Setting Up Your Home Office Effectively and Securely: Part I

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This article is aimed at any practitioner with a home office, whether a new arbitrator just getting set up for the first time or a seasoned pro who has had a home office for years. Although we will focus on issues that arbitrators face, many of our suggestions could apply to any sole practitioner or even a member of a law firm who regularly works from home.[1]

As with any office (home or otherwise), there are a number of factors to weigh, some of which may compete with one another: security, convenience, cost, and functionality. We will look at hardware and software, both physical and digital. There is a lot of ground to cover, so although this article is in many ways just a sketch of the various tools and issues, it will be presented in two parts. In this part, we touch on your Internet connection and computer network as well as other issues relating to the physical setup. The second part will cover passwords, document management, billing, and e-mail (among other things).

Before getting into the specifics of each element of a home office computer network, it helps to have a conceptual map of how the pieces relate to each other. See the schematic on page 23 for guidance.

Getting Online

Internet options. You will need high speed Internet service (dial-up will not cut it), but overkill is easy. An Internet service provider (ISP) may try to sell you packages with speeds way beyond what you could possibly need—and if you don't know what you need, you might fall for their bait. When deciding on an ISP, first review your options for connecting, then consider how you will be using the Internet. Remember to include anyone else who will share the connection with you and account for how they will be using it as well.
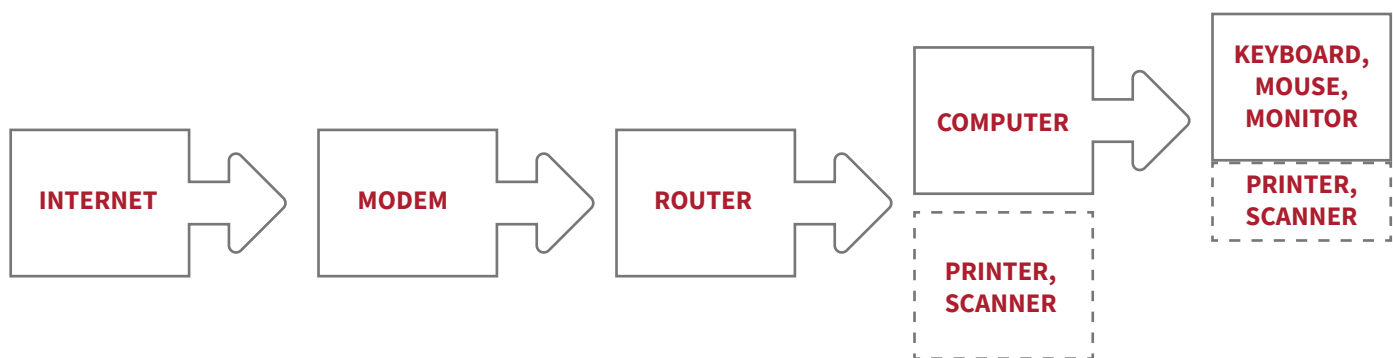
Generally, your choices for Internet service will be cable and DSL[2] (and, occasionally, fiber optic). In rural areas, your only choice may be satellite. Although cable is usually faster than DSL, either one could potentially meet your needs.[3] If you have cable TV and no landline phone service, cable Internet service will likely make much more sense than DSL. If you have a landline phone and no cable running to your house, DSL may be easier to add. If you have multiple convenient options from which to choose, consider cost, performance, and any reviews you may be able to find online for your specific ISP options.

For your home office, you want to be able to transfer large files, access online databases[4], conduct video calls, and connect to Citrix systems[5], among other things. To varying degrees, these activities place demands on both your download and upload speeds, so pay attention to both.[6] All of these activities, if being performed by one Internet user, can probably be accomplished on a connection with speeds of 5 megabits (Mbps) download and 2 Mbps upload.[7] There are many resources online for determining the speed you need based on how you use the Internet.[8]

How Do You Connect?

Once you have decided on an ISP, you will need certain hardware to connect your computer and devices to the Internet. There are two elements, which are sometimes combined in a single device: a modem and a router. The modem connects to your ISP; the router creates your network by transferring the signal from your modem to all of your devices, often through a Wi-Fi connection.

INTERNET → MODEM → ROUTER → COMPUTER → KEYBOARD, MOUSE, MONITOR

PRINTER, SCANNER

PRINTER, SCANNER

> 66 One element we cannot emphasize too strongly is that your laptop should be fully encrypted. 99

The modem is specific to the type of Internet service you have (cable, DSL, fiber optic, etc.), while the router is not. Often you will have the choice to buy a modem and router or rent them from your ISP.

