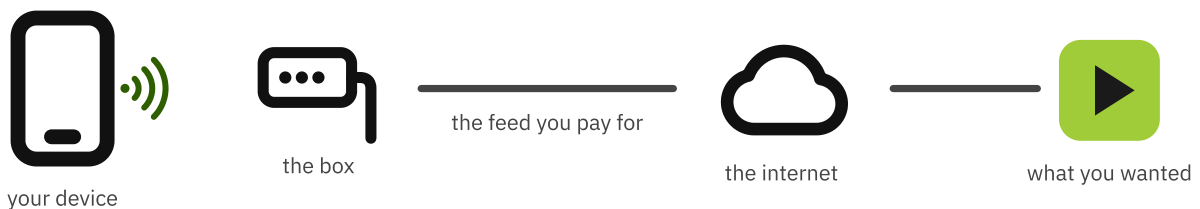


How Your Devices Access the Internet, Explained

Wi-Fi and cellular are ways to reach the internet. They are not the internet. Follow the trip one hop at a time, and learn which hop to blame when something is slow.



The short answer

Your Wi-Fi and your internet are two different things. They meet at one box in your home. So they get blamed as one thing.

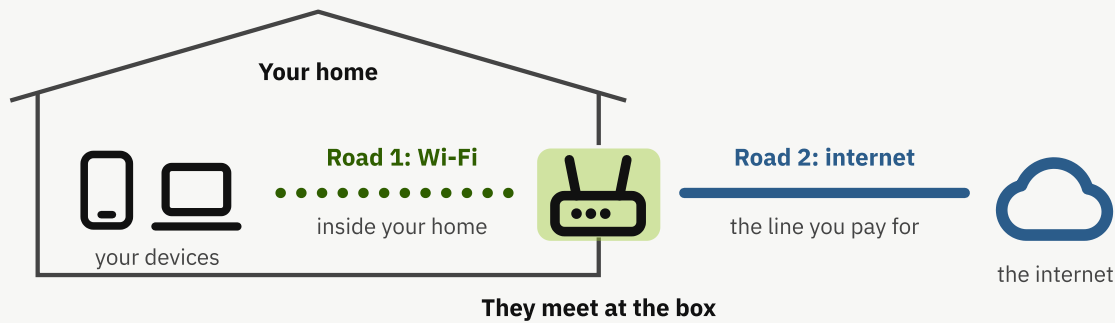


Figure 1. Two roads meet at one box. Your Wi-Fi and your internet are different roads, and they meet at the box. Green is the Wi-Fi inside your home. Blue is the line out to the world.

Everything you do online takes the same trip. It goes from your phone to the box, out the line you pay for, across the internet, and to the video or call you wanted. Any stop can be the slow one.

The one big idea

Your signal bars only measure the first hop, from your device to the box. They know nothing about the rest of the trip.

A word on "the box"

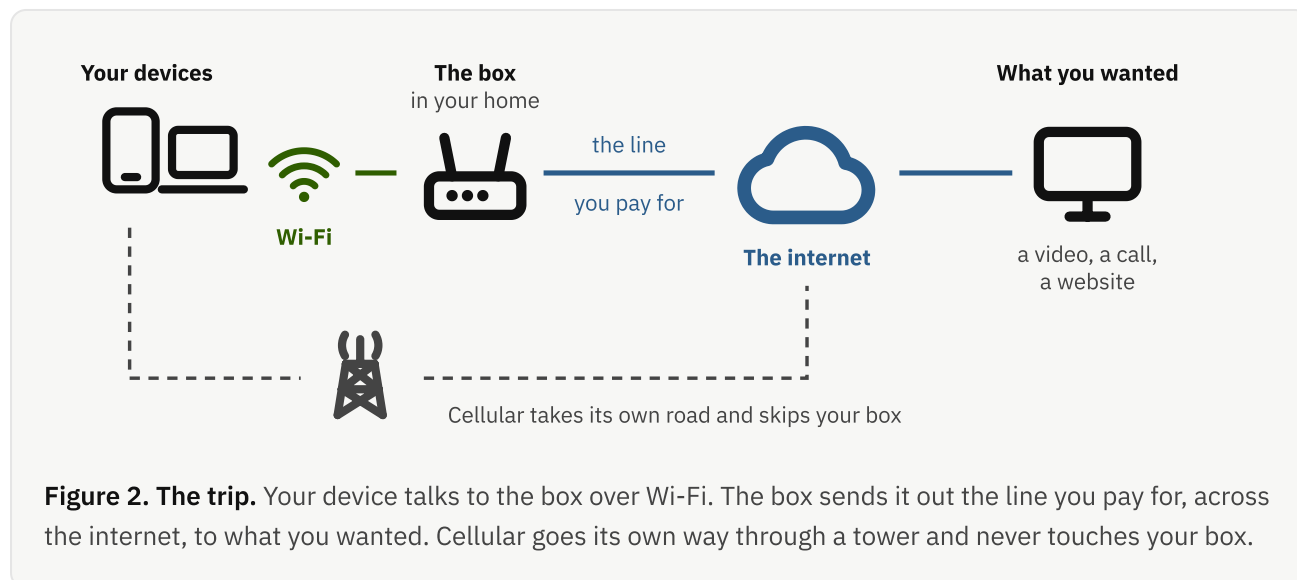
It's whatever your device talks to over the air. That might be the router your provider gave you, a gateway, or one of the mesh units around your house.

