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February 24, 2017

Ms. Gaiser:

Below is my response to your information request letter, dated January 31, 2017.

My letter dated February 14, 2017 "crossed in the mail". As I mentioned in our subsequent phone call: The main point of my letter was that I had received the voicemail from you mentioning your January 31 letter, but I had not yet received the letter itself. My February 14 letter is now moot and can be ignored.

Throughout the response, "MICE" is used to refer to our organization.

If any of my response is unclear or you have any further questions, please do not hesitate to contact me.

## 2. - Activities - Activity I

MICE operates an Internet exchange.

### *a. What does the activity entail?*

MICE owns and operates Ethernet switching equipment. I have enclosed a copy of our network diagram.<sup>1</sup>

Participants connect (typically via fiber optic cable) their equipment to the switches. MICE allocates an IP (Internet Protocol) address to each participant. The participants can then exchange Internet traffic with each other through the MICE switches.

MICE owns and operates a pair of computer servers. These servers are connected to the exchange switches and provide “route server” functionality. The participants establish a logical connection to each of the route servers. The participants announce their network’s IP address space to the route servers. The route servers then relay these announcements to the other participants. In this way, participants can exchange routing information with many other participants through only two connections, instead of having to configure a separate logical connection to every participant individually. The use of the route servers is optional. They are used by about 85% of the participants.

MICE also operates an additional computer server to monitor traffic levels. This is helpful for troubleshooting and also produces a graph of our total traffic level, which is publicly visible on our website.

### *b. Who conducts the activity?*

The configuration and maintenance of the switches and route servers are handled by the technical committee members, under the direction of the board and membership.

### *c. Please provide the qualifications for individual conducting each activity.*

The members of the technical committee each have many years of professional experience in network operations.

### *d. Where is the activity conducted?*

The equipment is located in “the 511 building”, a building in Minneapolis. One of the buildings major tenants is Cologix, who operates a datacenter there. Cologix rents space and provides electrical power, cooling, and other services to third parties. Cologix donates space and power to MICE for the operation of our Internet exchange.

We allow the operation of “remote switches” (also called extensions by other exchanges). The remote switch operators can operate their switches in whatever location they choose. Currently: some are in the same building, most are in the Minneapolis metro area, and all are in Minnesota.

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1 <http://micemn.net/MICE%20Equipment.pdf>

*e. When is the activity conducted?*

The exchange operates 24x7x365.

*f. How significant is the activity in relation to your total activities?*

This is our primary activity. It is how we accomplish our purpose.

*g. Who may participate in the activity? Include any criterion for participants, such as age, membership status or occupation.*

The following requirements are fundamental requirements of any Internet exchange. Typically, a participant will be a legal entity, but technically a natural person could meet the requirements. We currently have no natural persons as participants.

To be able to participate in the exchange, one must operate an IP (Internet Protocol) network.

One must be able to physically connect (e.g. by fiber optic cable) to the exchange equipment or to one of the remote switches.

The network must have IP address space. Without IP address space, they have nothing for their routers to announce over the exchange. IP space is allocated, directly or indirectly, from an RIR (regional Internet registry). In North America, the local RIR is ARIN.<sup>2</sup>

The network must have an an AS (autonomous system) number assigned to it. BGP (Border Gateway Protocol), the software protocol used by routers to communicate with each other, requires each network to use a unique AS number. AS numbers are also assigned by the local RIR. If the network does not already have an AS number assigned, it will have to apply for one; the fact that they are connecting to an Internet exchange means they have “a unique routing policy” and “will immediately become multihomed” and thus qualify for an AS number.<sup>3</sup>

*h. Do officers, directors, employees or any others receiving money from the organization participate in the activity? If so, explain and include what percentage of participants they constitute.*

Our current directors are employed by companies which participate in the exchange. One of those companies, Neutral Path, operates a remote switch with five participants (7% of the total participants) behind it. The other two companies, Hurricane Electric and Wikstrom Telephone Company, are each individual participants (each 1.4% of the total). Our treasurer, a non-director officer, is also employed by Neutral Path.

Mankato Networks operates a remote switch. In the early days of MICE, Mankato Networks received money from MICE for the support contracts on MICE’s Juniper equipment. Mankato Networks was reselling the service contract to MICE at cost. More recently, MICE members have paid Mankato Networks for the Juniper support contract renewals. MICE is currently in the process of replacing its

<sup>2</sup> American Registry for Internet Numbers, a 501(c)(6) organization, <https://www.arin.net>

<sup>3</sup> ARIN NRPM, section 5. <https://www.arin.net/policy/nrpm.html#five>

Juniper equipment with Arista equipment. Moving forward, MICE will pay Arista directly for the support contract. Mankato Networks's remote switch currently has 7% of the total participants connected to MICE.

*i. How are the participants selected?*

The participants are self-selected. Anyone meeting the requirements may join of their own accord.

*j. Is the activity advertised to the public? If so, how and please provide copies of advertisements.*

This activity is advertised to the public on our website.<sup>4</sup> For more details on the website, see the "Activity IV" below. I have enclosed a printed version of the front page of the website and the LinkedIn group.

*k. Is there a fee for participation in the activity? If so, provide a fee schedule.*

Our fee schedule, as set by the board and published on our website:<sup>5</sup>

MICE charges fees for ports on the main switches.

A 1G port is \$0/year. More than one 1G port requires board approval; if the board grants an exception, the participant is charged the 10G fee. That is, a 2x1G LAG would be \$250/year.

The first 10G port is \$250/year. Additional 10G ports are \$1,000/year. More than four ports requires board approval.

A 100G port is \$3,000/year. We currently have no limit for 100G ports besides available ports and reasonable technical need.

These are port fees, so remote switch operators pay for the ports they use. MICE does not charge participants who connect to a remote switch. Charges between remote switch operators and participants connected to their switches are not controlled by MICE.

The board approvals in the policy are for unlikely scenarios that should not normally occur, but might be required under exceptional (and even then, likely temporary) situations.

*l. How does the activity further your exempt purpose of 501(c)(6) to be ?*

Our exempt purpose is to promote the common business interests of the members and improve the business conditions in the Internet communications industry.

Our activities further our purpose by increasing local connectivity. An Internet exchange allows multiple networks to meet at one point and connect with all the others. This is vastly more efficient than private network-to-network interfaces (NNIs). We have over 60 participants using our route server, which

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<sup>4</sup> <http://micemn.net>

<sup>5</sup> <http://micemn.net/services.html>

means their routes are exchanged with *every* other participant. To replicate that with private NNIs would require each participant to have connections to the other 59. For just 60 participants, that would be  $60 \times 59 = 3,540$  NNIs in total. (We have additional members who do not utilize the route server, but still interconnect over the exchange, so the number of private NNIs required to replicate the connectivity of the exchange is actually higher.)

This number of private NNIs would be infeasible, which is why it is not done. Without an Internet exchange, there are far fewer carrier interconnections. Traffic must be aggregated by into larger and larger providers who interconnect with fewer NNIs nationally (and internationally). If there are fewer connections, those connections are farther apart geographically.

Having connections farther apart geographically means that traffic often flows long distances for no good reason. The traffic of customers of two different ISPs in Minnesota would previously often have to go all the way to Chicago and back. This was described as “the Chicago problem” in the discussions that lead to the formation of MICE.

The MICE exchange provides shorter routes for traffic. A shorter route means traffic arrives faster with less chance of congestion. Faster is important for some types of traffic, like video games. Avoiding congestion is important for real-time traffic. Congestion causes things like video tiling and audio calls breaking up. Avoiding congestion is also important for high-bandwidth applications like video streaming. Content providers such as Akamai, Amazon, CloudFlare, Fastly, Google, Limelight, Netflix, and Yahoo! are examples of networks that connect to MICE. By avoiding congestion, they provide consumers a better experience.

A shorter route also means less chance of failure. The extra distance from Minneapolis to Chicago is 400 miles. If the traffic has to take 400 more miles of fiber, that is 400 more miles that can be cut during road construction, etc. Worse yet, if the fiber paths to and from Chicago are different, that is 800 miles of fiber in the failure path.

Independent of the reduced distances, more local connectivity also reduces the impact of failures. That is, if something goes wrong in Chicago, it will impact Minnesota much less now that the MICE exchange exists. This concept is actually the whole reason behind the Internet’s creation. The Internet was originally created by the U.S. Department of Defense as part of research into creating a fault-tolerant network that could survive communication nodes being disrupted or destroyed. Today, we are not concerned with Soviet nuclear attacks, but natural disasters and accidents will always be a concern. Improving local connectivity through an exchange helps protect the Internet, which is now vital to many business, educational, charitable, and governmental operations.

*m. Does any individual receive income from this activity such as compensation or royalties? If so, please explain.*

No.

*n. Please explain how your organization is different from a for-profit providing similar services.*

A for-profit entity is driven by the maximum benefit to their shareholders. In the past, this has led to exclusion from peering interconnection agreements or predatory pricing towards perceived competitors. Removing the profit element and operating solely on cost recovery enables MICE to focus on neutral interconnection.

MICE is operated cooperatively. MICE relies on financial contributions from its members. The work is all done by unpaid directors, officers, and other volunteers. MICE receives significant in-kind donations of equipment (e.g. switches) and services (e.g. space and power) from its members that ordinary businesses do not and would not receive.

MICE is operated as a not-for-profit association. No part of our net earnings inure to the benefit of any private shareholder or individual.

MICE improves Internet access, but does not by itself provide Internet access. MICE is not an ISP. A business connecting only to MICE would not get access to the entire Internet.

MICE does not provide a staffed NOC (network operation center). A staffed NOC is standard for any telecommunications provider, with a 24x7 NOC being standard for all but the smallest companies.

MICE does not provide commercial service level agreements. Service level agreements are standard for wholesale Internet and other telecommunications services.

