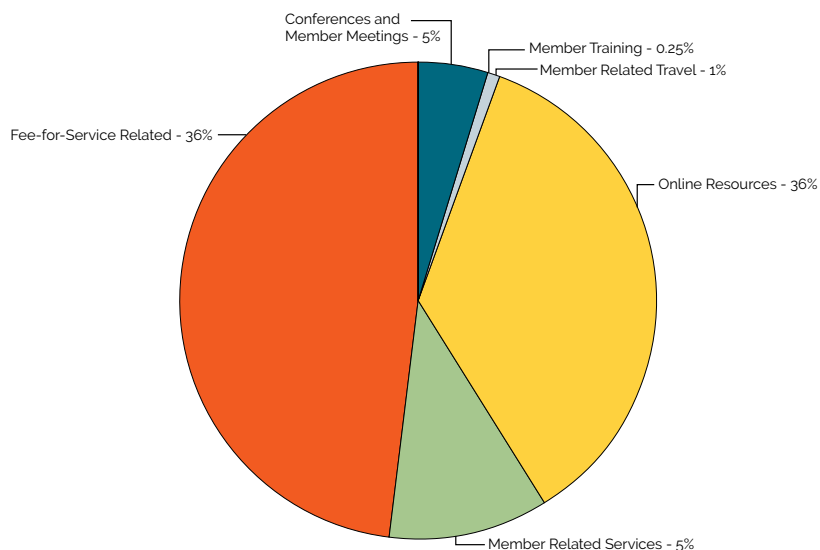
Revenue



Connection Expenses



Membership Service Expenses



Member Satisfaction Statistics

We measure membership satisfaction from three sources:

1. Annual Customer Satisfaction Surveys
2. Case Surveys
3. Training Evaluations

“We’re proud to partner with MORE.net and receive industry-leading services and excellent support.”

Annual Customer Satisfaction Surveys



Overall Satisfaction

94%

responded they were satisfied or very satisfied with MOREnet.



Overall Service Offerings

95%

responded they were satisfied or very satisfied with the service offerings from MOREnet.



Value for Price

87%

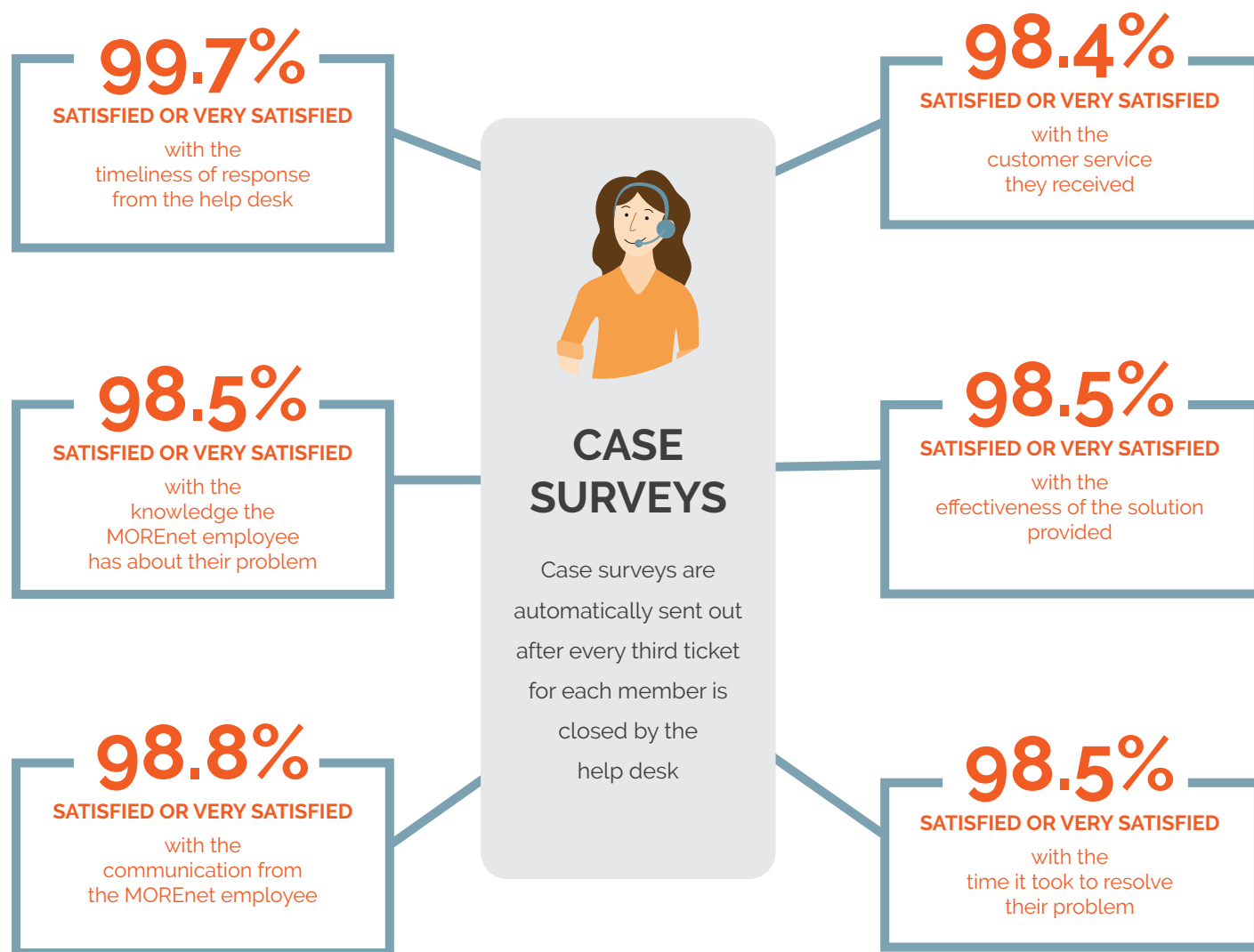
responded they were satisfied or very satisfied with the value for the price from MOREnet.