We recommend having separate devices and owning your router. This will enable you to change ISPs and even types of Internet service by simply swapping out or reconfiguring the modem—without disturbing your home network. If you rent a combined modem and router or rent both parts separately, changing providers will be more of a hassle, as you will need to reconnect all of your devices to a new network.

You probably won't need to access your modem—just plug it in and your ISP will do the rest. But you will need to access your router to set a password for your Wi-Fi and take other security precautions. Be sure to consider ease of setup as you read the many router reviews available online that can help guide your purchase.[9]

One of the most important steps you can take to secure your network is adding a password to your Wi-Fi connection. It is always wise to check the strength of your passwords using a tool such as http://password-check-er.online-domain-tools.com/. If you don't use a password or you use one that is too easy to crack, someone could use your Internet service to do bad things or could access your computer, infect it with malware, and/or view your confidential information.[10] Your router acts as a firewall, protecting your network from bad actors online.

If a third party is able to connect to your network, they are inside your firewall. One way to help avoid this risk is to set up guest access through your router, which allows other people to connect to your Internet while keeping them outside your network. If confidential information is stored on your computer, you may want to use a guest network for other family members, not just people visiting your home, to isolate and secure your home office network.

Essential Parts of Your Home Network

Now that you have acquired the infrastructure to set up a network, what basic devices do you need?

Computer. Let's be real—you need a laptop. Once upon a time, laptops were heavy, slow, and expensive, but not anymore. Although you can get by with only a desktop computer, it will be much more of a struggle. You will inevitably find you didn't bring some file with you or need to access something when you are away from home at a hearing (or an ARIAS conference).

You might be able to make do with only a tablet, though you will be limited in your ability to write easily if you don't have a keyboard, and speed and software will be limited as well. In addition, a tablet requires an Internet connection, which may or may not always be readily available. So a laptop is likely to be more useful than a tablet.

As for whether to get a PC or Mac, either is fine. It depends on what you prefer. (We will discuss the software you will want in part two of this article.) As for basic specs, be sure the laptop has a video camera—so you can participate in videoconferences—as well as enough random access memory (RAM) and storage to operate quickly and hold all of the data you accumulate through your work.

One element we cannot emphasize too strongly is that your laptop should be fully encrypted. Why encrypt? Think of the confidentiality agreements that apply in virtually every arbitration. If someone steals your computer or you leave it in a public place, any confidential arbitration information on it could be disclosed. In addition, you have ethical obligations, and there are state and federal legal requirements if you deal with certain categories of regulated information, including but not limited to personally identifiable information (PII).[11]

Macs come with built-in encryption software, but make sure you enable it.[12] Encryption is not standard on all ver-

sions of Windows; for example, Windows 10 Home edition does not come with encryption as an option. One alternative is to upgrade to Windows 10 Pro, but there are ways to encrypt your computer for free as well. For example, Veracrypt, a free and open-source program, provides solid encryption, though it can be a bit more complicated to use.[13]

If you strongly object to encrypting everything (we should have a talk), at a minimum you should have the ability to create separately encrypted folders for each arbitration. Veracrypt can do that, too.

Use a good password to decrypt—otherwise, what's the point? Also, have your computer screen set to lock after being idle for a maximum of 15 minutes. Though it can be annoying, if it never locks and you lose your computer, your hard work securing it will have been for nothing.

Printer. Even if you like to go paperless, you need a printer. Sometimes there are things that need to be printed (and it can be nice on occasion to work with a hard copy).

The printer can connect to the network in several ways: hard wired into your computer, hard wired into the router, or connected through Wi-Fi. If it is connected to the router, whether physically or through Wi-Fi, you can print from any computer on the network, which can be convenient if you have more than one.

A basic black-and-white laser printer makes sense if you print in volume and want to keep operating costs down. A color inkjet printer is more flexible,

although ink can be pricey. But if you don't print many copies, color might be fine for you.

Scanner. A scanner is like a camera or the first stage of a photocopier, converting physical documents and images into digital ones. You need a scanner, which can connect to your network in the same ways a printer can. One alternative to a physical scanner is a scanner app on your smartphone—options include CamScanner[14] and Genius Scan[15] as well as numerous other choices. Both of these apps have free versions with certain primary basic functions you'll need, as well as paid versions to which you could upgrade.

Other Home Office Devices

There are a whole host of other devices that might be useful to have in your home office. Here are a few to consider.

Shredder. Remember, you will have confidential arbitration information in your possession, and it may be in physical form. Consider whether any document retention policies apply to you or whether the confidentiality agreement requires document destruction at the end of the arbitration.