Our operations are open. Our meetings are open to the public. Our operations are discussed in a publicly available email discussion list. We welcome people to copy our activities. We have and will offer them advice on how to do so successfully.

*o. What percentage of funds is generated (income) from each activity? (total of all different activities must equal 100%, be sure to break it down by each activity)?*

100%

*p. What percentage of your total funds is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

> 99%

*q. What percentage of your total time is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

89%

This is a very rough estimate. I asked the directors, our treasurer, and our technical committee members to roughly estimate their MICE time, split across the exchange activities and the user group meetings.

## 2. - Activities - Activity II

MICE holds quarterly “user group” meetings.

### *a. What does the activity entail?*

We have an in-person meeting (generally with a simultaneous conference call-in option). The members, non-member participants, prospective members, and other attendees discuss technical and policy issues primarily relating to the operation of the exchange and to a lesser extent the industry in general.

### *b. Who conducts the activity?*

The meetings are presided over by the board of directors.

One of our members, currently Minnesota VoIP, volunteers the use of their conference calling bridge.

### *c. Please provide the qualifications for individual conducting each activity.*

The directors were elected by the members. The current directors have years of experience working at telecommunication carriers.

Minnesota VoIP specializes in voice-over-IP telephony services.

### *d. Where is the activity conducted?*

We conduct four meetings a year.

The default location is the cafeteria at “the 511 building”, the datacenter building in Minneapolis where our Internet exchange equipment is hosted. We are allowed to use the cafeteria space for free, the building has ample parking, and it is convenient for our members.

The spring meeting is usually held at the same location as the MTA<sup>6</sup> Annual Convention & Trade Show. This is held in Minneapolis. This meeting remains open to the public; MTA conference registration is not required for attending our user group meeting. We hold the spring meeting at the same location as MTA to better promote MICE and to attract people who may not otherwise come to one of our user group meetings.

We try to hold the summer meeting outside of the Minneapolis metro area. Previously, meetings have been held in Duluth, Minnesota and Eau Claire, Wisconsin. This year, we are tentatively holding the meeting in South Dakota. As with the spring meeting, it is useful outreach. We can introduce MICE to new people who might not otherwise hear about us. It is also about fairness; not all of the members are from the Minneapolis metro area, so the meetings should not all be there either. Finally, these meetings can be an opportunity for us to learn about how other exchanges operate, and/or for those interested in starting an exchange to learn how we operate.

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<sup>6</sup> Minnesota Telecom Alliance, formerly known as Minnesota Telephone Association, a 501(c)(6) organization, <http://www.mnta.org>

*e. When is the activity conducted?*

We conduct four meetings a year. The meetings are announced on our website and the email discussion list. They take place during normal business hours. The meetings are generally held in the afternoons, but the spring one is typically held in the morning.

*f. How significant is the activity in relation to your total activities?*

The user group meetings are very important, as this is the primary way by which the membership exercises their governance role.

*g. Who may participate in the activity? Include any criterion for participants, such as age, membership status or occupation.*

Our user group meetings are open to the general public. We routinely have prospective participants or other guests attend.

There are no age restrictions on those attending our meetings, though the subject matter is not likely to be interesting to children.

Membership is not required.

In practice, those who attend are almost always employed in the networking industry, simply because of the subject matter.

*h. Do officers, directors, employees or any others receiving money from the organization participate in the activity? If so, explain and include what percentage of participants they constitute.*

The three directors and one non-director officer (treasurer) attend every meeting possible. The meeting attendance over the last four meetings was (in reverse chronological order) 24, 30, 27, and 21. We only had a non-director officer for the last one, so before that, I am only counting the three directors. The percentages are: 17%, 10%, 11%, and 14%. Note that these are percentages of attendance, not of membership. As of the last meeting, we had 71 voting members (and one non-member exchange participant).

Mankato Networks, a member of MICE, has attended and voted at user group meetings. In the early days of MICE, Mankato Networks received money from MICE for the support contracts on MICE's Juniper equipment. Mankato Networks was reselling the service contract to MICE at cost. More recently, MICE members have paid Mankato Networks for the Juniper support contract renewals. MICE is currently in the process of replacing its Juniper equipment with Arista equipment. Moving forward, MICE will pay Arista directly for the support contract. Mankato Networks is 1.4% of the voting membership (as of the last meeting).

*i. How are the participants selected?*

The participants are self-selected. Our user group meetings are open to the general public. We routinely have prospective participants or other guests attend.

*j. Is the activity advertised to the public? If so, how and please provide copies of advertisements.*

This activity is advertised to the public on our website.<sup>7</sup> For more details on the website, see the “Activity IV” below. I have enclosed a printed version of the front page of the website and the LinkedIn group.

*k. Is there a fee for participation in the activity? If so, provide a fee schedule.*

There is no fee.

*l. How does the activity further your exempt purpose of 501(c)(6) to be ?*

Our user group meetings (plus discussions on the mailing list) are how our community of members governs our primary activity of running an Internet exchange. The meetings also help our members stay up-to-date on industry technical and policy news, and learn from each other. Additionally, our meetings have been informative for guests who are operating or are considering forming their own Internet exchanges.

*m. Does any individual receive income from this activity such as compensation or royalties? If so, please explain.*

No.

*n. Please explain how your organization is different from a for-profit providing similar services.*

For-profit entities do not have consensus-driven, community governance through open meetings.

*o. What percentage of funds is generated (income) from each activity? (total of all different activities must equal 100%, be sure to break it down by each activity)?*

0%

This activity has no income.

*p. What percentage of your total funds is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

0%

This activity has no expenses.

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<sup>7</sup> <http://micemn.net>

*q. What percentage of your total time is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

9%

This is a very rough estimate. I asked the directors, our treasurer, and our technical committee members to roughly estimate their MICE time, split across the exchange activities and the user group meetings.

## 2. - Activities - Activity III

MICE operates an email discussion list.

### *a. What does the activity entail?*

ipHouse, one of our members, created an email discussion list (MICE-DISCUSS) on their existing mailing list server. People can send email to the list address and the message is copied to anyone who has subscribed to the list. This list is used by the members and other interested parties to communicate with each other.

On topic discussions include technical and policy issues with the exchange. Some examples: new participant announcements; meeting minutes; fee discussions; questions about changes in traffic volume that might indicate problems; and “anyone else having this problem?” requests.

Occasionally, there will be discussion of general Internet operation topics that are of particular interest to our group. Some examples: this new standard is out; this third-party event is taking place; and network X is having trouble.

The list archive<sup>8</sup> is publicly available.

### *b. Who conducts the activity?*

The list runs on a server operated by ipHouse, one of our members.

The list is administered (adding or removing addresses if there are problems) by ipHouse and the MICE directors.

The posts are made by the list subscribers.

### *c. Please provide the qualifications for individual conducting each activity.*

ipHouse is an email and website hosting company. They provide email services professionally.

The directors were elected by the members. The current directors have years of experience working at telecommunication carriers.

No qualifications are required for list subscribers. Anyone with an email address may join and post. In practice, given the topics, only those interested in Internet operations are likely to join.

### *d. Where is the activity conducted?*

Online, by email.

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<sup>8</sup> <https://lists.iphouse.net/cgi-bin/wa?A0=MICE-DISCUSS>

*e. When is the activity conducted?*

List subscribers may post to the list at any time, 24x7x365.

*f. How significant is the activity in relation to your total activities?*

The mailing list is useful, but optional.

*g. Who may participate in the activity? Include any criterion for participants, such as age, membership status or occupation.*

Anyone with an email address may join and post. In practice, given the topics, only those interested in Internet operations are likely to participate.

*h. Do officers, directors, employees or any others receiving money from the organization participate in the activity? If so, explain and include what percentage of participants they constitute.*

Directors and our non-director officer (our treasurer) post to the list regularly, in those capacities (e.g. announcing meetings or posting minutes), and directors also post as individuals. There are four directors and officers in total, who represent 2.5% of the members of the list. The list had 157 members as of February 20, 2017.

Employees of Mankato Networks, a member of MICE, have posted to the list. In the early days of MICE, Mankato Networks received money from MICE for the support contracts on MICE's Juniper equipment. Mankato Networks was reselling the service contract to MICE at cost. More recently, MICE members have paid Mankato Networks for the Juniper support contract renewals. MICE is currently in the process of replacing its Juniper equipment with Arista equipment. Moving forward, MICE will pay Arista directly for the support contract. Mankato Networks's 1-2 employees posting to the list represent 1.2% of the list membership. Mankato Networks has no role in operating the discussion list.

At least one equipment vendor has posted on our discussion list, but it is an extremely rare occurrence. The only example I can think of is that recently an Arista employee posted. Arista is the manufacturer of some new equipment we will be using soon. They will receive money from MICE for a support contract covering that equipment. Arista offered a complementary training day on their equipment. Arista's one employee who posted represents less than 1% of the list members.

No equipment vendor has a role in operating the discussion list.

*i. How are the participants selected?*

ipHouse volunteered to run the list in the early days. This could be changed by board action.

The directors are elected by the membership.

The list subscribers are self-selected. Anyone with an email address may join.

*j. Is the activity advertised to the public? If so, how and please provide copies of advertisements.*

This activity is advertised to the public on our website.<sup>9</sup> For more details on the website, see the “Activity IV” below. I have enclosed a printed version of the front page of the website and the LinkedIn group.

*k. Is there a fee for participation in the activity? If so, provide a fee schedule.*

There is no fee.

*l. How does the activity further your exempt purpose of 501(c)(6) to be ?*

The mailing list provides additional discussion, outside of the user group meetings, which contributes to the the governance of our primary activity of running an Internet exchange. The discussion list also helps our members stay up-to-date on industry technical and policy news, and learn from each other.