Overall Customer Satisfaction has been at or above

92%

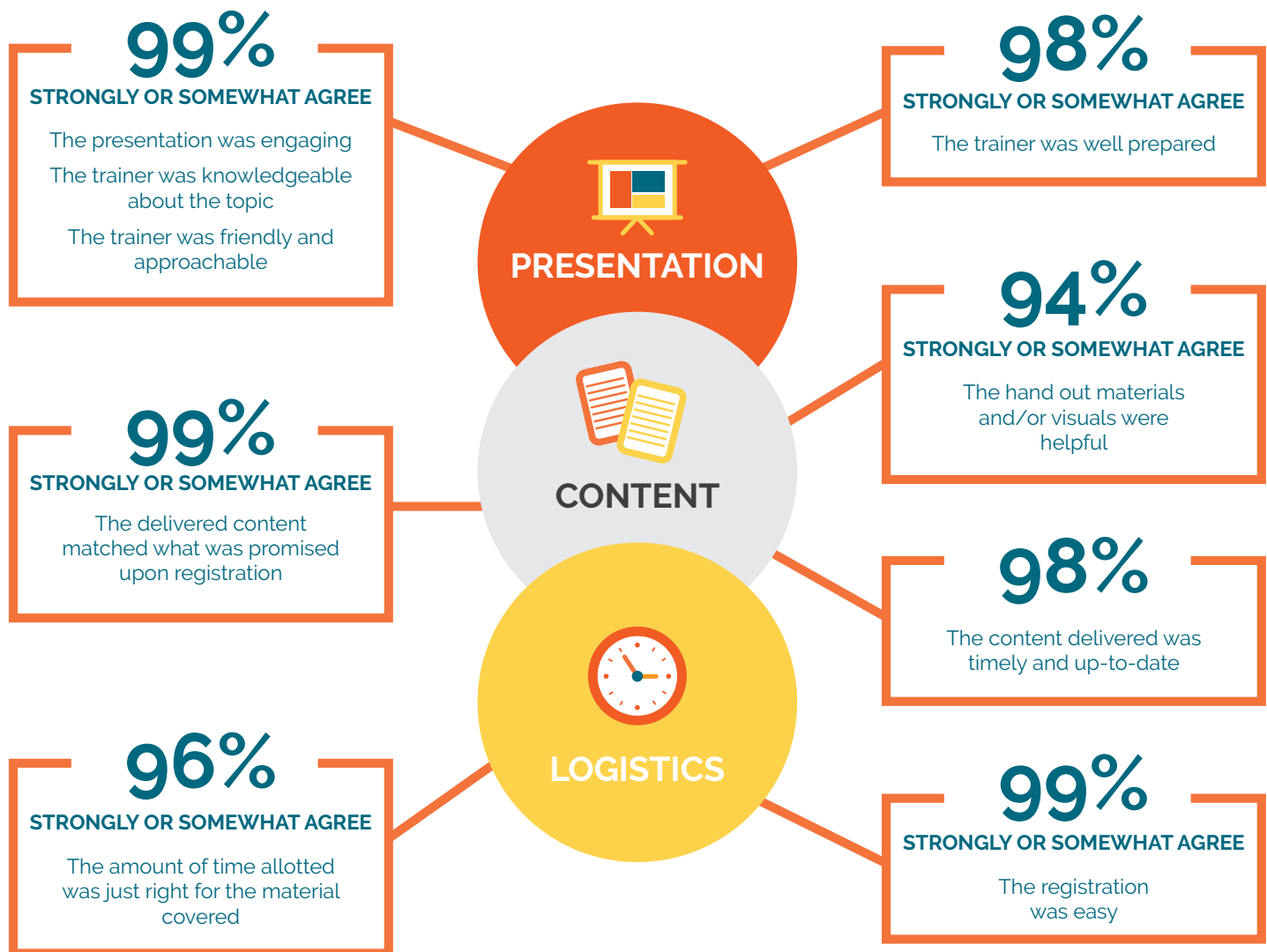
for the last 10 years.

Case Surveys



MOREnet's services are invaluable. I could not have done this job for 20+ years without them. MOREnet's network, training, security and tech support is superior. Libraries in other states are not this fortunate. Thank you for all that you do!!!

Training Satisfaction



Member Satisfaction Data shown was collected from July 1, 2019 to June 30, 2020.

Key Contacts

The primary function of the MOREnet Council is to direct and oversee planning and budgeting for the MOREnet infrastructure including the technical support required for the future growth and success of programs sponsored by Council members.

MOREnet Executive staff

Natasha Angell
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Chip Byers
Chief Technical Strategist
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Lynn Burgan
Chief Financial Officer
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Hank Niederhelm
Director of Infrastructure
hank@more.net

2020–2021 MOREnet Council Member Representatives

Organization Type	Name
Higher Education	John Bax, Vice Chair - Lincoln University David Esping, Ozark Technical Community College Gary Stanowski - Columbia College
Libraries	Carrie Cline - Neosho Newton County Library Sue Lightfoot - Carrollton Public Library Michael Davis, Chair - Camden County Library
Public K-12 Schools	Michelle Brenner - Branson School District Tom Schreiner - Jackson R-II School District Ryan Gooding - Raymore-Peculiar School District
Others	Robin Westphal - Missouri State Library Mara Woody - Missouri Department of Higher Education Jeff Falter - Missouri Department of Elementary and Secondary Education Jeff Wann - Office of Administration Information Technology Services Beth Chancellor - University of Missouri System Natasha Angell - MOREnet