

## **Making the Internet as Fast as Possible (1/23/23)**

Although a dialup connection to Internet was common in the early to mid-nineties (That's an eternity ago in computer time), it has been almost completely replaced by a Cable or DSL connection. DSL (Digital Subscriber Line) available locally from Century Link goes up to about 100+ MBps (when "b" is written in lower case it means Mega BITS per second (Mbps); when shown as MBps it usually means Mega Bytes per second). It shares your phone line (multiplexing) and, therefore, does not make it busy. Still better is a cable connection, available through Cox locally, and depending on the speed ordered, can be well over 100 MBps. Pricing for DSL start at about \$30 per month and Cable \$40 to \$100 depending on the speed ordered. Sales and specials always seem to be available, so pricing can vary. Yet another option for high-speed connection is through a cell provider like Verizon using what is called a "hot spot". This is often the most expensive but gives the most flexibility. This can be used anywhere - even in a moving vehicle. A cell phone hotspot is usually slower than DSL or Cable and counts against "measured data". Some cellular plans have unlimited data, whereas some are measured – e.g. 5 GB per month.

A public hot spot is a place where wireless, high-speed Internet is available. Around here, hot spots include Sky Harbor Airport, Starbucks, McDonalds, Barnes and Noble, the PebbleCreek Clubhouses and most Hotels and Motels. The wireless connections can be unsecured (meaning you can connect without a WiFi password) or secured. Hotels are often secured and they give you a password good during your stay. Even on an unsecured network YOUR data is not really vulnerable to thieves. Wireless connection is achieved through a router. Many homes in here have routers and make use of wireless connections.

Once you have arranged for an ISP (Internet Service Provider) like Cox or Century Link, you have, in essence, arrived at the Internet. Now you need a Browser - such as Edge - to get you from site to site. If you think of the Internet as the Mall and the Websites as Stores, the ISP simply gets you to the mall. Now you need transportation to get from store to store. This is what the browser does. Edge (formerly Internet Explorer), which comes with Windows is automatically the default browser. (IE is actually discontinued) Others common browsers are Chrome (from Google), Firefox (from Mozilla), AOL and more. Browsers are different from Search Engines such as Google or Bing. Search Engines are more like the directories at the Mall that guide you or show you available stores (websites). The Browsers take you from site to site. There are some settings in all Browsers that can greatly enhance performance. I will elaborate on Chrome and Edge because they are the most utilized. Same principles apply to others. Finding them may take a minute. CCleaner and Avast also have browsers available.

### **Improving Edge and other Browsers**

Although it seems like Internet Explorer has been around "forever", Microsoft (MS) has introduced Edge with Windows 10. Internet Explorer is still present in Win 10 but somewhat hidden because it is obsolete. Microsoft wants you to use Edge instead. I have run into several instances where the old IE doesn't always work as it used to. If you don't like Edge, install Chrome or Firefox and set them to your default browser. In Win 10 Edge is the automatic default. (If a link is shown in an email or a document, clicking on it will invoke the default browser.) Edge is not available if you are running Windows 7. You can continue to use IE v.11 (I wouldn't) with Windows 7, or add another browser to your machine.

Changing some settings in Edge or any other browser can enhance its speed of operation. In Edge the settings are revealed in a drop-down menu that appears when you left click on the three horizontal dots in the upper right corner of the browser page. By opening settings, you can change the home page (first page opened when you activate Edge) as well as change default browser. At the bottom of this dropdown is "advanced settings" where you can make more changes. Since Edge is a MS product, the default search engine is Bing. I, personally, changed mine to Google. Another item found in the original dropdown menu is the word Extensions (sometimes called Add-ons). The fewer number of these that are activated the faster your browser will perform.

In Chrome settings are found under the three vertical dots in the upper right. Extensions are found as a sub menu under More Tools. Deactivate extensions you don't need. Change your home page and reset your default search engine in this area too.