*m. Does any individual receive income from this activity such as compensation or royalties? If so, please explain.*

No.

*n. Please explain how your organization is different from a for-profit providing similar services.*

For-profit entities do not have consensus-driven, community governance through public mailing lists.

*o. What percentage of funds is generated (income) from each activity? (total of all different activities must equal 100%, be sure to break it down by each activity)?*

0%

This activity generates no income.

*p. What percentage of your total funds is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

0%

This activity has no expenses.

ipHouse does not receive any compensation for hosting the mailing list.

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<sup>9</sup> <http://micemn.net>

*q. What percentage of your total time is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

1%

We do not track time spent. This is a very rough estimate. The operation of the email list itself (separate from discussion) takes almost zero time.

## 2. - Activities - Activity IV

MICE operates a website, Facebook page, and LinkedIn group.

### *a. What does the activity entail?*

We operate a website,<sup>10</sup> a Facebook page<sup>11</sup>, and a LinkedIn group<sup>12</sup>. These provide general information about our organization as well as details related to the exchange and upcoming user group meetings.

### *b. Who conducts the activity?*

The domain name for the website was registered by Paul Bunyan Rural Telephone Cooperative, one of our members, in the early days of our organization.

The DNS (domain) hosting for the website is also provided by Paul Bunyan Rural Telephone Cooperative.

The hosting for the website is provided by Arcustech, a Minneapolis hosting company.

The design of the website was created by a volunteer web designer some years back. Ongoing updates are managed by me (Richard Laager), in my capacity as our volunteer webmaster, which is separate from and predates my election as a director.

Jason Hanke, a director, posts to the Facebook page and LinkedIn group. These roles are separate from his role as director.

The website, Facebook page, and LinkedIn group are viewable by the general public.

### *c. Please provide the qualifications for individual conducting each activity.*

Paul Bunyan Rural Telephone Cooperative is an Internet Service Provider (ISP) who operates DNS servers professionally.

Arcustech is a hosting company who hosts websites professionally.

I have years of experience editing basic websites.

Jason Hanke has years of business and technical experience.

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10 <http://micemn.net>

11 <https://www.facebook.com/MNMICE/>

12 <https://www.linkedin.com/groups/3000346>

*d. Where is the activity conducted?*

Online.

The servers hosting the DNS and website are located in Minnesota.

The Facebook page and LinkedIn group run on those platforms online. We do not know where specifically those servers are located.

I can make updates to the website from anywhere, but traditionally do so from my home or workplace, both located in Minnesota. Jason does the same for the Facebook page and LinkedIn group; he is also located in Minnesota.

*e. When is the activity conducted?*

The website, Facebook page, and LinkedIn group are available 24x7x365. Jason and I make updates intermittently, as circumstances require.

*f. How significant is the activity in relation to your total activities?*

The website is a useful tool for marketing, but strictly speaking is optional. The participants list is very important, but we could keep it offline.

The Facebook page and LinkedIn group are not critical.

*g. Who may participate in the activity? Include any criterion for participants, such as age, membership status or occupation.*

The hosting companies, webmaster role, Facebook role, and LinkedIn role could be changed by board action.

The website, Facebook page, and LinkedIn group are viewable by the general public.

*h. Do officers, directors, employees or any others receiving money from the organization participate in the activity? If so, explain and include what percentage of participants they constitute.*

Ongoing updates are managed by me (Richard Laager), in my capacity as our volunteer webmaster, which is separate from and pre-dates my election as a director. I represent 100% of the people currently updating the website, though the changes I make are usually suggested by others on the MICE-DISCUSS mailing list.

Jason Hanke represents 100% of the people currently updating the Facebook page and LinkedIn group. These roles are separate from his role as director.

*i. How are the participants selected?*

The hosting companies, webmaster role, Facebook role, and LinkedIn role could be changed by board action.

Viewers are self-selected as the website, Facebook page, and LinkedIn group are viewable by the general public.

*j. Is the activity advertised to the public? If so, how and please provide copies of advertisements.*

The website, Facebook page, and LinkedIn group are their own advertisements to the public. I have enclosed a printed version of the front page of the website and the LinkedIn group.

*k. Is there a fee for participation in the activity? If so, provide a fee schedule.*

There is no fee.

*l. How does the activity further your exempt purpose of 501(c)(6) to be ?*

The website, Facebook page, and LinkedIn group are communication methods which provide information about our organization and activities to current and prospective members.

*m. Does any individual receive income from this activity such as compensation or royalties? If so, please explain.*

No.

*n. Please explain how your organization is different from a for-profit providing similar services.*

The content of our website, Facebook page, and LinkedIn group is specific to our organization and its activities.

Our website content is very open. We publish lots of technical and operational details that a for-profit company typically would not.

*o. What percentage of funds is generated (income) from each activity? (total of all different activities must equal 100%, be sure to break it down by each activity)?*

0%

This activity generates no income.

*p. What percentage of your total funds is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

< 1%

As with any website, a domain registration fee of about \$12/year is payable to a commercial domain registrar (Enom, Gandi, Godaddy, Hover, Network Solutions, or hundreds of others). This cost is to reserve the domain name "micemn.net" for our use. The website was last registered at Enom (enom.com) by Paul Bunyan Rural Telephone Cooperative. It is due for renewal in 2018, at which point MICE should take over paying the fee to the domain registrar.

Paul Bunyan Rural Telephone Cooperative does not receive any money for the DNS hosting.

Arcustech does not receive any money for the web hosting.

Facebook and LinkedIn do not receive any money from MICE for hosting. They run third-party ads on their websites which generates income.

*q. What percentage of your total time is dedicated to each activity (total of all different activities must equal 100%, be sure to break it down by each activity)?*

1%

We do not track time spent. This is a very rough estimate. Most changes to the website are related the exchange activity (e.g. edits to the exchange participants list). The second largest set of changes is related to the user group meetings (publishing minutes, updating the date of the next meeting, etc.). That time is more properly considered part of those activities. Other website edits are minimal.

The time spent updating the Facebook group and LinkedIn page is minimal.

**3. Please provide the following about memberships:**

*a. Please describe your members and membership in detail.*

Almost all of our members are network operators, though as discussed in “b” and “e” below, there are some exceptions. Our members include both for-profit and non-profit entities, including governmental, charitable, and educational institutions as well as cooperative telephone companies. Members include ISPs (commercial, cooperative, and municipal) serving residential and business customers, datacenters housing third-party computer servers, content providers, etc. They provide communication services, on-site and distance education, medical care, entertainment, backups and disaster recovery, and more.

Our members all rely on the Internet and seek to improve its efficiency, especially with regard to improving local connectivity.

I have enclosed a copy of our UG 22 (UG is “user group”) attendance sheet.<sup>13</sup>

*b. Please submit membership requirements and criteria*

From our Operating Agreement (Bylaws)<sup>14</sup>, section 1.1:

In order to qualify for membership, a member shall be: (i) an operator of an internet protocol network which has one or more direct, or approved indirect, connections to Midwest Internet Cooperative Exchange LLC’s (the “Company”) switches; or (ii) an operator of equipment providing approved indirect connections; or (iii) an operator of a colocation data center in which the Company’s switches are located.

Rephrased in plainer language:

- i) A network that connects to our exchange, directly to our equipment or to a remote switch
- ii) A company that operates a remote switch
- iii) The company that operates the datacenter where our equipment is located

*c. Please provide the fee amounts for your membership fee amounts*

We have fees discussed in our response to question “4”, item “c”, but those fees are not in exchange for membership.

*d. Please provide members only events and fee amounts.*

There are no members only events. Our user group meetings are open to the general public. We routinely have prospective participants or other guests attend. There are no fees for events.

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<sup>13</sup> <http://micemn.net/files/MICE%20UG%2022%20-%20Attendance.pdf>

<sup>14</sup> The Operating Agreement was submitted with our original Form 1024 application.

e. Explain process of one becoming a member and who approves.

From our Operating Agreement (Bylaws),<sup>15</sup> section 1.1:

A member may be elected by the membership or appointed to membership by the Board.

Our regular practice is that the board accepts all participants (type “i” in the bylaws) as members, unless the participant explicitly opts out of membership. Such an opt-out has only happened once, with the University of Wisconsin System, who have a unique legal situation; they believe Wisconsin state statute prohibits them from accepting such a membership.

Operating a remote switch requires explicit approval by the board. This is to ensure the stability of the exchange. The following is reproduced from our website:<sup>16</sup>

The process for connecting a new remote switch is as follows:

1. The remote switch operator will provide a technical proposal to the board.
2. The board will publish the proposal to the discussion list.
3. After a reasonable comment period, the board will approve or deny the proposal.

Remote switch operators’ obligations include (but are not necessarily limited to):

- Operators must obtain prior approval from the board for modifications.
- Operators are responsible for the costs of operating their remote switch and the links to the core switch. They must monitor their traffic levels and promptly add capacity to keep the links running congestion-free.
- Operators must enforce MICE’s technical port rules on their remote switches.
- Operators must coordinate participant connections and disconnections with MICE. MICE allocates exchange IP addresses and documents participant connections.
- Operators must inform their participants that the participants are not connecting directly to MICE. The remote switch operator cannot claim to be MICE.
- Operators must inform their participants that the participants are also subject to MICE rules, procedures, and costs.

Many remote switch operators are also participants. For those who are not, their membership (under type “ii”) is similarly approved by the board.

We currently operate equipment in only one datacenter. That datacenter’s operator, Cologix, is thus the only type “iii” member. Their membership was approved by the members at the time the current bylaws went into effect. If we were to operate equipment in a new or additional datacenter, it would likely be the board who would approve the membership of the datacenter operator.

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<sup>15</sup> The Operating Agreement was submitted with our original Form 1024 application.

