

Tele-NET

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EXTREMELY IMPORTANT - PLEASE READ ENTIRE DOCUMENT -- Information and tips for Tele-NET Wireless customers:

First of all, we constantly monitor and test through to the router on your end (either a standalone gray Netgear unit, or one built into your radio itself.) We cannot and do not test the connection clear through to your computer from our servers. Our access ends at the router - this is for your security.

Checking at your end:

If your connection is not working, there are a couple of things to do **BEFORE** calling (when you call, we're going to have you do these anyway, so why not get a head start?).

Check your connection after each of these steps. Any one could be the one that fixes the issue.

- 1.) Check your cables, both network and power (see diagram). For power, also make sure the other end is securely plugged into the wall. You'd be surprised how often we find that something has become unplugged (typically power -- sometimes the dog or cat has gotten back where the cables are and bumped something loose.) **Either remove and replug only one item at a time, or very carefully follow the diagram. Incorrect connection can damage the radio or your computer. You are responsible for any damage you may cause.**
- 2.) Reboot your router, if it's a standalone unit. Unplug the round, black power plug from the back of the router -- sometimes power fluctuations (spikes, brownouts, flickers) can leave the router unable to properly send & receive data.
- 3.) Reboot your radio, (for the same reason -- power problems cause about 95% of all issues). The first item connected to the cable coming in from the outside radio antenna is called a POE (power-over-ethernet) unit. One socket of this will be marked "CPE" or "POE". Unplug this wire from the unit for about 30 seconds then plug it back in, allowing the radio to fully reset (about 30 seconds or so after plugging back in.)
- 4.) Shut down and restart your computer. Do a full power-off shutdown, not just a Windows restart. Sometimes Windows can stop communicating properly. A full power-off will allow all memory and buffers to clear, and you can get a fresh start.
- 5.) If you are using a standalone router, (the Netgear unit), try changing the port the cable from the computer is plugged in to. (see router diagram). An electrical surge might have damaged one of the ports, but left the others functional -- it's happened before and surprised us, too.
- 6.) If you are using one of our wireless Netgear routers, and cannot stay connected with your laptop, for example, check the router's antenna. Make sure it is in the upright position, and try moving the router to a different spot. Radio waves sometimes have problems with furniture, walls, doors, the computer the router's sitting next to, the refrigerator in the next room, etc. All these things reflect and/or refract the signal, and since we cannot see the radio waves, only experimentation with the antenna placement will reveal the best spot for it. Up, and in the open is usually better, not behind or beside something, or surrounded by wires, or at or near floor level.

The next step:

If all this hasn't helped, by all means, give us a call. Sometimes there's another reason for the problem, and once we know it is not on something we cannot see or test at the other end, it becomes easier to find within our system. Once in a while, a hilltop radio (access point) receives corrupted data packets (from radio interference, viruses, etc.), and cannot clear them from its buffers. The system is designed to reboot and clear the radios if this happens, but sometimes an access point responds to the monitoring even though it isn't processing data. In this case once we know to look for the condition, we can manually reboot the unit and get things moving again.

Interference:

Sometimes, the problem comes and goes, for no apparent reason. Please remember that the system uses radio-frequency signals to get the Internet to and from your premises. Radio waves are subject to problems from numerous sources. These can range from signals being blocked, reflected or refracted to signals being overpowered or distorted by interference. Reflection/refraction can have subtle causes. A car or pickup truck parked in just the wrong spot can cause reflections and what is called "multipath" distortions of the signal, interrupting your Internet connection. It's hard to tell what's the problem -- we can't see the radiowaves.

As for interference, the networking rules that the radios operate by require a radio to not transmit if it detects a transmission from another source. The radios are rather polite in this way -- they don't interrupt each other. Unfortunately, the radio can interpret electronic "noise" as a signal, and it will go silent until the noise is gone. Sources of this noise can include cordless phones, microwave ovens, a wireless access point somewhere in your neighborhood, private or public radio transmissions, bluetooth wireless devices, audio/video & TV "sender" units, or many other home, business, auto and personal electronics devices.

If interference is causing your problems, a solution is a bit harder to find. To find out if your phone, microwave, or other device is part of the problem, try to observe and find out if any particular device is regularly in use during the times your connection has problems. Does it happen at the same time every day or night? Try unplugging your cordless phone (they can send out signals even when you're not talking on them), and see if the problem clears up; make sure your microwave's not on; check if you have any other devices that might be sending out electronic signals, and move, unplug, or take the batteries out of them.

