ODHS|OHA *Office of Information Services*

Get the most out of your home network

Full-time telecommuting is becoming the new normal for tens of millions of Americans.

With OHA and ODHS staff working from home, children learning at home, and everyone needing fast, reliable access to internet, it's important to make sure your internet connection is set up for high usage.

> ***Key Tip:*** *Your computer will be its fastest and most secure if you connect to your internet using an ethernet cable rather than connecting wirelessly.*
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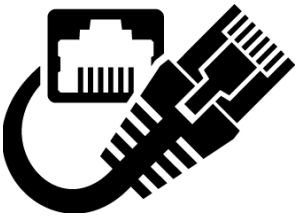
> ***Key Tip:*** *Your network will be most secure if your network (modem) password is set to include a passphrase between 12 and 20 characters long. Your internet service provider can help you with this.*

Wi-fi and Ethernet

Most households with home internet service use the Wi-Fi (wireless) service on their home router. When multiple wireless devices are using the same Wi-Fi network, it can impact performance.



A direct ethernet cable connection between your router and your computer will provide the highest speeds and reduce Wi-Fi congestion issues. Consider relocating your router to the room where most of your online activity takes place or your computer to the room with your router so you can plug your device directly into the router.

> ***Tip:*** *Sometimes a simple router reboot – just powering the router off and then back on again – can resolve a problem.*

Test the speed and performance of your internet connection

You can visit a speed test website to check your current broadband download and upload speeds. To test your network speed, go to **https://fast.com**.

The results of the test can change depending on how your computer is connected, so test while connected to Wi-Fi and again when connected directly via an ethernet cable.

> ***Tip:*** *Test your speed at peak times and when your home network has the most users. For example, test when you're on a video call, your child is attending class, and someone else is watching a TV show.*

The minimum recommended download speed for adequate telecommuting performance is **15 Mbps** (*megabits per second*).

Even the latest WiFi routers with fast service speeds can get bogged down by a family of users trying to stream video, play games with graphics, use virtual private networks (VPNs), and video conference all at the same time.

> ***Tip:*** *Set guidelines with your family members and discuss daily schedules to avoid performance issues and prioritize usage.*

Securing your home network

Going wireless generally requires connecting an internet “access point” (usually a cable or a digital subscriber line (DSL) modem) to a wireless router.

The router sends out a wireless signal sometimes as far as several hundred feet. Unless you take certain precautions, anyone nearby can use your network. That means your neighbors, or any hacker could “piggyback” on your network or access information on your device.

Use encryption on your wireless network

Once you go wireless, you should encrypt the information you send over your network so nearby attackers can’t eavesdrop on your communications. Encryption scrambles the information you send so that it’s not accessible to others. Using encryption is the most effective way to secure your network from intruders.

Wireless security has evolved over time to get stronger and easier to configure. The security method you choose will depend on the capabilities of your router.

To check the security level of your router, connect your computer to the wireless service, then click on the wireless symbol (shown at left) in the lower right toolbar of your computer.

Click on the “Properties” option in the wireless network you are connected to. The properties section will show you the Security type on your computer.

Here is the list of security types, ordered from most secure to least secure:

1. WPA3
2. WPA2
3. WPA + AES (Advanced Encryption Standard)
4. WPA + TKIP (Temporal Key Integrity Protocol)
5. WEP
6. Open Network (no security)

You should not use an open network for ODHS and OHA business. WPA3 or WPA2 are the best options. For one of the other security protocols, you should be sure the network password is 12 characters or more.

Secure your router

It's also important to protect your network from attacks over the internet by keeping your router secure. Your router directs traffic between your local network and the internet. It's your first line of defense for guarding against such attacks.

Older routers can't support newer security protocols, so it's a good idea to check with your internet service provider to see if your equipment is eligible for an upgrade.

Wireless routers often come with the encryption feature turned off. You must turn it on before using. The directions that come with your router should explain how. If they don't, most internet service providers have online guides available to assist with this and the security improvements listed below.

Change the name of your router from the default – The name of your router (often called the service set identifier or SSID) is likely to be a standard default ID assigned by the manufacturer. Change the name to something unique that only you know.

Change your router's pre-set password(s) – The manufacturer of your wireless router probably assigned it a standard default password that allows you to set up and operate the router as its "administrator."

Hackers know these default passwords, so change it to something only you know. The same goes for any default "user" passwords. Use long and complex passwords or pass phrases – think at least 12 characters, with a mix of numbers, symbols, and upper and lowercase letters..

Turn off any "remote management" features – Some routers offer an option to allow remote access to your router's controls, such as to enable the manufacturer to provide technical support. Consider disabling this feature. Hackers can use this to get into your home network.

Tip: *Use a pass phrase on your router. The longer your network password, the less likely your wireless network can be hacked.*

Need home internet service? *Go to https://www.highspeedinternet.com/or to find an internet service provider where you live.*

Contact your internet service provider:

For more information about your network speed availability and details about your internet plan.

For troubleshooting and tips specific to your network or equipment.

For assistance with turning on encryption for your router.

Other information

Reduce your use to improve your network speed and stability for calls:

- Reduce the number of items you upload and download while on calls.
- Close applications, programs and browser tabs you're not using while on calls.

Check for external interference: try to place your modem and router in a location that is away from speakers, loose power cables and old TVs.

Run on battery power: laptops can slow down while charging so try letting your laptop run off battery power during calls. This also protects the life of your battery.

Check the cables on your router and replace old ones.

ODHS|OHA do not cover the cost of internet, electricity or other in-home utility expenses associated with working from home. ODHS|OHA provides standard home office equipment which must be purchased through standard state processes and picked up at a state office location for transport to the home office.

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