

## Internet speeds - Truth and Myths and Overkill

### Overkill Internet Speeds | Tech Tips Podcast by PcCG

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Often I am at a client's home, and I run a speedtest on their internet. I get results that are outstanding; but perhaps a bit overkill.

Find your internet speed: [Speedtest.net](#) [2] or [Xfintiy Speed Test](#)

*\* [3]Note: These speed tests usually give you somewhat accurate information, however, other factors may be involved. Things such as your [wifi connection strength](#) [4], or [computer's overall performance](#) [5] may result in the speedtest result being lower than it actually is.*

#### **Average Home Speed Recommendations (Opinion)**

Bad	Acceptable	Good
Less than 15Mb/s	15-30Mb/s	35-50Mb/s

ISP's try to up-sell their service, offering the more expensive internet services at premium rates. But will you see difference? Most of the time the answer is sadly, no--you are just paying them more money.

While the speeds are indeed faster; unless you are hosting web servers, running an office of 10+ employees, or watching HD Netflix on 5 TV's all at the same time--that excess speed is doing nothing for you.

It won't help you browse the web faster, and it won't make your gaming any faster (this is one of the big false selling points). It will help you download big files a bit more quickly... which the average person does very rarely.

An analogy I use is: I have a mustang. My mustang can do 150MPH, (and the tachometer only gets to about 4.5K while doing that!) but I don't find myself driving those speeds on a daily basis. So using my Ford Edge as my daily car is not really causing me to get from point A to B any slower.

First, let's define terms and clear up commonly misused metrics. Internet bandwidth is traditionally measured in MegaBITS per second (Mb/s). We also have MegaBYTES per second (MB/s <- notice with a capital B.) One Megabyte (MB) equals 8 Megabits (Mb). To help you remember, perhaps think about eating: you take a big BITE (BYTE), or you nibble on bits (bits being the smaller one). So, if the support tech on the phone tells you the speed is 50 MegaBYTES per second, they are likely way off. They just told you that your home internet speed is 400Megabit per second. So remember, megabit (Mb) per second is the traditional internet measurement. Megabytes (MB) per second (8 times larger) is usually used for stroage space.

***For the average home, in my opinion, your speed should be between 35-50Mb/s. There may be situations where this number changes... but a 35Mb/s connection does everything most users would like, very nicely.***

So, if you find yourself paying more for your internet, see if you can cut back to the 35-50 Mb/s range. The worst that will happen is you decide it really is slower and you call the company back and have them up the speed again. I'd bet, however, that 90% of people find that there is no difference

in daily use at the lower speeds.

If you are getting twice the speed for \$5 more a month, I'd stick with that deal. But if your 100 Mb/s internet costs \$20 more a month compared to 50 Mb/s, try downgrading and see how that works. ISP's are constantly trying to up-sell customers to the higher speeds. They do this because, generally speaking, it costs them absolutely nothing and brings in more \$\$\$ (Almost all internet speeds are artificially limited by a configuration file on your modem that says "Don't go faster than X speed.") For most people, you'll notice no difference--so why pay more? Once or twice per year, you may have a very big download that takes an extra couple minutes. But, I'd venture to say that's it's not worth \$240 per year.

Now if your speed is below 15 Mb/s, it's perhaps time to upgrade to Cable or U-verse or Fiber (Check out our [Metronet Review](#). [6]) For the 10 people that are still on DSL, you are typically maxed-out. DSL usually can't provide speeds beyond 15 megabit per second.

ISP's like to claim that more bandwidth means better online gaming. This is, for the most part, not true! Games don't usually require more than 1-2Mb/s at MOST. So if you have even a 3Mb/s connection you'd be fine. It's only true if you are able to fully saturate (use up) the entire bandwidth; which again is rare if you are using 35-50 Mb/s internet. Latency (ping) is actually the critical thing for online gaming. Ping and bandwidth are 2 separate considerations. You cannot pay your ISP to provide better "ping", it simply is what it is - and that's the most important part of online gaming.

### **For extra points - let's try and understand the difference between latency and bandwidth.**

Water flowing through a pipe is a nearly perfect analogy for internet speed, so let's run with that.

Your bandwidth (which is what we've been discussing throughout this entire Tech-Tip) is how many megabits per second you can download. Think of a pipe carrying water: a bigger pipe means more water at any given time. Bandwidth for internet is like the diameter of the pipe carrying water. However that's only 1 of 2 things involved in how fast your internet feels. The second is latency. Latency is measured in milliseconds. It is the time it takes a signal to get from point A to point B and back (usually.) Using our analogy--it would be the speed at which the water is moving through the pipe. This is distinctly different from the volume (how much) water is moving through the pipe. If, for example, you switched the water to a thick oil--it wouldn't move as fast through the pipe. Bandwidth is the size of the pipe, and latency is how fast the liquid is flowing.

Again: Bandwidth is how much you can receive at any given point (how big the pipe is in diameter.) Latency is how fast your connection is (how fast the water moves through the pipe.)

Remember the speedtest you should have done at the beginning of this article? It reported not only the bandwidth but also the latency. Latency is a critical factor for your internet speeds; but it's rarely understood.

Most games only require 1-2 megabit per second. This is because in most games, you only need to track the location of people and objects. Therefore, there is very little demand on bandwidth for playing games online. Of course, downloading modern games is a whole different story--as some of them can be over 50GB in size. (Or 11 DVD's.) On the other hand, it's critical that the latency be low for online gaming. (Meaning the connection speed between your computer and the game server must be fast.)

This should also illustrate why satellite internet is usually not very good, and should only be used as a last resort. Satellite internet can provide reasonable bandwidth; however their latency is usually not so good. On my fiber internet, it takes 7 milliseconds to get from my computer, to Google and back. Doing the same thing on satellite would be closer to 40-50 millisecond at best (almost 6 times slower.) With satellite internet, once you begin downloading a big file - it may download at speeds similar to traditional internet connections, because the bandwidth is decent. However getting to that download feels (and is) slow; because the latency of satellite internet is poor.

All of this information has a purpose. The purpose is to keep you from being taken advantage of. I

don't want you duped into buying excessive internet speed packages that will fatten their pockets while making little to no real-world difference for you. Our recommendation is to purchase whatever package you can, that falls within that 35-50Mb/s or as close to it as possible, while paying the least amount possible. Therefore, if the lowest speed and ISP offers is 100Mb/s - then get that. But if a provider has 10Mb/s, 40Mb/s and 200Mb/s -- and the 200Mb/s is \$20 more; seeming like a good deal - it may be best to go still with the 40Mb/s package. This is because again, for the average household, you won't notice a difference. Of course, if you truly do notice a difference, you can always call and upgrade to the faster speed. If it's only \$5 more per month, then go for it. The reason we have 1000Mb/s internet is because it's just \$69/month--so why not? Hopefully this helps some people save money while giving up essentially nothing. Knowledge is power!

Related Article: [Slow Internet Speed](#) [7] (*the opposite of Internet Overkill*)



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