If the interference is coming from a neighbor's house or device, it becomes harder to locate and eliminate. If you've exhausted all the possibilities in your control, we may have to either move your radio antenna from its present location to somewhere that's less vulnerable to the interference. We may even install a different radio -- some can be more sensitive to interference than others.

Precisely because of the radio-frequency nature of the connection, we need to point out: THIS IS NOT DSL AND THIS IS NOT CABLE -- THIS IS NOT A WIRED CONNECTION. By its nature, radio communication is subject to many sources of interruption and/or interference. Our antennas are mounted on local hilltops, not on towers located every thousand feet or so, like wireless in a city, so the signals may not always be at optimum strength. We may get to that point, but for now, the population here is not dense enough to justify such towers. We believe that most of the time, and in most cases, the speed and performance of our wireless system is on par with wired services, but it can be interrupted from time to time due to factors beyond our control. (Those pesky laws of physics keep getting in the way.)

On a related note:

Has your connection seemed to become progressively slower? This can have at least two very different causes.

First, if your antenna is pointed anywhere near trees, check to see that they haven't grown into the line of sight between the antenna and the hilltop. Trees and leaves will block the signal from getting through, and the effect can come and go as wind and sunlight change the angles of the leaves across your sight path. If they're your trees, all you need to do is get them trimmed. If they belong to a neighbor, you can either check with them about getting them trimmed, or we can come out and move the antenna for you, if there's a suitable location to move it to.

Second, it's possible that your computer has become infected with spyware, adware, or a virus. Any of these can generate enough traffic trying to reproduce itself that it can choke not only your individual connection, but also the connection of everyone else connecting to the same hilltop radio as you. If we find this is the case, we will disable your access until we can be assured that the threat is no longer on any of your computers. It's a measure we need to take to keep the system available for all users. Likewise, you are not allowed to run server processes (FTP, Web, Game, Mail, and/or file-sharing) on your connection. Because of the heavy load in terms of connections per second these can put on the access point, these processes can monopolize the access point, and leave everyone else without service. If you are found to be running one of these processes, we will disable your connection.

Help us to help you:

What all this comes down to is that we need your participation to provide you with the best connection possible. Keep your system(s) virus and spyware-free, don't run server processes, check all the above conditions (cords, cables, rebooting) and then call if the problem still exists. (If you can still access email, please email your issue to wirelesstech@tele-net.net). When you call, whoever answers will fill out a trouble ticket, and give it to a tech who will work to resolve the issue. They may call you if they need an answer or clarification, or they may find something awry within the system and reset/adjust it without contacting you. This is kind of like reporting a power outage -- the power company doesn't call you back, you just try the lights in a little while, and they're working again. If, after a reasonable length of time, it still isn't working, call us back. Perhaps we found one issue and resolved it, but it was not the particular one causing you problems. The system is rather complex, and any one thing can have one or more of many causes.

Whatever you do, getting mad and taking it out on one of our people isn't going to help. All we need is to know that the situation exists, and we will be working to fix it (some fixes take longer than others, primarily as a result of the cause being difficult to pinpoint). Complaining, berating, whining, bad-mouthing and the like will probably only result in the recipient being less-than-enthusiastic about helping you. Remember, we want to help you -- don't make it harder for us to do so.

The Road Ahead:

In rare instances, our connection to the Internet is interrupted. In recent months, we've had two occasions when Verizon/SBC have had a problem within their systems and left us disconnected for a number of hours. If this happens, you will still be able to reach the Tele-NET website and retrieve email already on the server, but not get to anywhere else.

We are currently implementing a solution to this situation. We will soon have our own (not Verizon, etc.) very high capacity link built between here and Reno. The actual bandwidth is yet to be determined, but should be in the range of 18-28 megabits, more than any other provider in the area, and quite possibly more than all the others put together.

We are also in the process of changing out and adding to the hilltop radios. Recently, a newer unit with more efficient transmit power/receive sensitivity has become available. They also allow us better control and prioritization of network traffic (reduce viruses, etc.), so we can keep legitimate traffic running smoothly. We currently operate four radio base stations from the hilltops, and once the new radios are in place (a couple of weeks), we will double that to eight, increasing overall system capacity, as well as getting better signals to and from the customer antennas.

These steps will take us a long way toward greater speed and reliability. Some days it can seem like "two steps forward, three steps back," but please be assured that we are constantly working to improve both the overall system and your individual connection.

Thank you,

Tele-NET Internet