

Why Should I Care If My House Has Fiber?



By Jim Hickle, President of Gigabit Minnesota

I have been talking to many Evermoor residents over the last year and a half and have heard a number of positive comments about what we are doing in Evermoor. Like the women who walked in when my wife was getting a Mani/Pedi at Moon Nails and told my wife how much she loved her husband's company, "Giga Something Minnesota." I still laugh at that. But, I have also heard some people say that having fiber in their home really does not matter.

As a Rosemount resident who lived here when the kids in Shannon Park sang about their school being surrounded by sheep instead of homes and following the development of Fiber to the Home services since the early 2000s, I must say that the original reason to put fiber into your homes may be lost on many of the new and current home owners. If I told you that fiber made your home worth \$5,000.00 more would you be surprised? That number comes from a national study and is based on a \$175,000.00 priced home. I know there are very few (if any) \$175,000.00 homes in Evermoor, so that \$5,000.00 may be double or triple that in Evermoor. Even if you don't think this is true, the original developer of Evermoor who built your home did invest at least this much and probably more into each home and yes you or the original owner of your home paid that cost to live in Evermoor.

The problem with the original Evermoor Fiber to the Home is that people did not really need fiber back then, and the developer and subsequent two owners of FTTH provided "Me Too" or basic Internet services versus the fiber based services we are now offering to you, the residents of Evermoor. So the question is: Do you need Fiber now? The short answer is yes and now I will try to provide you the long answer. I am making the assumption that ALL of you NEED to be connected to the Internet. If you don't need the Internet at all, you can stop reading here and I'll be happy to do a course on why we all NEED the Internet today sometime soon.

I will just focus on the three ways to get Internet wired to your home. Before these three technologies, there was Dial-up Internet and I am kind of an expert on that as our previous business was Dial-up Internet under our US Family.net umbrella. I know some of you still remember the "Dial-up connection tones" and yes we still have dial-up customers today.

I will also get into the benefits of a wired versus wireless connection briefly later in this article as there are many benefits to a wired connection, especially a fiber connection. If you want more information, you can call me and we can talk about why Fiber makes your wireless service work and how it will continue to be the medium that makes everything faster.

Here is a brief summary of the differences between the various current technologies you can use to connect to the Internet:

TYPE OF SERVICE/FEATURE	DSL	CABLE	GIGABIT FIBER
Typical Max Download Speed	1-20Mbps varies by distance and conditions	30-60Mbps varies by neighborhood load	70-100Mbps selectable
Reliability	Below average	Depends on network usage	Most reliable service
Technology	Oldest	Aging	The future!
Typical Max Upload Speed	25-1Mbps	4Mbps	20-30Mbps selectable
Speed Growth Potential	Mixed and slow	Approaching max	Unlimited
Typical Latency to Internet Backbone	30+Mbps	20Mbps	2Mbps
Service	Not local! Poor reputation in the industry	Not local! Worst reputation in the industry	Excellent! 18 year local reputation
Home Value	A negative for new buyers	No impact	Adds up to \$5000 to a home's resale value! Equal to a fireplace or hot tub!

DSL is the oldest technology used to get the Internet after Dial-up. This service is currently described as an "End of Life" service and is severely affected by distance. That is why the speeds vary so much and are not consistent. It has two benefits. The infrastructure (wire) is in the ground and it is a dedicated service to the user. The detriments are many. Some of that wire has been in the ground for 100 years and should be replaced. Here is a picture of a copper cable we pulled out of the ground and replaced with fiber next to it:

Just from looking at the picture, you can see why water, lightning, and electricity all affect that service plus the fact that the

copper wire will interfere with the data transmissions going over each wire. The fiber cable sitting next to this has literally unlimited potential. If the single fiber is full, I can put another color on that same fiber and double its capacity.



Cable Broadband has the capability to provide faster speeds than DSL, but the biggest difference is that it is a shared service. The original design of the cable network was to push one-way traf-

fic (TV/Video) from a main point (headend) out to all end points (homes). They re-engineered this one-way network to handle two-way traffic. The biggest detriment to this network is that it is a shared network. In other words, all your neighbors share this network. So if you and all your neighbors are using the Internet at the same time, you will experience congestion and everyone will slow down. This includes the number of devices you may be using in your own home. The more devices, the slower the network will go.

The same is true of wireless networks. The more wireless networks, the more collisions, and the slower the wireless network will be. That is why a home like yours in Evermoor with internal Ethernet cabling and connected to fiber is the fastest most reliable connection you can have to the Internet. Technology has still not found the maximum speed of a fiber connection. It is the Speed of Light! What limits fiber is the terminating equipment that is used on the fiber.