What's inside

The whole trip	3	Which road is slow?	8
Two roads, one box	4	Before you spend money	9
Six stops	5	Four things people get wrong	11
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Cellular skips your box	7	Where this comes from	13

The whole trip

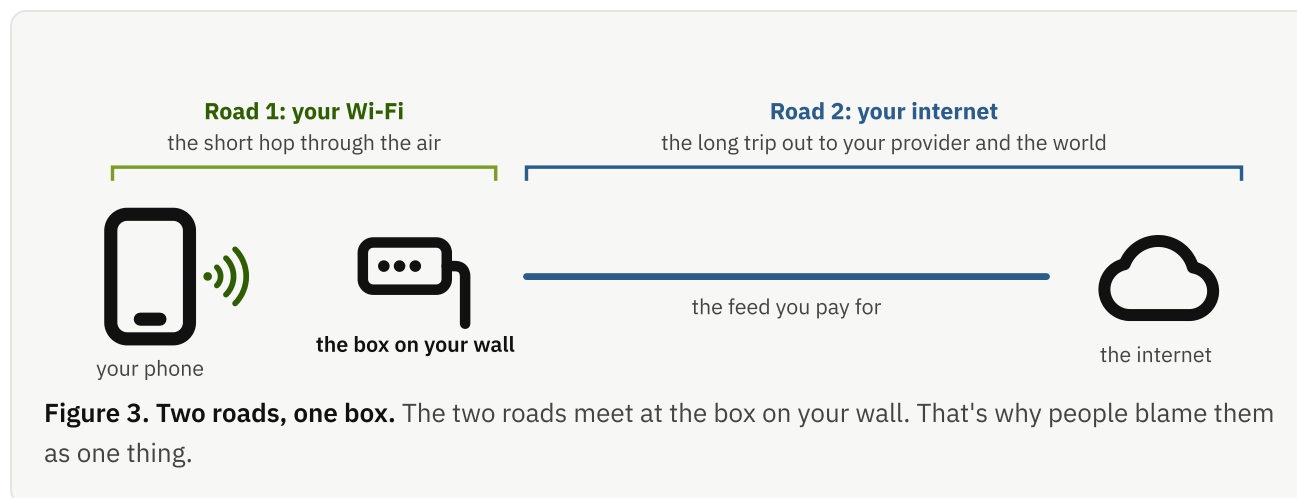
Here's the whole trip on one page. Every picture after this is a close-up of one part of it.



Keep this picture in mind. When something is slow, the question is always the same: which part of this trip is the slow one?

Two roads, one box

The trip has two roads. The short hop through the air is your Wi-Fi. The long trip out to the world is your internet.



Your internet plan pays for the second road. It does nothing for the first. If the slow part is the Wi-Fi hop, a bigger plan just costs more.

Wi-Fi gets the blame because it's the part you can see. You can see the bars and the network name. The internet road is invisible, so nobody blames it.