<sup>16</sup> <http://micemn.net/technical.html>

*f. Please explain criterion for your members,*

The requirements are listed above in item “b”. The intention is that those who participate in the exchange—in the three different ways—are voting members. This aligns the governance role with the activity being governed.

Participation in discussions, both in person and online, is open to anyone, including non-members.

*g. Please provide what age group your members consist of*

Our members are legal entities, not natural persons. While natural persons are not excluded, it is unlikely that a natural person would be a member of our organization.

The natural persons who participate in the activities of the organization on behalf of our members are generally in their 20s to 60s. There are no age restrictions on those attending our meetings, though the subject matter is not likely to be interesting to children.

*h. Please explain what services, good or benefits they receive in exchange for membership.*

Membership derives from participating in the exchange activity, not the other way around. The one and only benefit of membership is voting. For example, our single non-member exchange participant is equal to members in every way, except they cannot vote.

*i. If you have any membership documents, mailing or brochures, please include.*

Our website has a presentation<sup>17</sup> from a while back. I have enclosed a copy.

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<sup>17</sup> <http://www.micemn.net/files/MICEoverview.pdf>

**4. Please provide the following about your goods or services you provide to individuals:**

*a. Please explain in greater detail the goods and services you provide to individuals*

We do not provide any goods to individuals.

We do not provide any services except as discussed in the activities section.

*b. Please provide a criterion for your recipients, such as low-income, anyone, members, or non-members*

As discussed in our activities section, our activities are open to anyone.

*c. A fee schedule*

The only fees are related to the exchange activity and are discussed in question “2”, response for “Activity I”, item “j”.

*d. Explain how fees were determined*

Fees were set following extensive consultation with the membership, via phone, private email, small group emails, public discussion on the email discussion list, and in-person. The final consultation was at the pre-announced user group meeting. As a community governed organization, it is always our goal to find consensus, not just a majority, whenever possible.

*e. Explain who determined fees*

The fees were set by the board.

*f. Please explain if fees are below cost, at cost or above cost*

If we had to pay for everything directly at full market price (i.e. if the equipment, space, and power were billed), our fees would be significantly (and unsustainably) below cost.

With the current situation (equipment, space, and power contributed), the fees we are collecting will, if paid by everyone, cover our on-going expenses with some extra to build up a reserve.

The fees cover the cost of the support contract for our equipment. A “support contract” here is from the equipment vendor and covers both technical support assistance and replacement of failed equipment. However, the current fees will not cover the replacement of our equipment at the end of its expected useful life due to obsolescence. We will continue to rely on contributions (or would have to increase the fees some day) to cover that.

*g. Please explain who will be providing services for your organization and their qualifications*

The qualifications for those conducting the exchange activity are discussed in question “2”, response for “Activity I”, item “c”.

*h. Please explain how you will handle those not able to pay for services.*

We only charge fees for the exchange activity. One of our founding principles is to “err on the side of connectivity”. We are not currently disconnecting for participants who choose not to support the exchange financially. A non-payment disconnection policy will be developed; it will be applied to all participants neutrally.<sup>18</sup> One of the ideas discussed so far was to only disconnect non-paying participants once we run out of ports on our equipment.

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<sup>18</sup> <http://micemn.net/services.html>

**5. The regulations define a business league as an association of persons, including legal entities such as trusts and corporations, having a common business interest. Its purpose is to promote the common business interest and not to engage in a regular business of a kind ordinarily carried on for profit. Its activities are directed to the improvement of business conditions of one or more lines of business rather than the performance of particular services for individual persons. These regulations have been held to have the effect of law by virtue of successive reenactments of the statutory provision. See *Retailers Credit Association of Alameda County v. Commissioner*, 90 F.2d 47 (9th Cir. 1937). Please explain in detail how your activities meet this definition.**

We meet these criteria as follows:

- A) MICE is an association of persons, specifically legal entities.
- B) Our common business interest is that our members all rely on the Internet and seek to improve its efficiency.
- C) MICE's purpose is to promote the common business interests of the members and improve the business conditions in the Internet communications industry.
- D) MICE's activities are directed to improve the conditions of the Internet communications industry.
- E) MICE does not engage in a regular business of a kind ordinarily carried on for profit. We do not perform particular services for individual persons.

A) MICE is an association of persons, specifically legal entities.

Our over 70 members include both for-profit and non-profit entities, including governmental, charitable, and educational institutions as well as cooperative telephone companies.

B) Our common business interest is that our members all rely on the Internet and seek to improve its efficiency.

Members include ISPs (commercial, cooperative, and municipal) serving residential and business customers, datacenters housing third-party computer servers, content providers, etc. They provide communication services, on-site and distance education, medical care, entertainment, backups and disaster recovery, and more, all relying on the Internet for significant operations.

C) MICE's purpose is to promote the common business interests of the members and improve the business conditions in the Internet communications industry.

Our Amended and Restated Articles of Organization state in Article IV:<sup>19</sup>

Purpose: The purposes for which this Company is formed are exclusively to promote the common business interests of the members and improve the business conditions in the internet communications industry in accordance with Section 501(c)(6) of the Internal Revenue Code and consist of the following:

A. To aid, support, and assist the facilitation of physical and Internet protocol interconnection and the efficient transmission of educational, scientific, medical, and other information and communications by creating and maintaining direct communications interconnections between and among members, and between and among members and other Internet access service providers.

B. To do any and all lawful activities which may be necessary, useful, or desirable for the furtherance, accomplishment, fostering, or attainment of the foregoing purposes, either directly or indirectly and either alone or in conjunction or cooperation with others, whether such others be persons or organizations of any kind or nature, such as corporations, firms, associations, trusts, institutions, foundations, or governmental bureaus, departments, or agencies.

D) MICE's activities are directed to improve the conditions of the Internet communications industry.

Restating the response to question "2", response for "Activity I", item "I":

Our activities further our purpose by increasing local connectivity. An Internet exchange allows multiple networks to meet at one point and connect with all the others. This is vastly more efficient than private network-to-network interfaces (NNIs). We have over 60 participants using our route server, which means their routes are exchanged with every other participant. To replicate that with private NNIs would require each participant to have connections to the other 59. For just 60 participants, that would be  $60 \times 59 = 3,540$  NNIs in total. (We have additional members who do not utilize the route server, but still interconnect over the exchange, so the number of private NNIs required to replicate the connectivity of the exchange is actually higher.)

This number of private NNIs would be infeasible, which is why it is not done. Without an Internet exchange, there are far fewer carrier interconnections. Traffic must be aggregated by into larger and larger providers who interconnect with fewer NNIs nationally (and internationally). If there are fewer connections, those connections are farther apart geographically.

Having connections farther apart geographically means that traffic often flows long distances for no good reason. The traffic of customers of two different ISPs in Minnesota

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19 The Amended and Restated Articles of Organization were submitted with our original Form 1024 application.

would previously often have to go all the way to Chicago and back. This was described as “the Chicago problem” in the discussions that lead to the formation of MICE.

The MICE exchange provides shorter routes for traffic. A shorter route means traffic arrives faster with less chance of congestion. Faster is important for some types of traffic, like video games. Avoiding congestion is important for real-time traffic. Congestion causes things like video tiling and audio calls breaking up. Avoiding congestion is also important for high-bandwidth applications like video streaming. Content providers such as Akamai, Amazon, CloudFlare, Fastly, Google, Limelight, Netflix, and Yahoo! are examples of networks that connect to MICE. By avoiding congestion, they provide consumers a better experience.

A shorter route also means less chance of failure. The extra distance from Minneapolis to Chicago is 400 miles. If the traffic has to take 400 more miles of fiber, that is 400 more miles that can be cut during road construction, etc. Worse yet, if the fiber paths to and from Chicago are different, that is 800 miles of fiber in the failure path.

Independent of the reduced distances, more local connectivity also reduces the impact of failures. That is, if something goes wrong in Chicago, it will impact Minnesota much less now that the MICE exchange exists. This concept is actually the whole reason behind the Internet’s creation. The Internet was originally created by the U.S. Department of Defense as part of research into creating a fault-tolerant network that could survive communication nodes being disrupted or destroyed. Today, we are not concerned with Soviet nuclear attacks, but natural disasters and accidents will always be a concern. Improving local connectivity through an exchange helps protect the Internet, which is now vital to many business, educational, charitable, and governmental operations.

E) MICE does not engage in a regular business of a kind ordinarily carried on for profit. We do not perform particular services for individual persons.

Restating the response to question “2”, response for “Activity I”, item “n”:

A for-profit entity is driven by the maximum benefit to their shareholders. In the past, this has led to exclusion from peering interconnection agreements or predatory pricing towards perceived competitors. Removing the profit element and operating solely on cost recovery enables MICE to focus on neutral interconnection.

MICE is operated cooperatively. MICE relies on financial contributions from its members. The work is all done by unpaid directors, officers, and other volunteers. MICE receives significant in-kind donations of equipment (e.g. switches) and services (e.g. space and power) from its members that ordinary businesses do not and would not receive.

MICE is operated as a not-for-profit association. No part of our net earnings inure to the benefit of any private shareholder or individual.

MICE improves Internet access, but does not by itself provide Internet access. MICE is not an ISP. A business connecting only to MICE would not get access to the entire Internet.

MICE does not provide a staffed NOC (network operation center). A staffed NOC is standard for any telecommunications provider, with a 24x7 NOC being standard for all but the smallest companies.

MICE does not provide commercial service level agreements. Service level agreements are standard for wholesale Internet and other telecommunications services.

Our operations are open. Our meetings are open to the public. Our operations are discussed in a publicly available email discussion list. We welcome people to copy our activities. We have and will offer them advice on how to do so successfully.

