HOME NETWORK CONSIDERATIONS

Documentation for Staff / Faculty working from home office using their own network equipment

Cable / DSL Home Customers
If your internet service is provided by a cable TV company or phone company, then you will have equipment called a 'modem' that connects your home to the internet service.

Standalone Modems
These devices convert the cable TV or phone line to a network port. Standalone modems can provide service to a single device and usually do not provide any wireless services. You should avoid connecting your home desktop directly to the modem and consider using a router to connect multiple devices. Routers will be explained below.

Example of a Standalone Cable Modem
The single network port is on the top, the coaxial cable TV port is on the bottom.

Example of a Standalone DSL Modem
The ports on a DSL modem appear similar, but the network port (yellow) is larger.

Combo Modem / Routers
Some internet service providers use combo modem / routers to provide service to multiple devices and sometimes wireless and telephone service. These types of devices have several more network ports (usually 4) to connect multiple devices to the router. Notice the ports on the graphic below that are outlined in yellow. Combo modem / routers may or may not also provide wireless service. Antennas connected to the device usually indicate the modem has wireless, but not all devices have visible external antennas. Check with your service provider or look for any markings on the device that say 'WiFi, wireless, or 802.11' to determine if your combo modem / router provides wireless. If your provider uses this type of combo modem, then you should not need any additional equipment.

Standalone Routers and Routers with WiFi
A standalone router will need to be connected to a cable / DSL modem to access the internet. Most routers include one network port for connecting to your modem and 4 or more ports for connecting to your desktop. A standalone router typically has a port labeled 'WAN' or 'Internet' that is used to connect directly to the network port on your standalone cable or DSL modem. The network ports that connect to your desktop may be called 'LAN' or be numbered 1-4.

Example of a Router with WiFi:
The yellow ports (note they're not always yellow on some devices) are for connecting to your desktop. The blue port would connect to the cable or DSL modem. This example also includes antennas that stick out, so we know it provides WiFi as well.

Standalone routers or modem/router combination devices are preferred because they provide provides better security to your desktop and wireless devices than connecting to a standalone modem. Routers also enable multiple devices to share your internet connection. Please note that a standalone router may be used with a combo modem/router but is not necessary.

Satellite and Hotspot Customers
A satellite modem typically is a larger device that has a coaxial TV connection that connects to your dish, and one or more network ports to connect your desktop. Some of these devices may also provide router and wireless functionality like a combo modem/router. Check with your provider for details.

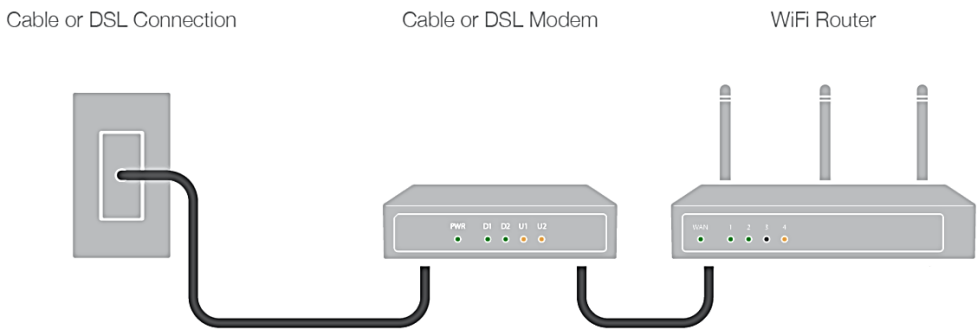
A mobile hotspot usually does not provide a wired connection to a desktop device unless the hotspot includes a USB connection that connects to your desktop for the purpose of wired 'tethering'. Tethering is the only way to connect your campus desktop since they do not have wireless like a laptop would. Check with your provider to see if your hotspot allows this feature. Almost all hotspots today can be considered a modem/router combination since they allow multiple customers to connect to them.

A note regarding satellite and cellular hotspot connections. Some customers may find that their cellular provider provides adequate bandwidth and latency (delay) for an acceptable customer experience. Often depending on terrain and your location, cellular hotspots and satellite internet connections are not fast enough to support a VPN connection connecting back to campus. Customers are advised to only connect VPN to services that would be otherwise restricted off-campus such as shared drives (like the O: and M: drives) or applications that only allow access due to security restrictions.

Home Office Location in Relation to Your Device
A note regarding location office location in your home. Please note that your desktop machine does not have a wireless connection so you will need to purchase a cable long enough to reach to the combination modem/router or your standalone router. For customers with laptops and

WiFi enabled routers, please also note that your connection speed is best when you are close to the router, with as few walls as possible between your home office and the router.

Example of a Home Network with a Standalone Cable/DSL Modem and a WiFi Enabled Router:



Example of Connectors:

Network (Ethernet)

Phone (DSL)

Cable or Satellite (Coaxial)

Images taken from insteon.com and google images