Six stops

Up close, the two roads have six stops. Any one of them can be the slow one.



Figure 4. Six stops. The first three are in your home. The fourth belongs to your provider. The last two are out in the world, and nobody in your house can fix them.

- 1 **Your device.** An old or busy phone can be slow on its own.
- 2 **Wi-Fi or a cable.** The short hop to the box. Walls and distance weaken Wi-Fi.
- 3 **The box.** It makes your Wi-Fi and talks to your provider. It is not the internet.
- 4 **The line you pay for.** Fiber, cable, DSL, 5G or satellite. A faster plan only changes this stop. *Home Internet, Explained* covers each kind.
- 5 **The internet.** The networks between your provider and the world.
- 6 **The service.** The video, game, website or call you wanted.

What your bars measure

The bars in the corner of your screen only grade the hop to the box. You can have full bars and no internet at all.

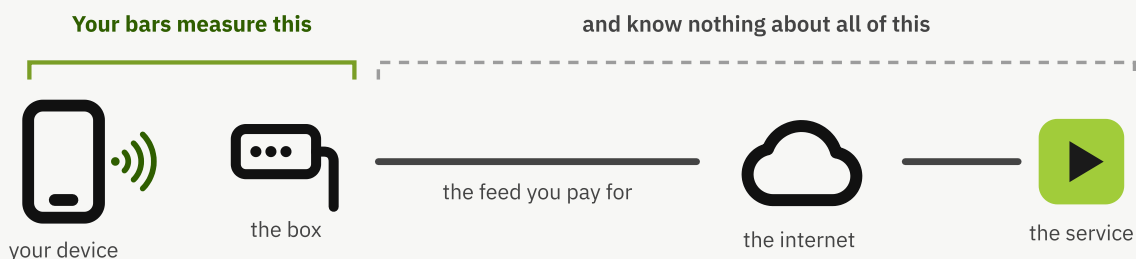


Figure 5. The bars grade one hop. Full Wi-Fi bars with a dead internet line happens every day. The bars only ever looked at the hop to the box.

There are two kinds of bars. The fan shape is Wi-Fi. It grades the hop to your box. The stair-step is cellular. It grades the hop to the nearest tower.

A sign-in page means the Wi-Fi works

In a hotel or coffee shop, the page that asks you to sign in came to you over the Wi-Fi. Finish it before you blame the Wi-Fi.

Cellular skips your box

Your phone has a second way out. On cellular, it talks straight to a nearby tower. It never touches your box, your Wi-Fi or your home internet.

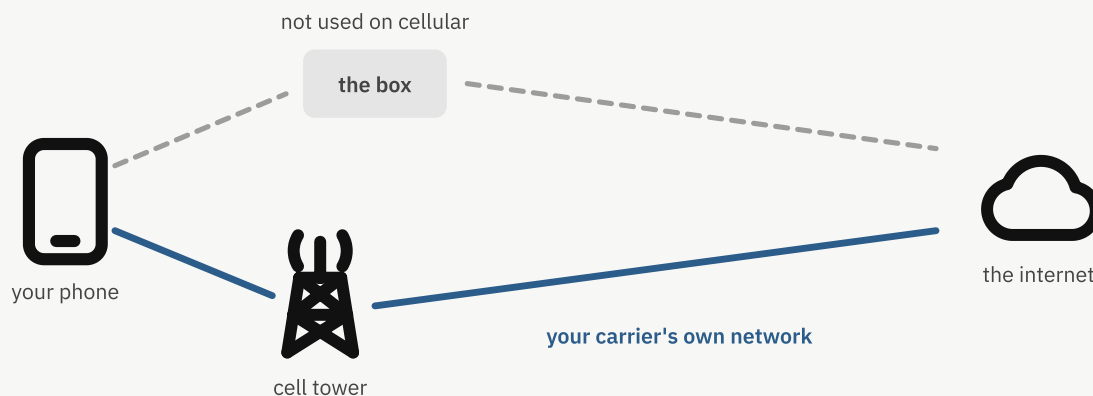


Figure 6. Two ways out. On cellular, your phone reaches the internet through a tower. Your box and your home internet are not part of that trip.