## Precedent

While completely separate, our organization's mission, form, and function are essentially the same as that of the Seattle Internet Exchange<sup>20</sup>. Just as our primary activity is operating an Internet exchange in Minneapolis, Minnesota, their primary activity is operating an Internet exchange in Seattle, Washington. You may find their Form 1024, Part II, item 1 explanation helpful in understanding our organization. Their Form 1024<sup>21</sup> and their IRS exemption letter<sup>22</sup> are available on their website. I have enclosed copies of the relevant pages. Their 501(c)(6) status is verifiable in the IRS Exempt Organizations Business Master File Extract for Washington.<sup>23</sup>

Northwest Access Exchange<sup>24</sup> operating in Portland, Oregon is another example. Their Form 1024<sup>25</sup> is available online. I have enclosed copies of the relevant pages. Their 501(c)(6) status is verifiable in the IRS Exempt Organizations Business Master File Extract for Oregon.<sup>26</sup>

Community IX Holdings (headquartered in Reston, VA) similarly operates an exchange "at several locations in South Florida" and is "coming soon to Atlanta".<sup>27</sup> Their 501(c)(6) status is verifiable in the IRS Exempt Organizations Business Master File Extract for Virginia.<sup>28</sup>

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20 <https://www.seattleix.net>

21 [https://www.seattleix.net/docs/20080703\\_IRS\\_Non\\_Profit\\_Filing.pdf](https://www.seattleix.net/docs/20080703_IRS_Non_Profit_Filing.pdf)

22 [https://www.seattleix.net/docs/20080911\\_IRS\\_501\(c\)\(6\)\\_Exemption\\_Letter.pdf](https://www.seattleix.net/docs/20080911_IRS_501(c)(6)_Exemption_Letter.pdf)

23 [https://www.irs.gov/pub/irs-soi/eo\\_wa.csv](https://www.irs.gov/pub/irs-soi/eo_wa.csv)

24 <http://www.nwax.net>

25 <https://drive.google.com/file/d/0B-uO-5PpIbrbамxLQXVSZXZIVDA/view?usp=sharing>

26 [https://www.irs.gov/pub/irs-soi/eo\\_or.csv](https://www.irs.gov/pub/irs-soi/eo_or.csv)

27 <http://www.communityix.org>

28 [https://www.irs.gov/pub/irs-soi/eo\\_va.csv](https://www.irs.gov/pub/irs-soi/eo_va.csv)

Under penalties of perjury, I declare that I have examined this information, including accompanying documents, and, to the best of my knowledge and belief, the information contains all the relevant facts relating to the request for information, and such facts are true, correct, and complete.

 02/24/2017

Richard Laager  
Chief Manager  
Midwest Internet Cooperative Exchange

Enclosures:

- Information Request Page 3 Declaration, signed and dated
- MICE Equipment diagram
- MICE website (front page)
- LinkedIn group (front page)
- UG 22 Attendance Sheet
- MICE Overview Presentation
- Seattle IX Form 1024 (pages 1-3)
- Seattle IX Exemption Letter
- Northwest Access Exchange Form 1024 (pages 1-3)

**Information Request  
First Request**

**Information we need to make our determination**

1. Please read the following Penalties of Perjury statement:

*Under penalties of perjury, I declare that I have examined this information, including accompanying documents, and, to the best of my knowledge and belief, the information contains all the relevant facts relating to the request for the information, and such facts are true, correct, and complete.*

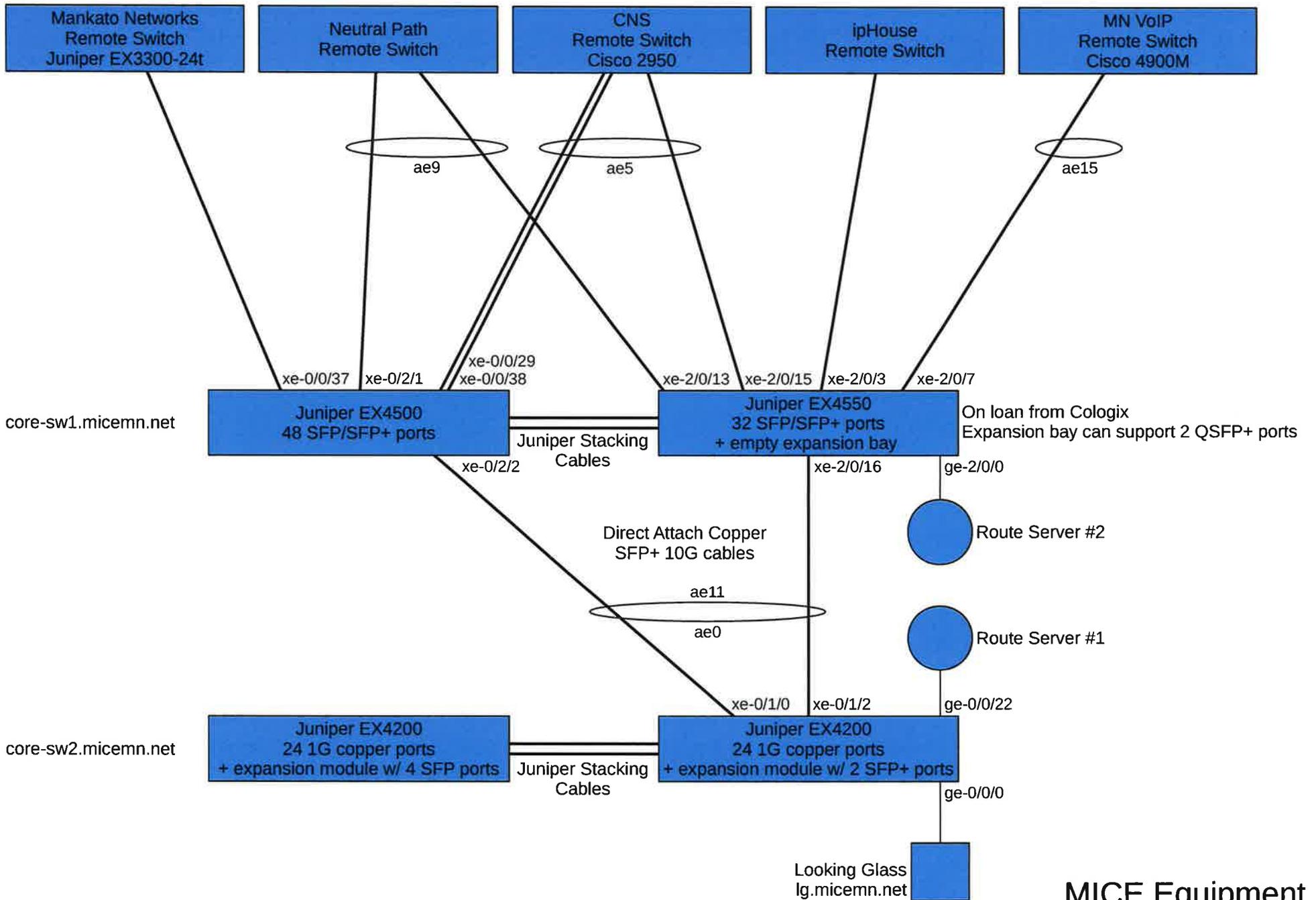
Then, please have a governing body member listed on page 2 of your application sign and date below, indicating you agree to the Declaration and return a copy with your response.

<u>Ruthal Saeger</u>	<u>Chief Manager</u>	<u>02/24/2017</u>
Name	Title	Date

**Please clearly label your response to the corresponding number and letter of the requested information. Please retain a complete copy of your response. Please do not use any staples or paperclips in your response.**

2. Before exemption may be granted we must be provided a detailed description of **each** of your past, present and future activities. In your description, please do not merely describe the purpose of the organization. Rather, describe the activities that your organization will initiate and/or participate in to fulfill your purpose. Please answer each of the bulleted questions for **each** activity:

- a. What does the activity entail?
- b. Who conducts the activity?
- c. Please provide the qualifications for individual conducting each activity.
- d. Where is the activity conducted?
- e. When is the activity conducted?
- f. How significant is the activity in relation to your total activities?
- g. Who may participate in the activity? Include any criterion for participants, such as age, membership status or occupation.
- h. Do officers, directors, employees or any others receiving money from the organization participate in the activity? If so, explain and include what percentage of participants they constitute.
- i. How are the participants selected?
- j. Is the activity advertised to the public? If so, how and please provide copies of advertisements.
- k. Is there a fee for participation in the activity? If so, provide a fee schedule.
- l. How does the activity further your exempt purpose of 501(c)(6) to be ?
- m. Does any individual receive income from this activity such as compensation or royalties? If so, please explain.
- n. Please explain how your organization is different from a for-profit providing similar services.



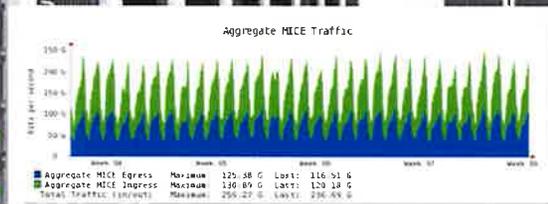
MICE Equipment  
w/ Remote Switches  
Dec 12, 2016 - micemn.net

# The Midwest Internet Cooperative Exchange is a Local Exchange Point located in Minneapolis, MN

If you represent a network interested in connecting, please [contact us](#) for details.

