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True internet speed test

Internet service provider Tomislav Pinter/Shutterstock has always wanted to sell you a faster connection. But forget marketing: How much speed do you really need? The answer is more complicated than you'd expect. Higher speed levels are not always worth the money. Internet connection speed is usually measured in megabits per second, often written as Mbps. It takes eight megabits to form one megabyte, so if you have a 1000 Mbps (gigabit) connection, it takes 8 seconds to download a 1 GB file. RELATED: How to Test Internet Connection Speed or Cellular Data Speed vs. Important Data Limits to clarify differences here. Internet speed is a measure of how much data you can download at once, and the data limit is a measure of how much you can download in a given month. They're definitely related — if you have a faster connection and actually use that bandwidth, it's much easier to maximize your data limits. Data limits are common in the mobile industry, giving you a limited amount of data to use on your phone each month. They are mostly just a way to divide their services into tiers and charge more money for premium options, and data requirements are growing faster than service providers can keep up. While your phone may have data limits, a home ISP like Comcast also imposes a cap, typically at 1 terabyte of data (1024 gigabytes) per month—with the option of an additional \$50 per month if you don't want a data limit. According to Comcast, most Xfinity internet customers used about 174 GB per month as of December 2018. But, if you have a few people in your home and stream a lot of content, it's easy to push the data limit. RELATED: How to Avoid Going Through Your Home Internet Data Limits What Uses The Most Bandwidth? Your internet speed is ultimately a measure of your bandwidth. If you have a 25 Mbps connection, you can watch five Netflix 5 Mbps streams at the same time. With the average Internet speed in the US approaching 100 Mbps at the moment, most people won't maximize their connection. However, in rural areas, the maximum available speed can be in the single digits. In general, streaming video uses the most bandwidth—at least for the average user. Netflix uses about 5 Mbps for 1080p streaming, and suggests 25 Mbps for 4K streaming. YouTube is usually slightly higher, as many videos are filmed at 60fps (twice the bandwidth), and use about 7 Mbps at 1080p60fps. But this is not the whole picture. Although YouTube videos may average 7 Mbps, it's not really how much bandwidth is actually used. Since it will buffer beforehand, YouTube will usually try to maximize your connection, culminating in at most 250 Mbps (at 400 Mbps connection). The opposite is also true. If you don't have enough bandwidth, YouTube will lower you to 480p30fps or even lower, allowing you to watch videos even on a very small 1 Mbps connection. Netflix operates in the same way as adjusting quality to the available speed. If you have multiple devices Your router will balance the traffic between them all, and your stream will customize it. So, in a sense, it doesn't matter how fast your connection is, because streaming video will generally use as much bandwidth as possible. As long as you have enough speed to at least support low quality flow, you won't experience any buffering. Having a higher bandwidth stream will only allow for higher quality video playback. This is not happening everywhere, so having a surplus is always good. Is Upload Speed Important? Your upload speed is another part of your Internet plan that is quite important. Too often, Internet service providers will sell packages with great download speeds and terrible upload speeds. The reason is that people will do far more downloads than uploads. That's true, but when you upload something, your suburban connections will start to feel rustic. The difference can be insulting. Your upload speed determines how quickly you can upload content to the Internet. If you upload a file to Google Drive or Dropbox, you're limited by the upload speed. And it's not just files—upload speed can affect the quality of your Facetime and Skype, because you're basically uploading live video. If you're thinking of streaming on a site like Twitch or YouTube, you need high upload speeds. You don't use it as often as you use your download speed, but it's very important when you do. You will be limited by the package your ISP offers. They will usually advertise the download speed, and you will have to dig in to find the upload speed. Xfinity here sells gigabit Internet, but only delivers up to 35 Mbps uploads. On Comcast's Performance plan, it takes more than an hour to upload a 1 GB file. If you're one of the many Americans stuck with a single service provider, you may have to invest in a more expensive plan if you want a reasonable upload speed. Getting faster upload speeds often involves choosing a business class internet connection that is more expensive than your ISP. RELATED: How to Find the Fastest ISP in Your Area So How Fast Is Your Internet Connection? There are two main factors that should influence your decision — how many people you have in your home and how many downloads you make. If you only stream video in HD (not 4K), we would recommend at least 5 Mbps per person for a stable and decent quality stream without buffering. Having a surplus is fine, but you probably won't notice it in this use case. If you do something bandwidth intensive besides streaming as it regularly makes large downloads, your internet speed generally determines how fast you will download. You'll definitely see a surplus here. Downloading a 10 GB game from Steam at 5 Mbps takes almost 4 hours, but it will take 15 minutes on a 100 Mbps connection. In others even with a gigabit connection (1000 Mbps), you probably won't get gigabit speed when downloading from Steam. In general, you can surf the web and do most of your daily tasks well even on a fairly slow connection. If your downloads are too long for you to like, try investing in a better plan. If you regularly live stream, upload large files, back up your computer to the Internet, or make video calls, you should make sure your upload speed isn't strangled. Is Fiber Connection Faster? Fiber is usually faster because it can transfer larger amounts of data at once. Higher bandwidth pipes mean your ISP can sell most of those larger pipes. But this is not always the case, and depends on what your local ISP has to offer. Fiber connections do offer another small advantage over cable connections: latency. Latency is how fast a signal can physically move from your computer to the Internet. Fiber cables are technically no faster than good copper cables, but this is a much newer standard and is usually faster than the cables (often decades) that drive most broadband