A free test for a bad corner of the house

Turn Wi-Fi off on your phone and let it use cellular. If everything works, the trouble is in your home. If it fails on cellular too, suspect the phone, the app or the website.

Wi-Fi Calling, Explained covers the opposite trip: calls that go over your Wi-Fi.

Which road is slow?

The free WLAN Pros Toolbox can tell you. Tap **Check My Connection**. In about a minute it grades your Wi-Fi and your internet separately. The first time I left a test copy on my wife's phone, she called: "Your app is broken. It says the Wi-Fi is good and the internet is bad." The app had the split right: the Wi-Fi was fine and the internet was down. Someone had disconnected the fiber to our house.

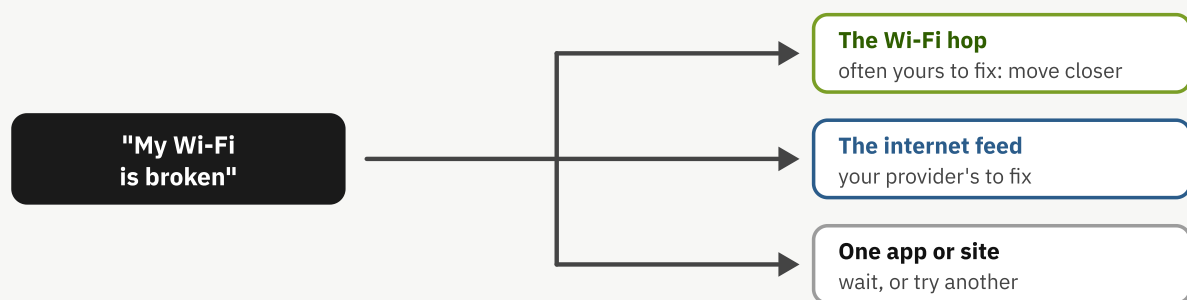


Figure 7. One complaint, three causes. The Wi-Fi hop, the internet line, or one app or website. The test tells you which to check first.

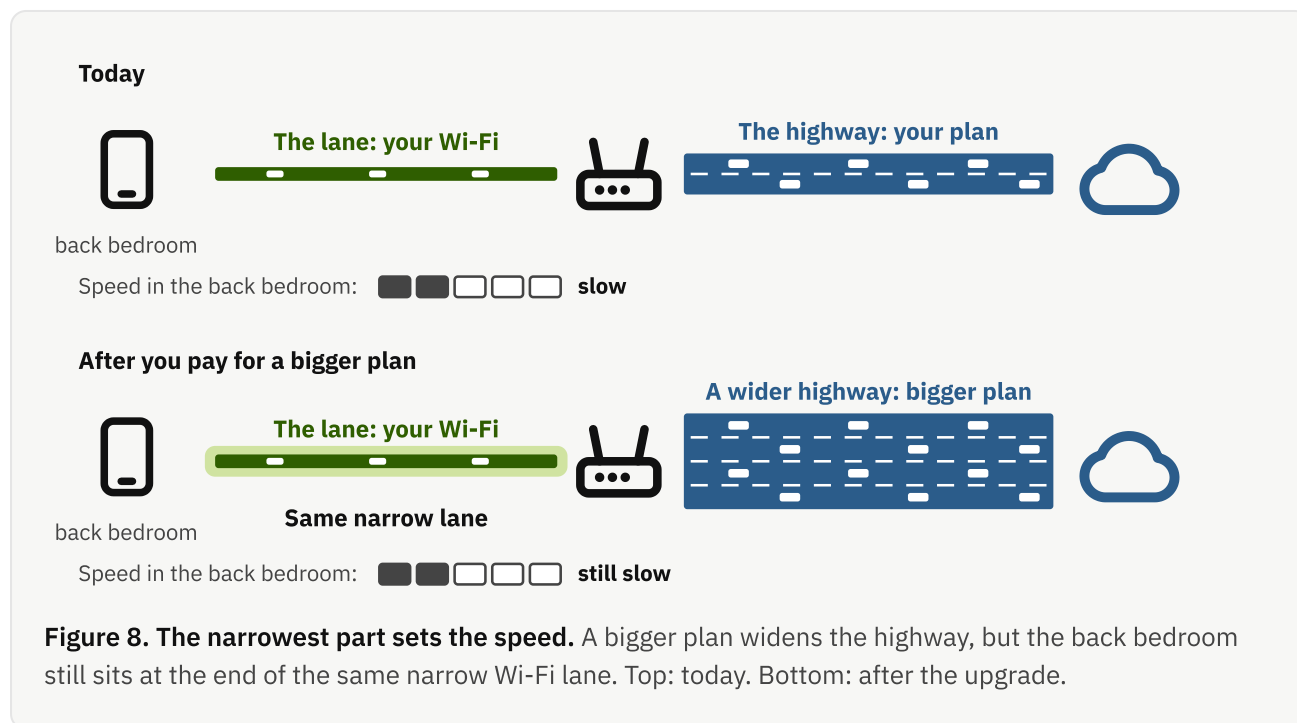
- ☐ **Wi-Fi is weaker:** move closer to the box, or move the box.
- ☐ **Internet is weaker:** run it again, then check with your provider.
- ☐ **Both look good:** the slow thing is probably one app or website.

