Gig Fiber Network Bottleneck Checklist

ISP or Internal Network? A Quick 5-Step Scoring Test

You upgraded the internet. The Wi-Fi still sucks. Cameras buffer. Devices drop. Before you spend another dollar on a faster plan or another router from the big box store, run this checklist.

This is not a knowledge article. It is a working document. Fill it out as you go. Score it at the end. The score tells you where you actually stand.

Business Name: _____

Location / Address: _____

Date of Test: _____

Performed By: _____

Internet Plan (Provider / Speed): _____

Connection Type (Fiber/Cable/FW/Other): _____

What You Need Before You Start

- A laptop with an ethernet port (or USB-to-ethernet adapter)
- One known-good ethernet cable
- Access to your router, firewall, or modem
- A speed test site (fast.com or speedtest.net)
- A phone or second device to test Wi-Fi separately
- This checklist, printed or open on a tablet
- A floor plan or rough sketch of the building (optional)

STEP 1 — Test Wired Near the Router

Goal: Find out what your ISP is actually delivering, before Wi-Fi or cabling gets in the way.

How to do it:

1. Walk to your main network equipment (router, firewall, or modem).
2. Plug your laptop directly into it with an ethernet cable.
3. Run a speed test. Run it three times. Use the best result.

Record your results:

Test	Download (Mbps)	Upload (Mbps)	Ping (ms)	Time of Day

Speed You Are Paying For (Down / Up): _____

How close is your wired test to what you pay for?

- **Within 10% of plan** — ISP is delivering. Score this step **9-10**.
- **70-90% of plan** — Acceptable, but worth a second look. Score **6-8**.
- **50-70% of plan** — Something is wrong at the edge (router, modem, or ISP). Score **3-5**.
- **Under 50% of plan** — Call your ISP first. Score **1-2**.

STEP 1 SCORE (1-10): _____

Notes / Observations:

_____

_____

_____

STEP 2 — Test Wi-Fi in the Problem Areas

Goal: Test from the places where people actually complain. Not the desk next to the router.

How to do it:

1. Disconnect from ethernet. Connect to Wi-Fi on the same laptop or a phone.
2. Walk to each problem area. Run a speed test in each one.
3. Note the signal strength (bars or dBm if you have it).

Record your results:

Area / Location	Download	Upload	Ping	Signal	Time
Near the router (control)					
Front counter / reception					
Conference room					
Back office					
Shop / warehouse / barn					
Far side of building					
Outdoor / parking / yard					
Other:					
Other:					

Score this step:

- **Every area within 30% of wired speed, full signal** — Score **9-10**.
- **Most areas usable, 1-2 weak spots** — Score **6-8**.
- **Half the building is bad or marginal** — Score **3-5**.
- **Wi-Fi drops, won't load pages, dead zones in core work areas** — Score **1-2**.

STEP 2 SCORE (1-10): _____

Notes / Observations:

STEP 3 — Compare the Results

Goal: Translate the numbers into a diagnosis.

Use this table to figure out what your results point to:

Wired	Wi-Fi	Most Likely Problem
Good	Good	Network is healthy. Look elsewhere (device, app, ISP).
Good	Poor everywhere	Router / access point capacity, or AP overloaded.
Good	Poor in specific areas	Wi-Fi coverage, AP placement, interference.
Good	Great one side / bad other	Distribution / cabling / AP layout.
Poor	Poor	ISP, modem, firewall, or service plan.
Poor	Good (rare)	Bad cable or bad port at the router.

Check the row that best matches your results:

- ■ Good wired, good Wi-Fi
- ■ Good wired, Wi-Fi poor everywhere
- ■ Good wired, Wi-Fi poor in specific areas
- ■ Good wired, Wi-Fi great on one side / terrible on the other
- ■ Poor wired and poor Wi-Fi
- ■ Poor wired, good Wi-Fi

Score this step:

- ■ **Results are consistent and clearly point one direction** — Score **8-10**.
- ■ **Mixed signals, but a pattern is forming** — Score **5-7**.
- ■ **Results all over the place, no clear picture** — Score **1-4**. (Multiple problems stacked.)

STEP 3 SCORE (1-10): _____

Initial Diagnosis (best guess from the table above):

_____

_____

_____

STEP 4 — Check WHEN the Issues Happen

Goal: Patterns matter. A network that works fine with three people may fall apart with thirty.

Answer each question:

Question	Yes	No	Notes
Does it slow down during specific hours of the day?			
Worse when staff / customers / guests are on site?			
Worse during church services, busy hours, shift changes?			
Worse when cameras are recording or doing nightly uploads?			
Worse when backups, cloud sync, or large transfers run?			
Fine when the building is empty, broken when full?			
Random drops with no obvious pattern?			

Time of day problems are worst: _____

People / devices on network then: _____

Score this step:

- **No pattern, network is consistent 24/7** — Score **9-10**.
- **One mild predictable pattern (busy hours)** — Score **6-8**.
- **Clear capacity problem — falls apart under load** — Score **3-5**.
- **Random, unpredictable drops with no pattern** — Score **1-2**. (Hardest to diagnose, usually equipment or design.)

STEP 4 SCORE (1-10): _____

STEP 5 — Document What Fails and Where

Goal: Replace "our internet is bad" with evidence. This is the document a tech (yours or ours) actually needs.