BTW (By the Way) the default search engine is called upon when you type a non-URL in the URL or address bar. It is handy to remember that you can always do a search in any browser using the address bar. There is no need to add extra search tool bars to your browser. The search tool that is used is dictated by your default search engine.

In the Firefox browser, settings is found under the three stacked dashes in the upper right corner. Extensions in Firefox are called Add-ons.

All browsers have some version of "Favorites". This is a list of commonly visited websites that you want to have handy so you can quickly jump to them. Don't forget to put [www.pebblecreekcomputerclub.org](http://www.pebblecreekcomputerclub.org) in your favorites list. In Chrome and Firefox they are called Bookmarks. In the old AOL they are called favorite places. It is usually quite easy to import favorites from one browser to another. In any browser, look for the phrase "Import Bookmarks and Settings". This will let you move the favorites list as well as saved passwords to another browser. In most browsers, there is also the ability to display a "favorites bar" across the top of the browser page. This is handy as a quick reference to some of you favorite favorites.

Since there are many settings and different "looks" between browsers, Googling a request for how-to-do something is always a safe idea. Example: type into Google "How do you import favorites from Edge to Chrome" and it will give you step-by-step instructions.

### **Final Thought on Internet Speed**

When connected to high-speed Network for Internet at home, any browser should open to its first page in about five seconds or fewer. This is even true when you don't pay for the absolute highest speed available. Another factor is the simpler the page, the faster it should open. A site such as Google is quite plain and should open very quickly. A more complex page, such as [www.msn.com](http://www.msn.com), that shows the news, with pictures, can take longer to load. Employing some of the tricks in the previous section can truly enhance the speed - especially dealing with add-ons or extensions. Getting rid of tracking cookies, described in a previous handout helps too. So does emptying cache files. This is exactly why you want CCleaner and SuperAntiSpyware to be run periodically.

If you are concerned about your Internet speed, go to this website [www.speedtest.net](http://www.speedtest.net). When on that site, click on the word "Go" and it will give you three numbers - Ping speed in ms (milliseconds), Download speed and Upload speed (both in MBps). A speed test can also be accessed by typing the two words "speed test" in the search engine and then clicking on the blue run-speed-test button.

Once you get these numbers you can see if you are getting your money's worth by comparing them to your Internet bill. Here are guidelines I have come to use with my experience. The Ping number, representing how fast a "pulse" bounces back (like sonar), should be under about 30 ms. The smaller, the better. The download speed, which is primarily what you are paying for, should be in the range advertised by your provider. One tier might give you 10 to 12 MBps, the next may give you 25 to 30. A very expensive plan may give you 100+. Compare this number with what your bill says you should be getting. The upload speed is usually about 20% to 25% of the download speed. Example: if your download reading is 25, your upload would be about 5. If these numbers are way out of line with your plan, it can provide good ammunition to confront your provider. Bad numbers can be caused by an obsolete Modem or Router.

Speed encountered on a public network such as at Motel/Hotel, Starbucks or other public hot spot can have a download speed of only about one MBps and still be advertised as "high speed". I wouldn't plan to do any serious work while on a public hot spot.

### **If You Cannot Connect to the Internet (Troubleshooting) 1/23/23**

If your ability to connect to the Internet has been lost, here are several things to try before you call Cox, Century Link, Comcast or anyone else. I'm assuming, of course, that you have paid your bill and you are supposed to have service. Symptoms of not being connected can show as no email being received or a browser showing a white page that says "cannot display the web page" or a message balloon that says connection lost.

First of all, it is highly **UNlikely** that the Cox or Century Link (CL) Service is really down and since calling them involves navigating a lengthy automated menu, I would only call them as a last resort. The first thing to do is to look at your modem. This is the box that is connected to the wire that comes right out of the wall. You need to check the status of the lights. With Cox the light labeled "online" or "cable", depending on the modem brand, should be on without blinking. With a CL box the light labeled "Internet" should be on steadily. If this is not the case, you need to "power cycle" your modem, which is done by turning it off (pulling the power wire out of the back), waiting at least 15 seconds and then plugging it back in. Wait for the lights to settle down.