The original equipment used in Evermoor has a maximum speed of 20Mbps. The second type of equipment deployed in Evermoor had a maximum speed of 40Mbps. The third type of equipment deployed in Evermoor had a max speed of 100Mbps. We are now deploying equipment capable of 1000Mbps or Gigabit speed to the home to go along with our 10,000Mbps fiber backbone in Rosemount.

So when you want the faster speeds we are now offering, we need to deploy new equipment. Our base price to provide any Internet service is \$49.95 per month and limited to the speed your equipment is capable of providing. If you do not want to upgrade, you will keep that price and you will keep the speed you currently have. If you want to upgrade, you need to increase your cost to our 100Mbps service or pay an upgrade fee. This fee could be our \$99.00 install fee if we can do you and all your neighbors around you or it could be a \$400.00 one time cost if you are the only one being upgraded. That is why we are offering the 100Mbps service at a special price in March of \$79.95/mo with no install to encourage all of you to upgrade and invest in your home and neighborhood now.

It is not a question of if you will need 100Mbps service. It is a question of when you will need 100Mbps service and faster at your home. There are many new services coming into the market that require faster speeds. Ultra-High Definition TV to name just one that is starting to make news. Here is a chart from the State

of Minnesota's Broadband Task Force showing what is speed is needed for various activities:

I was talking with one of your former Board Presidents and he was telling me that the DSL connection he had has been fine for years, but now since all the kids have cell phones and iPads the DSL connection is just too slow. It's time to up the speed! We hope to show you all the fun things you can do to your home with a faster more reliable Internet connection.

Application (one activity at a time)	Data Rate Required
Personal Communications, Instant Messengers	300 bps to 9.6 kbps
Remote control programs	9.6 kbps to 56 kbps
Streaming radio	Less than 0.5 Mbps
Phone calls (VoIP)	Less than 0.5 Mbps
E-mail	0.5 Mbps
Web browsing: job searching, navigating government websites	0.5 Mbps
Database query	Up to 1 Mbps
Web browsing: Interactive pages and short educational videos	1 Mbps
Basic video conferencing	1 Mbps
Game console connecting to the Internet	1 Mbps
Skype HD video calling	1.5 Mbps symmetrical
Download a 1 MB book in 2.7 seconds or a 4 MB song in 10.7 seconds or a 6144 MB movie in 4 hours and 33 minutes	1.5 to 3 Mbps
Digital audio	1-2 Mbps
Access images	1-8 Mbps
Skype group video-3 people	2 Mbps download/512kbps upload
Compressed video	2-10 Mbps
HD quality video streaming/HD video conferencing/telelearning	4 Mbps
Two-way online gaming in HD	4 Mbps
Skype group video-5 people	4 Mbps download/512 kbps upload
Netflix recommended download speed for HD	5 Mbps
Skype group video-7+ people	8 Mbps download/512 kbps upload
Telecommuting (high quality video)	10 Mbps to 100 Mbps
Netflix recommended download speed for Ultra HD	25 Mbps
Medical Transmissions (At 50Mbps, a digital chest film takes 3 seconds, an MRI takes 30.5 seconds, an echocardiogram study takes 10.1 minutes)	Up to 50 Mbps
Download a 1 MB book in 0.1 seconds, or a 4 MB song in 0.3 seconds or a 6144 MB movie in 8 minutes	50 to 100 Mbps

I hope from this short article, you can see why you should care if your home is connected to fiber. I'm happy to talk with you anytime. Please give me a call anytime at (763) 222-1004 or drop me an email at jim.hickle@gigabitmn.com.

Admit One Home Systems is a full service home technology systems provider. We work with companies like Gigabit MN to provide solutions in homes and businesses. Our services include Home Automation, Audio/Video, Home Theater, Networks, Lighting Control, and Security. We at Admit One appreciate a dedicated hometown company like Gigabit that provides excellent customer support and service. In our experience, it's much easier doing business with a local company, rather than a large national provider. Admit One understands how connected we are in today's homes - and the importance of needing a solid, reliable Internet connection. We are a connected society - from our mobile devices to streaming content, we all rely on internet connectivity. *We at Admit One can work with you in providing a solid network within your home to provide enough throughput and wireless coverage to handle your family's needs. Please contact me directly to discuss your home technology needs-John Svobodny, 612-850-9884 or john@admitonesystems.com*