Fixing Zoom Woes

Zoom has been problematic for many people, including my family. This article delves into the issues I addressed to improve the quality of Zoom calls. The Windows 10 computers I was using were connected by Ethernet cables to the internet and had 8GB system RAM and fast solid state disk (SSD) drives. All were current on their updates. The main complaints were:
  • Video freezes.
  • Audio dropouts and delayed sound (also known as audio latency).
  • ‘Unstable Internet’ messages.

Internet Speed

Zoom recommends for group video calling:
  • For high-quality video: 1.0 Mbps/600kbps (up/down)
  • For 720p HD video: 2.6Mbps/1.8Mbps (up/down)
  • For 1080p HD video: 3.8Mbps/3.0Mbps (up/down)
  • For gallery view receiving: 2.0Mbps (25 views), 4.0Mbps (49 views)

Given that two zoom sessions run daily in my home at 720p, the bandwidth requirements were:
  • 5.2Mbps up.
  • 3.6Mbps down.

Looking into the internet issues revealed that there was a serious packet loss issue in conjunction with very slow upload speeds. These were detected using the following websites:
  • COX SPEED TEST: https://www.cox.com/residential/support/internet/speedtest.html
  • Packet Loss Test: https://packetlosstest.com/

Replacing the cable modem cleared up the packet loss issue. Upgrading to a higher data plan alleviated the slow upload speeds.
Computer Speed

Zoom has ‘recommended’ hardware requirements that none of my Windows 10 Zoom computers met, however they did meet the minimum requirements. These are:

Minimum system requirements for Windows, macOS, and Linux:
- Processor: Single-core 1Ghz or higher.

Recommended:
- Dual-core 2Ghz or higher (Intel i3/i5/i7 or AMD equivalent)
- RAM 4Gb.

From the above, we see an Intel “i” processor is recommended. Further probing of the Zoom website reveals there are computer specifications listed for the system requirements for virtual background:
- Intel i5.
- 4 cores or higher.
- 6th generation or higher.
- Excludes U series.

Zoom has recommended computer systems to run Zoom Rooms on. One of these was:
- HP Elite Slice G2 for Zoom Rooms 9EM37UT#ABA (single or dual screen)
- Intel i5-7500T processor.
- 8GB (2x4GB) memory.

None of the Windows 10 computers I was running zoom on met these recommended specifications, as they were the lower grade Celeron and Pentium processors. As such, the following comparable “Zoom Rooms” computer was purchased:
- HP 800 G2-SFF Desktop PC.
- Intel Core i5-6500 3.2GHz 6th generation processor.
- 8GB Memory.
- 256GB SSD.
- Windows 10 Pro.

Upgrading to the recommended Zoom computer alleviated the issues. The computer was set to run at maximum performance:
- Settings > System > Power & sleep > Additional power settings > High performance.

Windows updates was turned off:
- Settings > Update & security > Advanced options > Pause updates.

I did look into using a Chromebook, but these basic devices run a cut down version of Zoom that is lacking many features of the Windows 10 version.
Summary

Alleviating Zoom issues took an upgrade on the cable modem, internet speed, and the Windows 10 computer running Zoom. Once completed Zoom issues were rare. I concluded the ‘Unstable Internet’ message was a bogus error that was being generated by using poor performing Windows 10 computers that did not meet the recommended Zoom hardware requirements. The message was really complaining about the poor performing computer hardware and not the actual internet speed.

Internet Links

- Zoom system requirements for Windows, macOS, and Linux: https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macos-and-Linux
- System requirements for Zoom Rooms: https://support.zoom.us/hc/en-us/articles/204003179-System-requirements-for-Zoom-Rooms
- System requirements for Virtual Background: https://support.zoom.us/hc/en-us/articles/360043484511-System-requirements-for-Virtual-Background
- Zoom Join Meeting Test: https://zoom.us/test
- COX SPEED TEST: https://www.cox.com/residential/support/internet/speedtest.html
- Packet Loss Test: https://packetlosstest.com/
- Very high CPU load, audio/video problems for Web SDK: https://devforum.zoom.us/t/very-high-cpu-load-audio-video-problems-for-web-sdk/7937/9
- What can I do to reduce audio latency in Zoom (I'm already using wired headphones and a wired Ethernet connection to my computer, and don't have the ability to change my internet service)? https://www.quora.com/What-can-I-do-to-reduce-audio-latency-in-Zoom-Im-already-using-wired-headphones-and-a-wired-Ethernet-connection-to-my-computer-and-dont-have-the-ability-to-change-my-internet-service
- Sound Latency in Zoom on Windows 10: https://www.rochester.edu/online-learning/disruption/soundlatencyzoom.pdf
- Zoom says my internet is unstable, but it's not…: https://www.reddit.com/r/Zoom/comments/g1g3ss/zoom_says_my_internet_is_unstable_but_its_not/
- The Trouble With Chromebooks: https://blogs.vcu.edu/zoom/2020/11/02/the-trouble-with-chromebooks/
- #Zoom
- #UnstableInternet
- #Windows10
“Many computers running Zoom do not meet the ‘recommended specifications’ for internet bandwidth and hardware requirements.”

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