

How to Optimize your Zoom Connection

1. Use the best Internet connection you can.

Whenever possible, plug an Ethernet cable directly from your computer into the wireless router (be sure to disable WiFi on your computer if plugged in). Wired is better than WiFi; WiFi is better than Cellular.

If your home WiFi offers a choice of connecting at 5GHz or 2.4 GHz, connect to the 5GHz band. This higher band is less crowded but has a smaller range, so you will want to be as close to the router as possible.

If your home network cannot support your needs, try tethering your mobile device to your computer to connect to the Internet over the cellular network.

2. Adjust your location to get closer to the WiFi source.

To maximize signal quality, you must do one of two things: move the router or move yourself. The closer you are to your router or wireless access point, the better your signal quality. Just like any other radio device, WiFi routers have a particular range, so the signal weakens as you move further from the device.

Also note that walls and staircases can weaken the WiFi distance, and electronics like microwaves and other electronics with motors, in particular, will interrupt the signal.

3. Limit or schedule high-bandwidth activities with others sharing your network.

Other people using the Internet on your home network will affect the bandwidth available for Zoom meetings. Avoid having others stream video or music, play online games, or upload and download large files when you have a Zoom meeting scheduled.

It is also important to note that some other video conference systems can consume higher amounts of bandwidth, so if possible, try to stagger scheduling video conferences with others on your home network when possible.

While your home network can allow many devices to connect simultaneously, each one of them may have applications running that compete with your bandwidth use. Shutting off or disconnecting extra devices from your home WiFi will prevent them from interfering with your Zoom meetings.

4. Maintain your router.

Similar to having to reboot your computer periodically, it is a good idea to restart your wireless router. Typically this can be done by unplugging the power cable for 30 seconds and then plugging back it. It will generally take a few minutes for the router to reboot so that you can connect. Whether you own or rent your router, you should also update the firmware (the internal software) to keep it operating at its maximum capacity. You can contact your Internet Service Provider to find out information on how to update your router.

5. Close all unneeded applications during your Zoom meeting.

Improve your overall Zoom client performance by closing any application and browser window that you do not need active to participate in the meeting. Other applications may be using a large share of your available bandwidth. Examples of data-intensive programs include streaming video or music sites or other websites with dynamic content.

Avoid starting other bandwidth-intensive activities just before, or during, a Zoom meeting. On your Zoom device and on other computers and devices that share your Internet connection, you should avoid:

- large downloads
- large uploads
- streaming video (e.g., Netflix, Hulu, YouTube)
- cloud backups (e.g., Carbonite, CrashPlan)
- cloud file synchronizations (e.g., OneDrive, Dropbox)
- other high-bandwidth activities like streaming or

It is a good idea to check your network usage using Activity Monitor on the Mac or Task Manager in Windows to see if anything is causing network traffic in the background before you join a Zoom meeting so you can close it.

6. Disconnect from VPN unless it is needed for the meeting.

VPN is only needed to access specific on-campus network resources like the V: and U: drives and for some academic software, as noted on the Learning Remotely at Lake Forest College webpage. It is not needed to access email, my.lakeforest, OneDrive, Moodle, or Zoom.

Similar to the previous point, VPN will constrain the amount of available bandwidth available to you for a Zoom meeting. The only instance where VPN is advisable for use is when you are joining a meeting from a country that restricts the use of Zoom or your local Internet Service provider limits video conference traffic (which is not common). You can check the difference by running a speed test with and without VPN.

7. Providing video in HD resolution requires significantly more bandwidth.

To turn off HD in your Zoom client:

- a. In your desktop Zoom desktop client, click **Settings** (the gear icon).
- b. Click **Video** in the left menu.
- c. In the **My Video** section, uncheck the box beside **Enable HD** if it is checked.

8. Mute your audio when not speaking.

While audio does not use as much bandwidth as HD video, you can help reduce your bandwidth use by muting your audio when you are not speaking. Use the mute button in the bottom left corner of your Zoom desktop application to toggle your audio off and on.

If your bandwidth is particularly weak, you might also consider using a phone call to connect to Zoom meeting audio instead of using computer audio within the meeting. The phone numbers to connect to a Zoom session are visible as you join the audio in the meeting by clicking on the **Phone Call** tab in the **Choose ONE of the audio conference options** window as you join the meeting.

9. Plug in your computer.

If you are connecting from a laptop, plug the laptop into wall power. Low battery and battery power save settings can adversely affect meeting quality.