If you are using a router to split the Internet signal or to make your house wireless, you must power cycle the router **AFTER** you cycle the modem. The sequence is extremely important. On most routers, there will be a light showing the presence of the Internet (might be a lower case "i" or a small "globe") that should be glowing green. Routers vary in their design, but there will be a light indicating the Internet is there. After that, it may be necessary to reboot your computer. Many users now have a modem/router in the same box. Restarting this handles the whole thing.

If you still have no Internet you must determine if you are wired or wireless. If wired, make sure the wire, usually a Category Five (Cat 5, sometimes called an Ethernet wire) is connected securely to both the router and the computer. Also it is possible the wire in the router is in the wrong jack. Check jacks for labels.

If you are wireless, make sure the switch is ON that has your computer seeking a wireless signal. In Windows 10 & 11 there is WiFi button that appears on the screen when you left click the information icon in the lower right corner of the screen. This button should be blue. If it's a laptop, make sure you are not in airplane mode. Prior to Windows 10 the WiFi enable switch can be a physical switch that is often on the edge of a laptop or it can be a "function" switch that is controlled by a keyboard key. Older desktops (before Windows 10), as a rule, are not automatically wireless. They can be made so by installing a PCI card for that function or buying and installing a USB wireless adapter – sometimes called an access point.

If you mean to be wireless and the switch is ON, now you have to find the network name (SSID) that you want to connect to. In the lower right corner of the screen near the clock, there will be a small signal strength indicator. Click it and choose the wireless network from the list. A Web Key may be requested if it's a secure network.

If it can't connect or shows "local only", recycle the modem and router again. Alternatively, it may say "Connected, no Internet Access." This means the machine has a router connection but the router doesn't have the Internet to send to the computer. Recycle modem and router. Remember the sequence from paragraph three above.

Here is another possible cause for dropping wireless connection. It is possible that the signal strength is not strong enough to maintain a connection. This can happen if you are too far from the router or there are too many obstructions – like exterior walls, desks or appliances in the way. If signal strength is low, play with the location of the router. If you are normally connected wirelessly and the signal strength is good, yet the connection drops frequently, it is very possible that the "firmware" (a program inside the router) is in need of an upgrade. Type into Google "upgrade firmware 'brand name'" (without the quote marks) where brand name is the brand of your router... could be Linksys, Netgear, Belkin, Airlink or D-Link. It will give you directions. If you are running the current firmware version and you still have a problem, it could be your router needs to be replaced. The firmware update really only applies to routers that you own.

Privately purchased routers come in three "flavors" – G, N and AC. The G router should be replaced with an N or AC for better results. Most service providers will offer to provide a Modem/Router combination (in one physical box) for some monthly fee. This may be more expensive than buying your own router, but this will insure that if there is a problem, the provider will replace it. I'd say that many PebbleCreekers use the Modem/Router combination provided by Cox or Century Link.

Another possible cause of Internet-connection loss could be a class of Virus called a Rogue. Viruses of this ilk get around many normal virus checkers and can throw a switch that prevents Internet connection. In addition to throwing this switch, however, there are usually other messages (that may appear somewhat legitimate) telling you that your computer is infected and trying to sell you some worthless software. Don't buy the software. You should also do the following: Open Control Panel, Choose Internet Options, Choose the Connections Tab, then pick LAN setting in the lower right. On the next window, there should NOT be a check next to "Use a proxy server for your LAN". If there IS a check there, you likely have a Rogue (this is only one possible symptom). Remove the check and click OK. Then run Malwarebytes. If it doesn't run, boot into Safe Mode and try it again.

Finally, there is always a chance of a hardware failure – Modem, router or computer circuit board (specifically the wireless radio receiver). This is the least likely of the possible causes of lost Internet, but it can't totally be ruled out. To verify a failed modem you will need to talk to Cox or CL, but don't call them until you have exhausted the other things described above.

**Dan Phelka**  
**623-535-7791**