CoPilot: I have a cable modem and a pc. I am trying to understand the relationship between the internal static IP address that I have on my PC and the dynamic IP that the cable internet provider assigns. How do these all work together?

Here’s a simple explanation of how your internal static IP and your provider’s dynamic IP work together:

* **Internal Static IP (Private IP):**  
  This is the IP address your PC uses on your local network (e.g., 192.168.1.10). It is assigned by your router (or manually set by you) and is only visible to devices on your home network.
* **Dynamic IP (Public IP):**  
  This is the IP address your cable internet provider assigns to your modem/router. It is how your home network appears to the outside world (the internet). This address can change over time (hence "dynamic").

**How they work together:**

* Your PC communicates with your router using its internal static IP.
* The router uses Network Address Translation (NAT) to allow multiple devices on your local network to share the single public IP assigned by your ISP.
* When your PC accesses the internet, the router translates your internal IP to the public IP.
* Responses from the internet go to your public IP, and the router forwards them to your PC’s internal IP.

**Summary:**  
Your internal static IP is for local network communication. The dynamic public IP is for internet communication. **The router connects the two using NAT.**