Separate monitor. Even if your laptop has a screen (which most do), you might find it easier to use a larger separate monitor. You might also consider having two monitors or using a separate monitor and your laptop's screen. It can be helpful to look at one or more documents while editing another, such as exhibits from a hearing while you are drafting an award.

Uninterruptible power supply (UPS). A UPS is essentially a large battery that provides power during an outage. If

you have a laptop with a solid battery that you keep charged, you might be fine without one. For example, if you use your laptop plugged in most of the time, the battery will keep it running if the power cuts out. But if you have a desktop or a powered external hard drive, you may need a UPS if you don't want to risk losing work because of a power outage.

Separate keyboard and mouse. These help in reducing strain and the potential for injury. Multi-lingual practitioners may find it useful to purchase an add-on to their keyboard to enable switching languages by "laying on" the language keyboard on top of the English keyboard and changing languages without having to purchase additional keyboards for each language.[16]

Physical Office Layout

Your office should be a separate space that provides privacy and physical security. Although they barely feel like "technology," walls and doors are some of the oldest privacy and security technologies out there. Think of the calls you will have with the rest of the panel discussing confidential information and deliberatingabout the case. Video conferencing, which is being used more often these days for deliberations and remote hearings, requires an even more substantial privacy barrier, as you will very likely use a speakerphone and could have confidential information displayed on your screen by one of the other participants. You also might have documents on your desk that are covered by a confidentiality agreement.

For all of these reasons, walls and a locking door are best. If you can't lock

your home office space, a partial solution is locking file cabinets. That will only work if you always put away all arbitration materials when not in use.

Last but not least, consider the ergonomics of your office space: the level of your monitor, keyboard, and mouse and the height and shape of your chair.[17] Standing desks are among the newer ergonomic office options.[18] They enable you to change your work position, which can counteract health problems that arise from sitting too long. Also, think about getting a separate keyboard and mouse that connect to your laptop wirelessly. They will enable better body physics and engagement with your computer, which can help boost your productivity—or, at least, help prevent physical injury from long work hours.

The advice we are presenting here is intended as a thumbnail sketch of the issues, concerns, and tools involved in setting up a home office. Depending on the nature of your practice, various issues may be more or less relevant. We encourage you to investigate further if you feel you need more information.

NOTES

1. If you fall into this last category, you should consult your firm's policies and procedures and its IT department.

2. DSL, or digital subscriber line, is a high-speed Internet connection that uses telephone lines.

3. The same goes for fiber optic, which is usually even faster and more expensive. But consider satellite only if you have no other options, as it is subject to weather conditions and has other limitations (though it's better than a dial-up connection). See http://www.plugthingsin.com/Internet/satellite/ for an overview of satellite Internet service.

4. Document discovery is frequently stored and reviewed in online databases.

5. Citrix allows secure connections to remote servers and resources. A Citrix connection can allow you to view and edit confidential arbitration information without the risk that comes with transferring the information to you or storing it locally.

6. In contrast, for example, online video streaming puts almost all of its demands on your download speed.

7. One way to assess your need is to consider how long you're willing to wait to download a large file—say, a 25 megabyte (MB) file, which is the maximum attachment size Gmail permits. At 5 Mbps (1 MB = 8 Mb), it would take 40 seconds.

8. See https://www.nerdwallet.com/blog/utilities/how-to-decide-what-Internet-speed-you-need/ and https://www.howtogeek.com/409084/how-much-Internet-speed-do-you-really-need to learn more about Internet speeds. It can also be useful to check your current speed at https://speed.measurementlab.net/#/.

9. For example, see https://www.consumer-reports.org/products/wireless-routers/ratings-overview/ and https://thewirecutter.com/reviews/best-wi-fi-router/.

10. For an overview of the risks, see https://askleo.com/is_it_safe_to_share_my_Internet_connection_with_my_neighbor/.

11. PII, as that term is used here, includes information such as name, date of birth, Social Security number, and medical information covered by HIPAA, the Health Insurance Portability and Accountability Act.

12. See, e.g., https://gravitypayments.com/highlights/enable-filevault-mac/. Older Macs may not have encryption software, so you'll need to find out what options are available for your specific system (or spring for a new computer).

13. Learn more about VeraCrypt's services at https://www.veracrypt.fr/en/Home.html.

14. See https://www.camscanner.com/ to learn more.

15. See https://thegrizzlylabs.com/genius-scan for more information.

16. If our discussion about modems, routers, and computer networks seems over-

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