Then walk. Test next to the box, then in the far corner. The internet grade stays the same. The Wi-Fi grade changes as you move.

A bigger plan won't fix slow Wi-Fi

A faster internet plan does not make your Wi-Fi faster. Traffic moves only as fast as the narrowest part of the trip.

Picture a wide highway that ends in a country lane. If the back bedroom is slow because of the Wi-Fi, no plan will fix it.



The hotel with perfect bars

Picture a hotel where every phone shows full Wi-Fi bars, in every room. Yet web pages crawl and videos won't start. Everyone blames the Wi-Fi.

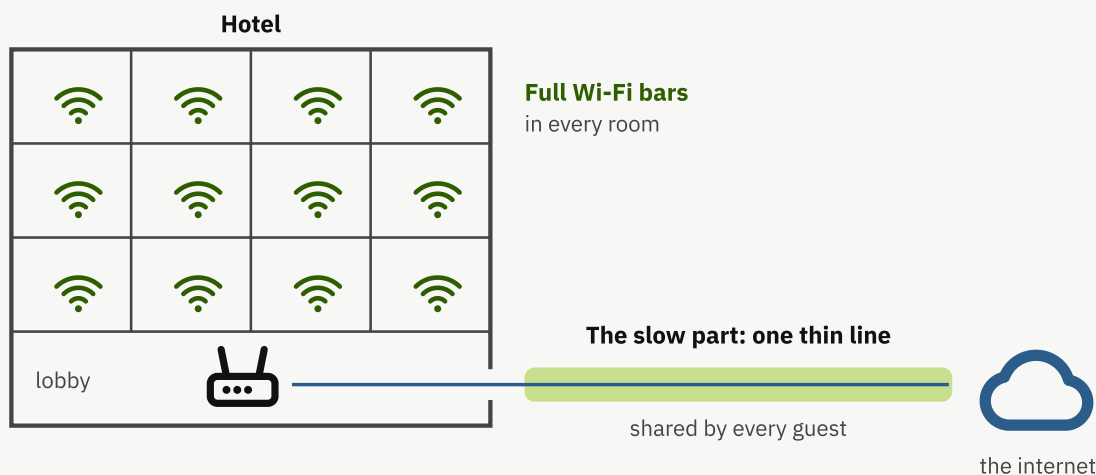


Figure 9. Full bars, slow pages. Every room has strong Wi-Fi, but the whole building shares one thin line to the internet. The highlighted line is the slow part, not the Wi-Fi.

At a hotel in Dubai I went down to the front desk about the Wi-Fi. "Not another complaint," the clerk said, and sent me to the manager. I told him his Wi-Fi was fantastic: my laptop was connected to the access point at 867 Mbps. The problem was the other road, one thin internet line shared by every guest. On most customer sites I visit, it's the same.

Ask the slow spot first

Run Check My Connection where things feel slow. If the Wi-Fi is the weaker road, keep your wallet closed. A bigger plan won't help.

Four things people get wrong

Each myth is followed by what's true.

MYTH Full bars means the internet is working.

FACT The bars only grade the hop to the box. The internet can still be down.

MYTH A faster plan means faster Wi-Fi.