[Contact Us](#)

[Download a presentation](#)



## Upcoming Events

### MICE User Group 23

March 29, 9:30am to 11:00am, Hyatt Regency  
1300 Nicollet Mall, Minneapolis, MN

#### Events

MICE User Group 23  
March 29, 9:30am to 11:00am  
Hyatt Regency, 1300 Nicollet Mall

#### Links

MICE Traffic Stats  
Mailing List  
PeeringDB

#### Contact Us

[peering@micemn.net](mailto:peering@micemn.net)  
[LinkedIn Group](#)  
[Questions?](#)



# Midwest Internet Cooperative Exchange

238 members

[✓ Ask to join](#)

### ADMINS



**Jay Hanke**  
CTO Neutral Path Communications  
OWNER



**Mike Hemphill**  
Sales at Allied Generators, LLC



**Shaun Carlson**  
Director of Information Technology at...



**Reid Fishler**  
Director, Hurricane Electric



**Steve Howard**  
IT & Development Manager at Paul Bu...

### ABOUT THIS GROUP

This group is open to anyone working for or with an ISP, Content Provider, School or other entity interested in creating an exchange point in the Twin Cities.

[About](#) [Feedback](#) [Privacy & Terms](#)

LinkedIn Corp. © 2017

### YOUR CONNECTIONS



**Richard Laager**  
IT Manager at Wikstrom Telephone Co...

### MICE UG 22 Attendance

Name	ASN	Classification	Present (x)
<b>Voting Members</b>			
5 Nines	16842	Network	
702 Communications	15267	Network	
Acentek	40328	Network	
Advanced Integrated Tech	13746	Network	
Airstream	11796	Network	x
Akamai	20940	Network	
Arvig	16904	Network	x
Atomic Data	25694	Network	
Broadband Visions	25615	Network	x
CDW/Berbee	3599	Network	
Charter	20115	Network	
ClaimLynx	62708	Network	x
CloudFlare	13335	Network	
Code42	62715	Network	
Cologix		Colocation	x
CompuDyne	47096	Network	
Consolidated Communications	12042	Network	x
Cooperative Network Services (CNS)	32609	Network, Switch	x
CTC	64227	Network	
Dakota Carrier Network	26794	Network	
Emergent Networks	29762	Network	
Fastly	54113	Network	
Genesis Wireless/RevNetData	30032	Network	
Google	36040	Network	x
Great Plains Communications	13807	Network	
HBC	14828	Network	
HCMC	40413	Network	
Hoyos Consulting	53597	Network	x
Hurricane Electric	6939	Network	x
Implex	21709	Network	
Integra Telecom	7385	Network	
ipHouse	7753	Network	x
IVDesk	393639	Network	
Jaguar Communications	15011	Network	
LTD Broadband	394330	Network	
Long Lines	32867	Network	
Mammoth	10835	Network	
Mankato Networks	11839	Switch	
MDU Ethernet	13573	Network	
Minnesota VoIP	32621	Network	x
Monticello Fibernet (City of Monticello)	393466	Network	
MyTelepath	20338	Network	
NebraskaLink	16851	Network	
Netflix	2906	Network	
Neutral Path		Switch	x
New Core Wireless	27204	Network	
Nextera	22402	Network	
Northern Lights GigaPoP	57	Network, Switch	x
NU-Telecom	23465	Network	x
OneNetUSA	46131	Network	
Onvoy Voice Services	5715	Network	
Paul Bunyan Communications	14371	Network	x
Paragon	14505	Network	
Premier Communications	53347	Network	
Radio Link Internet	53301	Network	
Savage Communications	23260	Network	x
South Dakota Networks	13576	Network	
Stealth Broadband	395194	Network	
Stellar Association	36374	Network	
Supranet	4150	Network	x

Total Voting Members	71
Members Present	21
Quorum (10%)	30%
Participants	0
Pending Connections	1
Guests	2
<b>Total Present</b>	<b>24</b>





**MIDWEST INTERNET COOPERATIVE EXCHANGE**

# Midwest Internet Cooperative Exchange

- \* Purpose
- \* History
- \* Services
- \* Networks
- \* Progress
- \* What's next

# Purpose

- \* To improve Internet connectivity, increase performance and reduce cost by keeping traffic local in the upper Midwest

# History

- \* Steve Howard, Paul Bunyan Telephone, and Jay Hanke, Mankato Networks talked about workarounds to the “Chicago Problem”
- \* The only viable solution is to create an Internet Exchange Point in the upper Midwest
- \* After leaving the meeting, a LinkedIn group was created and invitations were sent out to our connections

## History Part 2

- \* An informal meeting was scheduled July 29 and a steering committee was appointed (Dave Farmer, Mike Horwath, Jay Hanke)
- \* The steering committee created an Operations and Technical committee
- \* FWR Communications donated space and power in the 511 building in Downtown Minneapolis
- \* CNS and ipHouse donated use of switching hardware

# Services

- \* Bilateral peering- traffic exchanged directly between two members of the exchange over the shared exchange fabric
- \* Multilateral peering- Traffic exchanged directly between members wishing to peer directly with any carrier
- \* Direct CDN access- initially Akamai working on Limelight and Google

# Networks

## LOI received

- \* ipHouse
- \* Avant Garde
- \* Twin Cities VoIP
- \* myTelepath
- \* Cooperative Network Services
- \* WIN

## Interested/Meeting Participants

- \* Enventis
- \* Zayo
- \* SDN
- \* SHAL (Windstream)
- \* TDS/Visi
- \* CDW
- \* U of M
- \* Citilink
- \* Selloxx
- \* Jaguar Communications
- \* New Ulm Telephone

# Progress

- \* Minnesota Non Profit LLC created
- \* Space and Power agreements signed
- \* Power is installed
- \* Switching hardware ready to be installed after power

# What's Next

- \* We need IP address space!
  - \* Hoping for donation of cash to acquire IPv4 and IPv6 space from ARIN
- \* Route Server
  - \* We have commitments to donate two servers for use as route servers, we need IP address space and ASN assigned before deployment

## Application for Recognition of Exemption Under Section 501(a)

OMB No. 1545-0057

If exempt status is approved,  
 this application will be open  
 for public inspection.

Read the instructions for each Part carefully. **A User Fee must be attached to this application.**  
 If the required information and appropriate documents are not submitted along with Form 8718 (with payment  
 of the appropriate user fee), the application may be returned to the organization.

**Complete the Procedural Checklist on page 6 of the instructions.**

**Part I. Identification of Applicant** (Must be completed by all applicants; also complete appropriate schedule.)  
 Submit only the schedule that applies to your organization. Do not submit blank schedules.

Check the appropriate box below to indicate the section under which the organization is applying:

- a  Section 501(c)(2)—Title holding corporations (Schedule A, page 7)
- b  Section 501(c)(4)—Civic leagues, social welfare organizations (including certain war veterans' organizations), or local associations of employees (Schedule B, page 8)
- c  Section 501(c)(5)—Labor, agricultural, or horticultural organizations (Schedule C, page 9)
- d  Section 501(c)(6)—Business leagues, chambers of commerce, etc. (Schedule C, page 9)
- e  Section 501(c)(7)—Social clubs (Schedule D, page 11)
- f  Section 501(c)(8)—Fraternal beneficiary societies, etc., providing life, sick, accident, or other benefits to members (Schedule E, page 13)
- g  Section 501(c)(9)—Voluntary employees' beneficiary associations (Parts I through IV and Schedule F, page 14)
- h  Section 501(c)(10)—Domestic fraternal societies, orders, etc., not providing life, sick, accident, or other benefits (Schedule E, page 13)
- i  Section 501(c)(12)—Benevolent life insurance associations, mutual ditch or irrigation companies, mutual or cooperative telephone companies, or like organizations (Schedule G, page 15)
- j  Section 501(c)(13)—Cemeteries, crematoria, and like corporations (Schedule H, page 16)
- k  Section 501(c)(15)—Mutual insurance companies or associations, other than life or marine (Schedule I, page 17)
- l  Section 501(c)(17)—Trusts providing for the payment of supplemental unemployment compensation benefits (Parts I through IV and Schedule J, page 18)
- m  Section 501(c)(19)—A post, organization, auxiliary unit, etc., of past or present members of the Armed Forces of the United States (Schedule K, page 19)
- n  Section 501(c)(25)—Title holding corporations or trusts (Schedule A, page 7)

<b>1a</b> Full name of organization (as shown in organizing document)  <b>Seattle Internet Exchange, Inc.</b>	<b>2</b> Employer identification number (EIN) (if none, see <b>Specific Instructions</b> on page 2)  <b>91 : 2148657</b>	
<b>1b</b> c/o Name (if applicable)  	<b>3</b> Name and telephone number of person to be contacted if additional information is needed  <b>Chris Caputo</b>  <b>( 206 ) 367-4320</b>	
<b>1c</b> Address (number and street) <b>10115 Greenwood Ave N 294</b>		Room/Suite 
<b>1d</b> City, town or post office, state, and ZIP + 4 If you have a foreign address, see <b>Specific Instructions</b> for Part I, page 2. <b>Seattle, WA 98133-9197</b>		
<b>1e</b> Web site address <b>http://www.seattleix.net/</b>	<b>4</b> Month the annual accounting period ends <b>December</b>	<b>5</b> Date incorporated or formed <b>May 22, 2001</b>

**6** Did the organization previously apply for recognition of exemption under this Code section or under any other section of the Code?  Yes  No  
 If "Yes," attach an explanation.

**7** Has the organization filed Federal income tax returns or exempt organization information returns?  Yes  No  
 If "Yes," state the form numbers, years filed, and Internal Revenue office where filed.

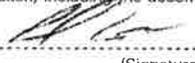
**8** Check the box for the type of organization. ATTACH A CONFORMED COPY OF THE CORRESPONDING ORGANIZING DOCUMENTS TO THE APPLICATION BEFORE MAILING.

- a  Corporation— Attach a copy of the Articles of Incorporation (including amendments and restatements) showing approval by the appropriate state official; also attach a copy of the bylaws.
- b  Trust— Attach a copy of the Trust Indenture or Agreement, including all appropriate signatures and dates.
- c  Association— Attach a copy of the Articles of Association, Constitution, or other creating document, with a declaration (see instructions) or other evidence that the organization was formed by adoption of the document by more than one person. Also include a copy of the bylaws.