internet. Latency doesn't really matter. Latency doesn't matter when you click a link on a website—higher latency means a longer time before the next webpage starts loading—but you won't always see incremental improvements. If you do a lot of games online, it can help lower your ping by a small margin and you may notice that in fast-paced gameplay requires twitch reflexes. But fiber is not magic, and copper is still pretty good. The difference is only a few milliseconds, and you probably won't notice it at all. The Finder broadband speed test calculates a number of different factors associated with your broadband speed. The results are just an indication of the speed you receive and should be used as general advice for comparing broadband plans. Being able to connect to the Internet is an important part of modern life, but it is becoming increasingly important to be able to connect at speed, so you can access the information you want as quickly as possible. A speed test is how to track that speed. Although each speed test is different and is influenced by many different factors, which means you may never get the same results twice in a row, it is the best indicator of what kind of speed you get on your connection. Like all speed tests, the Finder broadband speed test calculates the time it takes to transfer a small amount of data both to and from your computer from the speed test server. By monitoring the time it takes to transfer files, you can get an indication of the speed measured in Mbps (megabits per second), your connection is getting. The Finder broadband speed test will calculate a number of different factors associated with your broadband speed. Although everything is important, depending on your specific needs some may be more important than others. Pings measure the time it takes a signal to be sent from one to one to another computer and then back. It's not so much about data transmission as it is about how long it takes both computers to actually connect. Pings are generally measured in milliseconds, and the lower the ping yield, the better the connection. Low ping is essential for online games, where you need to press a button and click the mouse to be registered on the server as quickly as it happens so that you are not at a disadvantage against your competitors. To get accurate Ping results, the speed test will run it several times. Jitter noted how many variations there were between those results. The lower the number, the more stable your connection is, but if you look at the larger numbers for Jitter results, it shows some great variation in how fast your computer can connect to a speed test server. That may not be too bad if you test from a mobile device, but if it is consistently high on your computer, the results may indicate a bigger problem with your connection. This measurement records the speed of broadband connection you can download files to your computer in Mbps. For many people, this is the most important factor of the speed test because it offers an indication of how fast your connection will be to download large files. Having high download speeds can affect Netflix streaming quality (especially if you want to watch in 4K resolution) or how quickly you can download the latest games to your PlayStation 4 console. When it comes to download speeds, the higher the number (in Mbps), the better your connection will be. Upload speed uses the same methodology as download speed, except it tracks how fast your connection to the Internet can send files. The internet connection is out of sync, which means that download speeds are given preference over upload speed, making it faster. Upload speed is essential for sharing video files, so budding YouTube stars and videographers should consider plans that promise high upload speeds. As with download speeds, the higher the number in Mbps, the better the speed. There are many factors that can affect the actual speed that a broadband connection can achieve, ranging from the type of broadband connection to the number of people trying to connect at the same time. In some cases, the ISP you choose for your Internet connection may also affect the speed you get. For longer ADSL connections, the distance your address comes from the phone exchange and the quality of the copper wire will have the greatest effect on your speed performance, although congestion can also play a big role in how fast your speed test results are. If you're completely overwhelmed with your speed test results, try the following tips to see if things improve. 1. Go wired If you test your broadband speed Wi-Fi connection, it is possible that it could be a wireless network that causes speed problems. Fortunately, you can easily rule this out directly computer to the router with an ethernet cable and re-run the test. If the speed is more in line with your expectations, then you know that you have to look at ways to speed up your Wi-Fi connection. 2. Check for viruses It's best practice to run anti-virus software to make sure your computer is safe, but if you don't get the speed you expected, it might be a good idea to run the scan again to make sure your machine hasn't been infected. Viruses can often use valuable bandwidth in the background, and affect the speed results you might get. 3. Try a different modem Not all modems are made the same. Some are specially designed for specific connections, while others are optimized for full fiber connections. Quite often, the modem provided by your ISP is not the best quality, so trying an alternative device can solve your problem. Remember to try wired and wireless tests with your new modem to override the wireless factor. 4. Try a different DNS server DNS server such as the yellow page for the website, allowing you to connect to the website you want. Most ISPs use their own DNS servers, and sometimes those servers aren't very fast. Fortunately, it is possible to configure your modem to access free and open DNS servers, which can speed up your broadband connection. 5. Check your cable It is important to remember to change the cable that connects your modem to the phone jack on the wall if you use FTTN because older cables are often unable to handle your connection speed. 6. Turn it off and on again No, we're not kidding. Modems have caches that can affect performance, so hardware power cycling can clean up any process that causes them to slow down. 7. Contact your ISP If you're still unhappy after testing all of the tips above, it's time to contact your ISP. They can send technicians to your address to investigate as well as run diagnostics on your lines. Or, if you notice that your 100Mbps connection is slowing down at 8pm, it could be that your ISP hasn't bought enough capacity to handle demand. If that's the case, you may want to switch to a different provider with more backhaul to avoid congestion problems. Problem.