FACT A plan only changes the line to your provider. It never touches the hop through the air.

MYTH Wi-Fi is the internet.

FACT Wi-Fi and cellular are ways to reach the internet. They are not the internet.

MYTH If one video won't play, the Wi-Fi is broken.

FACT If everything else works, that one service is having a bad day.

YOUR NEXT STEP

Do this now

- 1 **Get the free Toolbox** at toolbox.wlanpros.com. No account needed.
- 2 **Go to the spot that feels slow** and tap Check My Connection. See which grade is weaker.
- 3 **Walk to the box and test again.** Watch which grade moves.
- 4 **Try cellular.** Turn Wi-Fi off. If it works, the trouble is in your home.
- 5 **Call your provider with the result,** not a feeling, if the internet grade stays weak.

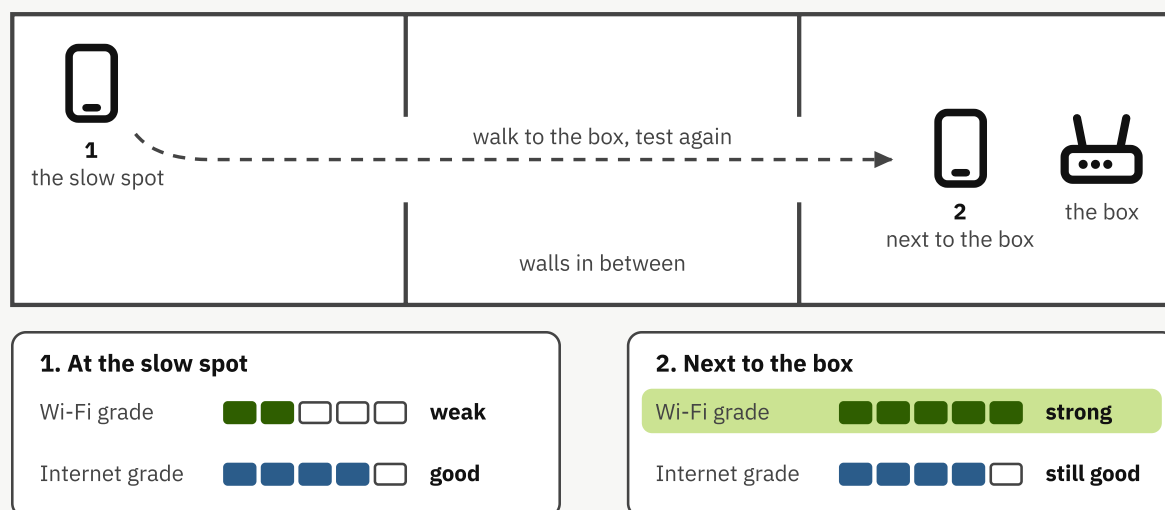


Figure 10. Watch which grade moves. Walking toward the box changes the Wi-Fi grade. The internet grade stays the same, because the line to your home did not change.

SOURCES

Where this comes from

This guide is drawn from Keith Parsons's book *Fix Your Own Wi-Fi* (WLAN Pros, in preparation, 2026), chapters 1, 2 and 6, and from its master graphic.

- Keith Parsons, *Fix Your Own Wi-Fi*, chapter 1, "My Wi-Fi is broken" (the map; two roads, one box; the four outcomes; both low together)
- Keith Parsons, *Fix Your Own Wi-Fi*, chapter 2, "The two roads" (the plan upgrade; the hotel; cellular does not use either road)
- Keith Parsons, *Fix Your Own Wi-Fi*, chapter 6, "When it's not the Wi-Fi at all" (the four handoffs; the sign-in page)
- WLAN Pros, "How your devices access the Internet", master graphic, version 3, September 2026 (Figure 2)
- WLAN Pros Toolbox, Test My Connection screen: two grades, measured internet side, Wi-Fi side worked out from the negotiated rate

About this guide

Written for people who aren't technical and want to stop guessing when something online is slow. The guide is independent and isn't affiliated with any provider or carrier.

About the author

Keith Parsons, CWNE #3, has designed, installed and troubleshot Wi-Fi for over 25 years. He runs Wireless LAN Professionals and the WLPC conferences.