If this is a corporation or an unincorporated association that has not yet adopted bylaws, check here

I declare under the penalties of perjury that I am authorized to sign this application on behalf of the above organization, and that I have examined this application, including the accompanying schedules and attachments, and to the best of my knowledge it is true, correct, and complete.

**PLEASE SIGN HERE**

  
 \_\_\_\_\_  
 (Signature)

**Chris Caputo, Secretary/Treasurer**  
 \_\_\_\_\_  
 (Type or print name and title or authority of signer)

**7/3/2008**  
 \_\_\_\_\_  
 (Date)

**Part II. Activities and Operational Information** (Must be completed by all applicants)

- 1 Provide a detailed narrative description of all the activities of the organization—past, present, and planned. Do not merely refer to or repeat the language in the organizational document. List each activity separately in the order of importance based on the relative time and other resources devoted to the activity. Indicate the percentage of time for each activity. Each description should include, as a minimum, the following: (a) a detailed description of the activity including its purpose and how each activity furthers your exempt purpose; (b) when the activity was or will be initiated; and (c) where and by whom the activity will be conducted.

**Since its inception in 1997 and its incorporation in 2001, the Seattle Internet Exchange (SIX) through its volunteers have operated an Internet exchange point in the city of Seattle, Washington.**

**An Internet exchange point (IX or IXP) is a physical infrastructure that allows different Internet Service Providers (ISPs) to exchange Internet traffic between their networks by means of mutual peering agreements, which allow traffic to be exchanged without cost or at low cost. IXPs reduce the portion of an ISP's traffic which must be delivered via their upstream transit providers, thereby reducing the cost of their service. In addition, the increased number of paths learned through the IXP improves routing efficiency and fault-tolerance, thus providing a direct benefit to the consumers that receive Internet service from the participating ISPs.**

**For example, by virtue of the SIX, a King County Library patron browsing a news article on the Seattle Times web site will experience very fast web browsing as a result of Internet traffic staying entirely in the Seattle area, rather than having to traverse network interconnections in the Bay Area of California. (King County is a member of the SIX. The Seattle Times is a customer of a member of the SIX.)**

**The physical infrastructure of the SIX consists of a network switch which passes IPv4 and IPv6 Internet Protocol packets between member participants. The network switch is located in the Westin Office Building in Seattle, Washington in a rack provided at no cost by the building management. Electricity and cooling is provided at no cost by the building management and by other tenants. The primary method for connection to the SIX is via fiber optic cable.**

**The SIX welcomes as members all legal entity types: Government, non-government, educational, for-profit, non-profit, etc.**

**At present the SIX does not charge membership fees and is run entirely by unpaid volunteers. Members and interested parties contribute equipment and money as needed to maintain the service. New members are required to provide the equipment necessary to facilitate their connection or cash equivalent.**

**The SIX holds an annual membership meeting every April. During this meeting a Board of Directors is elected. Following the annual membership meeting, the new Board of Directors elects the officers for the organization.**

**All member and director meeting minutes, along with annual finance reports, are posted publicly on the SIX web site at "<http://www.seattleix.net/docs/>".**

- 2 List the organization's present and future sources of financial support, beginning with the largest source first.

**The SIX does not charge membership fees. Members and interested parties contribute equipment and money as needed to maintain the service. New members are required to provide the equipment necessary to facilitate their connection or cash equivalent.**

**Past sources of large financial, equipment or technical support has been from Cisco Systems, Packet Clearing House, Time Warner Telecom, Integra Telecom, Sixth & Virginia Properties, Akamai Technologies, Limelight Networks, Hurricane Electric, Microsoft Corporation, Semaphore Corporation, ColoCenters, Swift Communications, Shaw Cablesystems, Northwest Open Access Network, EarthLink, Inc. and Speakeasy Inc.**

**Our complete list of donors and their contributions is publicly maintained at "<http://www.seattleix.net/contrib.htm>".**

**Part II. Activities and Operational Information** (continued)

3 Give the following information about the organization's governing body:

a Names, addresses, and titles of officers, directors, trustees, etc.	b Annual compensation
<b>Nikos Mouat, President and Director</b> <b>20853 SE 123rd Street, Issaquah, WA 98027-8527</b>	<b>\$0</b>
<b>Jared Reimer, Vice President and Director</b> <b>PO Box 1644, Mercer Island, WA 98040-1644</b>	<b>\$0</b>
<b>Chris Caputo, Secretary/Treasurer and Director</b> <b>10115 Greenwood Ave N PMB 293, Seattle, WA 98133-9197</b>	<b>\$0</b>
<b>Troy Davis, Director</b> <b>PO Box 85694, Seattle, WA 98145-1694</b>	<b>\$0</b>
<b>Patrick Gilmore, Director</b> <b>307 Thacher Street, Milton, MA 02186-3247</b>	<b>\$0</b>

4 If the organization is the outgrowth or continuation of any form of predecessor, state the name of each predecessor, the period during which it was in existence, and the reasons for its termination. Submit copies of all papers by which any transfer of assets was effected.  
**N/A**

5 If the applicant organization is now, or plans to be, connected in any way with any other organization, describe the other organization and explain the relationship (e.g., financial support on a continuing basis; shared facilities or employees; same officers, directors, or trustees).  
**N/A**

6 If the organization has capital stock issued and outstanding, state: (1) class or classes of the stock; (2) number and par value of the shares; (3) consideration for which they were issued; and (4) if any dividends have been paid or whether your organization's creating instrument authorizes dividend payments on any class of capital stock.  
**N/A**

7 State the qualifications necessary for membership in the organization; the classes of membership (with the number of members in each class); and the voting rights and privileges received. If any group or class of persons is required to join, describe the requirement and explain the relationship between those members and members who join voluntarily. Submit copies of any membership solicitation material. Attach sample copies of all types of membership certificates issued.  
**A member shall be an operator of an Internet Protocol network which has one or more direct connections to the Seattle Internet Exchange switch fabric. A member may be elected or appointed to membership by the directors. There is one class of membership with 105 members. Each member is entitled to one vote per issue at member meetings and one vote per director position at director elections. There are no membership certificates or solicitation material.**

8 Explain how your organization's assets will be distributed on dissolution.  
**After payment of all debts and liabilities, remaining assets shall be distributed to an organization or organizations, as determined by the directors, to be used exclusively to accomplish the purposes for which the corporation is organized, or to be used for the provision of Internet access services for any non-profit organizations or any schools, libraries or health care institutions.**

INTERNAL REVENUE SERVICE  
P. O. BOX 2508  
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: **SEP 11 2008**

SEATTLE INTERNET EXCHANGE INC  
10115 GREENWOOD AVE N 294  
SEATTLE, WA 98133-9197

Employer Identification Number:  
91-2148657  
DLN:  
17053190357008  
Contact Person:  
WINNIE W LEE ID# 31208  
Contact Telephone Number:  
(877) 829-5500  
Accounting Period Ending:  
December 31  
Form 990 Required:  
Yes  
Effective Date of Exemption:  
May 22, 2001  
Contribution Deductibility:  
No

Dear Applicant:

We are pleased to inform you that upon review of your application for tax-exempt status we have determined that you are exempt from Federal income tax under section 501(c)(6) of the Internal Revenue Code. Because this letter could help resolve any questions regarding your exempt status, you should keep it in your permanent records.

Please see enclosed Information for Organizations Exempt Under Sections Other Than 501(c)(3) for some helpful information about your responsibilities as an exempt organization.

Sincerely,



Robert Choi  
Director, Exempt Organizations  
Rulings and Agreements

Enclosure: Information for Organizations Exempt Under Sections Other Than 501(c)(3)

# Application for Recognition of Exemption Under Section 501(a)

If exempt status is approved, this application will be open for public inspection.

Read the instructions for each Part carefully. **A User Fee must be attached to this application.** If the required information and appropriate documents are not submitted along with Form 8718 (with payment of the appropriate user fee), the application may be returned to the organization.

**Complete the Procedural Checklist on page 6 of the instructions.**

**Part I. Identification of Applicant** (Must be completed by all applicants; also complete appropriate schedule.)  
 Submit only the schedule that applies to your organization. Do not submit blank schedules.

Check the appropriate box below to indicate the section under which the organization is applying:

- a  Section 501(c)(2)—Title holding corporations (Schedule A, page 7)
- b  Section 501(c)(4)—Civic leagues, social welfare organizations (including certain war veterans' organizations), or local associations of employees (Schedule B, page 8)
- c  Section 501(c)(5)—Labor, agricultural, or horticultural organizations (Schedule C, page 9)
- d  Section 501(c)(6)—Business leagues, chambers of commerce, etc. (Schedule C, page 9)
- e  Section 501(c)(7)—Social clubs (Schedule D, page 11)
- f  Section 501(c)(8)—Fraternal beneficiary societies, etc., providing life, sick, accident, or other benefits to members (Schedule E, page 13)
- g  Section 501(c)(9)—Voluntary employees' beneficiary associations (Parts I through IV and Schedule F, page 14)
- h  Section 501(c)(10)—Domestic fraternal societies, orders, etc., not providing life, sick, accident, or other benefits (Schedule E, page 13)
- i  Section 501(c)(12)—Benevolent life insurance associations, mutual ditch or irrigation companies, mutual or cooperative telephone companies, or like organizations (Schedule G, page 15)
- j  Section 501(c)(13)—Cemeteries, crematoria, and like corporations (Schedule H, page 16)
- k  Section 501(c)(15)—Mutual insurance companies or associations, other than life or marine (Schedule I, page 17)
- l  Section 501(c)(17)—Trusts providing for the payment of supplemental unemployment compensation benefits (Parts I through IV and Schedule J, page 18)
- m  Section 501(c)(19)—A post, organization, auxiliary unit, etc., of past or present members of the Armed Forces of the United States (Schedule K, page 19)
- n  Section 501(c)(25)—Title holding corporations or trusts (Schedule A, page 7)