For each problem area, fill in one row:

Location	Device(s) Affected	Wired / Wi-Fi	Time of Day	What Failed

Score this step:

- **Documented every issue with location, device, time, and failure type** — Score **9-10**.
- **Documented most issues, missing a few details** — Score **6-8**.
- **Some notes, mostly from memory** — Score **3-5**.
- **No documentation, complaints only** — Score **1-2**.

STEP 5 SCORE (1-10): _____

BONUS — The 5 Common Internal Network Problems

Even if your speeds look fine, these quietly kill a business network. Score yourself honestly on each. Same 1-10 scale.

1. Consumer-Grade Gear vs. Business-Grade Gear

A router from the big box store may be fine at home. A business has computers, printers, phones, POS systems, cameras, guest Wi-Fi, smart TVs, cloud apps, maybe a shop or second building. That is a different workload than a couple phones and a Netflix stream.

- **10** — Business-grade router/firewall, switches, APs (Unifi, Ubiquiti, Cisco, Meraki, Fortinet).
- **7-9** — Mostly business-grade with one or two consumer pieces.
- **4-6** — Mixed bag. Home router with some business gear bolted on.
- **1-3** — All consumer gear from a big box store. Maybe with extenders.

SCORE (1-10): _____

Equipment notes: _____

2. Wi-Fi Placement

Walls, concrete floors, freezers, electrical noise, metal buildings — they all matter. One router in a back office trying to cover the whole building is not a strategy. It is hope.

- **10** — Site survey done. APs placed for coverage, not convenience. Tested in every area.
- **7-9** — Multiple APs in reasonable spots. A weak corner or two.
- **4-6** — One or two APs, placed wherever there was an outlet.
- **1-3** — Single router in a back office or closet. Extenders to "fix" it.

SCORE (1-10): _____

AP count / locations: _____

3. Cabling

The cables in the wall nobody thinks about. Damaged, poorly terminated, too long, low quality, or running through a mystery switch in a closet nobody remembers — all of it can kill performance even with gig fiber at the door.

- **10** — Cabling is structured, labeled, tested, documented. Cat6 or better.
- **7-9** — Mostly clean. A few unknown runs.
- **4-6** — Mix of cabling. No labels. Mystery switches in closets.
- **1-3** — Spaghetti. Nobody knows what goes where. Visible damage or improvised splices.

SCORE (1-10): _____

Cabling notes: _____

4. Network Separation (Flat vs. Segmented)

Guest Wi-Fi, business computers, cameras, payment systems, printers, and phones should not all live on the same flat network. That creates performance issues, troubleshooting nightmares, and real security risk.

- **10** — Separate networks/VLANs for business, guest, cameras, POS, IoT.
- **7-9** — Guest Wi-Fi is separated. Other traffic mostly mixed.
- **4-6** — Only one or two basic separations.
- **1-3** — Everything on one flat network. Guest, business, cameras, all together.

SCORE (1-10): _____

Separation notes: _____

5. Visibility and Documentation

If nobody knows what is connected, what ports are active, which APs are overloaded, or where traffic goes — troubleshooting is guesswork. Guesswork gets expensive.

- **10** — Full network diagram, asset list, remote monitoring, alerts.
- **7-9** — Diagram exists. Some monitoring. Not always current.
- **4-6** — A few notes. No real diagram or monitoring.
- **1-3** — Mystery box. No idea what is connected or where.

SCORE (1-10): _____

Documentation notes: _____

Your Total Score

Add up all ten scores below. Out of 100.

Section	Score (1-10)
Step 1 — Wired test at router	
Step 2 — Wi-Fi in problem areas	
Step 3 — Compare the results	
Step 4 — When issues happen	
Step 5 — Documentation	
Bonus 1 — Business-grade gear	
Bonus 2 — Wi-Fi placement	
Bonus 3 — Cabling	
Bonus 4 — Network separation	
Bonus 5 — Visibility	
TOTAL (out of 100)	

What Your Score Means

90-100 — Solid Professional-Grade Network

You have a designed, documented, business-class network. Keep monitoring it. Review every 12 months and after any major change (new building, new tenants, big device additions).

75-89 — Good, with Soft Spots

Most of the network is healthy. You have one or two areas that will become problems as you grow. Tighten the weak scores before they bite you.

60-74 — Functional but Fragile

The network works, but you are one outage or one busy day away from a real problem. Consumer gear, poor Wi-Fi coverage, or a flat network is doing more damage than you think. Plan an upgrade in the next 90 days.

40-59 — Reactive Mode

You are spending money chasing symptoms. More bandwidth will not save you. You need a real network design — site survey, business-grade equipment, segmentation, and documentation. Do not buy more speed until this is addressed.

Under 40 — Network Intervention Today

Your network is hurting your business right now. Lost productivity, dropped cameras, choppy phones, security risk. Stop adding gear. Stop upgrading the plan. Get a professional assessment before the next thing breaks.

Next Steps

If you scored under 75: Do not buy more internet. Do not buy another router. Get an honest site survey first so you know where the real bottleneck is.

2Labs Tech does this for a living. Site surveys, network design, business Wi-Fi, switching, cabling, segmentation, documentation, remote monitoring — for small businesses, farms, ranches, churches, and rural operators across Kansas.

Book a Network Bottleneck Assessment

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More internet is not the same thing as a better network. Test first. Fix the right problem.