<b>1a</b> Full name of organization (as shown in organizing document)  <b>Northwest Access Exchange, Inc.</b>	<b>2</b> Employer identification number (EIN) (if none, see <b>Specific Instructions</b> on page 2)  <b>46 : 3292198</b>			
<b>1b</b> c/o Name (if applicable)	<b>3</b> Name and telephone number of person to be contacted if additional information is needed  <b>Eric Rosenberry</b>  <b>( 503 ) 348-3625</b>			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>1c</b> Address (number and street) <b>921 SW Washington</b></td> <td style="width: 50%;"><b>Room/Suite</b> <b>101</b></td> </tr> </table>		<b>1c</b> Address (number and street) <b>921 SW Washington</b>	<b>Room/Suite</b> <b>101</b>	
<b>1c</b> Address (number and street) <b>921 SW Washington</b>		<b>Room/Suite</b> <b>101</b>		
<b>1d</b> City, town or post office, state, and ZIP + 4 If you have a foreign address, see <b>Specific Instructions</b> for Part I, page 2. <b>Portland, OR 97205</b>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"><b>1e</b> Web site address <b>http://www.nwax.net/</b></td> <td style="width: 33%;"><b>4</b> Month the annual accounting period ends <b>December</b></td> <td style="width: 33%;"><b>5</b> Date incorporated or formed <b>7/25/13</b></td> </tr> </table>	<b>1e</b> Web site address <b>http://www.nwax.net/</b>	<b>4</b> Month the annual accounting period ends <b>December</b>	<b>5</b> Date incorporated or formed <b>7/25/13</b>	
<b>1e</b> Web site address <b>http://www.nwax.net/</b>	<b>4</b> Month the annual accounting period ends <b>December</b>	<b>5</b> Date incorporated or formed <b>7/25/13</b>		

**6** Did the organization previously apply for recognition of exemption under this Code section or under any other section of the Code?  Yes  No  
 If "Yes," attach an explanation.

**7** Has the organization filed Federal income tax returns or exempt organization information returns?  Yes  No  
 If "Yes," state the form numbers, years filed, and Internal Revenue office where filed.

**8** Check the box for the type of organization. ATTACH A CONFORMED COPY OF THE CORRESPONDING ORGANIZING DOCUMENTS TO THE APPLICATION BEFORE MAILING.

- a  **Corporation**— Attach a copy of the Articles of Incorporation (including amendments and restatements) showing approval by the appropriate state official; also attach a copy of the bylaws.
- b  **Trust**— Attach a copy of the Trust Indenture or Agreement, including all appropriate signatures and dates.
- c  **Association**— Attach a copy of the Articles of Association, Constitution, or other creating document, with a declaration (see instructions) or other evidence that the organization was formed by adoption of the document by more than one person. Also include a copy of the bylaws.

If this is a corporation or an unincorporated association that has not yet adopted bylaws, check here

I declare under the penalties of perjury that I am authorized to sign this application on behalf of the above organization, and that I have examined this application, including the accompanying schedules and attachments, and to the best of my knowledge it is true, correct, and complete.

**PLEASE SIGN HERE**

  
 (Signature)

**Eric Rosenberry, President**  
 (Type or print name and title or authority of signer)

**09/04/2013**  
 (Date)

**Part II. Activities and Operational Information (Must be completed by all applicants)**

- 1 Provide a detailed narrative description of all the activities of the organization—past, present, and planned. Do not merely refer to or repeat the language in the organizational document. List each activity separately in the order of importance based on the relative time and other resources devoted to the activity. Indicate the percentage of time for each activity. Each description should include, as a minimum, the following: (a) a detailed description of the activity including its purpose and how each activity furthers your exempt purpose; (b) when the activity was or will be initiated; and (c) where and by whom the activity will be conducted.

Over the past ten years there has been a collaboration between Oregon Health & Science University ("OHSU") and Portland State University ("PSU") to provide Internet Exchange (IX or IXP) services in Portland, Oregon so it was not necessary for Internet traffic to leave the state and then return to the state in order to travel between two end users (or servers) within the state.

While OHSU and PSU were instrumental in setting up this successful Internet Exchange and operating it for the last ten years, it has not been a core focus of either entity. In order for the exchange to flourish and grow, Northwest Access Exchange, Inc. ("NWAX") was formed to take over the operation of the exchange. NWAX is modeled after the successful Seattle Internet Exchange 501(c)(6).

An Internet exchange point is a physical infrastructure that allows different Internet Service Providers (ISPs) to exchange Internet traffic between their networks by means of mutual peering agreements, which allow traffic to be exchanged without cost or at low cost. IXPs reduce the portion of an ISP's traffic which must be delivered via their upstream transit providers, thereby reducing the cost of their service. In addition, the increased number of paths learned through the IXP improves routing efficiency and fault-tolerance, thus providing a direct benefit to the consumers that receive Internet service from the participating ISPs.

For example, by virtue of NWAX's Internet exchanges, a patient at a rural healthcare clinic in Oregon will be able to see a specialist in Portland via a video conference with the highest video/audio quality and lowest latency (delay) possible, as the traffic does not need to be transmitted to Seattle or the Bay Area (as is otherwise typical) in order to hop from the rural healthcare clinic's ISP to the ISP of the Portland specialist. That traffic can instead go directly from the rural healthcare clinic's ISP to the specialist in Portland.

The physical infrastructure of NWAX consists of a series of network switches that pass IPv4 and IPv6 Internet Protocol packets between member participants. The network switches are located in Portland, Oregon.

NWAX welcomes as members all legal entity types, including government, private, educational, for-profit, and non-profit entities.

The current intention of NWAX is to operate the exchange with unpaid volunteers to keep overhead costs as low as possible. Funding for the exchange will come from its members in the form of one time fees when members connect or upgrade their connection speeds, and/or ongoing service fees for being connected to the exchange. Donations of equipment/cash to operate the exchange will also be accepted from its members.

NWAX will hold an annual membership meeting every November. During the annual meeting, a Board of Directors will be elected. Following the annual membership meeting, the new Board of Directors will hold its meeting to elect the officers for the organization and transact other business of the organization.

All corporate documents, including member and director meeting minutes, along with annual financial reports, will be posted publicly on NWAX's website at "<http://www.nwax.net/>."

- 2 List the organization's present and future sources of financial support, beginning with the largest source first.

NWAX may receive a donation of funds, hardware, domain names, and IP address space from OHSU. The primary form of financial support will come from fees charged to members to connect to the exchange. NWAX anticipates receiving donations of funds, equipment, and technical support from members and other entities. NWAX may receive the following donations: The Pittock Building may donate space/power/cross connects, Dyn may donate DNS hosting, Clackamas ESD may donate serial console, and Spectrum may donate switches.

**Part II. Activities and Operational Information (continued)**

3 Give the following information about the organization's governing body:

a Names, addresses, and titles of officers, directors, trustees, etc.	b Annual compensation
Leif Hansen, Director, 921 SW Washington St., Ste 370, Portland, OR 97205	\$0
Martin J. Levy, Director, 760 Mission Court, Fremont, CA 94539	\$0
Paul Matthews, Director, 1881 SW Naito Parkway, Portland, OR 97201	\$0
Jeremy Pietzold, Director, 13455 SE 97th Ave., Clackamas, OR 97015	\$0
Eric Rosenberry, President and Director, 20688 SW Longacre St., Beaverton, OR 97006	\$0
Courtney Stennick, Secretary, 1881 SW Naito Parkway, Portland, OR 97201	\$0

4 If the organization is the outgrowth or continuation of any form of predecessor, state the name of each predecessor, the period during which it was in existence, and the reasons for its termination. Submit copies of all papers by which any transfer of assets was effected.

**Over the past ten years there has been a collaboration between OHSU and PSU to provide Internet exchange services in Portland, Oregon so it was not necessary for Internet traffic to leave the state and then return to the state in order to travel between two end users (or servers) within the state. The financial operations for this service have been overseen by OHSU. However, the Internet exchange is not the core focus of either OHSU or PSU. In order for the exchange to flourish and grow, NWAX was formed to take over the operation of the exchange. No assets have been transferred as of the date of this application.**

5 If the applicant organization is now, or plans to be, connected in any way with any other organization, describe the other organization and explain the relationship (e.g., financial support on a continuing basis; shared facilities or employees; same officers, directors, or trustees).

**N/A**

6 If the organization has capital stock issued and outstanding, state: (1) class or classes of the stock; (2) number and par value of the shares; (3) consideration for which they were issued; and (4) if any dividends have been paid or whether your organization's creating instrument authorizes dividend payments on any class of capital stock.

**N/A**

7 State the qualifications necessary for membership in the organization; the classes of membership (with the number of members in each class); and the voting rights and privileges received. If any group or class of persons is required to join, describe the requirement and explain the relationship between those members and members who join voluntarily. Submit copies of any membership solicitation material. Attach sample copies of all types of membership certificates issued.

**The organization has one class of members. A member must be an operator of an Internet Protocol network that has one or more direct connections to the organization's switches. Members are selected to membership by the Board of Directors of the organization. Each member is entitled to one vote with respect to an issue submitted to the members and one vote per director position at director elections. There are no membership certificates or solicitation material.**

8 Explain how your organization's assets will be distributed on dissolution.

**On the dissolution of the organization, the assets remaining after payment, or provision for payment, of all debts and liabilities of the corporation, will be distributed to an organization or organizations, as determined by the Board of Directors, to be used exclusively to accomplish the purposes for which the organization is organized, or to be used for the provision of Internet access services for any nonprofit organizations or any schools, libraries, or health care institutions.**