

FREE RESOURCE — GUIDE

Business Internet Speed & Performance Guide

Understand business bandwidth, run a proper speed test, interpret the numbers, diagnose the real bottlenecks and optimise your connection for peak performance — before you spend money on a circuit upgrade you may not need.

6

KEY TOPICS
COVERED

15+

OPTIMISATION
TIPS

UK

BUSINESS-
GRADE
BENCHMARKS

Free

NO STRINGS
DOWNLOAD

BANDWIDTH

SPEED TESTING

QOS

LEASED LINES

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00

About this guide

This guide provides practical, actionable advice for UK businesses that depend on a fast, reliable internet connection. Work through each section in order to build a complete picture — from what bandwidth actually is, through how to measure your connection properly, to how to fix the problems you find and when to escalate to your ISP or upgrade your circuit.

Most "slow internet" complaints are not caused by the ISP at all. Ageing firewalls, congested WiFi, runaway cloud sync and missing QoS policies routinely throttle perfectly good circuits. Before you pay for more bandwidth, this guide helps you confirm what you are actually getting and squeeze the most from what you already have.

What this guide covers

- **01 Understanding Business Bandwidth** — speed vs latency, symmetry, contention and how much you really need.
- **02 Speed Test Methodology** — how to measure your connection so the numbers actually mean something.
- **03 Interpreting Your Results** — business-grade benchmarks and when you have grounds to raise a fault.
- **04 Common Performance Bottlenecks** — the internal causes of slow internet that have nothing to do with the ISP.
- **05 Optimisation Techniques** — practical steps to improve performance without changing your circuit.
- **06 When to Upgrade Your Connection** — the decision triggers that justify the investment.

HOW TO GET THE MOST FROM IT

Read sections 01–03 to establish a baseline, then act on 04–06. Use the **action plan** on the final page to record your owner, dates and the specific commitments you will make. It is a fillable PDF — type your notes and tick your commitments directly in any modern viewer.

IMPORTANT

This resource is provided for informational purposes and does not constitute professional IT advice. Connection types, products and SLAs vary — validate any major decision against your own contract and, where needed, a qualified network engineer.

01

Understanding Business Bandwidth

Bandwidth is not just about headline speeds. Understanding how it works helps you make better decisions.

Internet bandwidth is the maximum rate of data transfer across your connection, measured in megabits per second (Mbps) or gigabits per second (Gbps). But headline speed is only part of the picture. Your actual experience depends on **bandwidth, latency, jitter, packet loss and contention**.

Download vs upload speed

Most broadband connections are asymmetric — download speeds are much higher than upload. This was fine when businesses primarily consumed content, but modern cloud-dependent workplaces often need strong upload speeds for video conferencing, cloud backup, VoIP and uploading files to SharePoint or OneDrive. If your team constantly uploads large files or runs frequent video calls, asymmetric bandwidth may be your hidden bottleneck.

Contention ratios

Broadband connections share bandwidth with other users in your area. A contention ratio of 50:1 means up to 50 premises share the same bandwidth allocation at the exchange or cabinet. During peak hours (typically 12pm–2pm and 4pm–7pm), this sharing causes speed reductions. **Leased lines have a 1:1 contention ratio** — the bandwidth is exclusively yours, 24 hours a day.

How much bandwidth do you need?

As a rule of thumb, allocate 5–10 Mbps per user for a typical office using cloud services, email and web browsing. Add 2–4 Mbps per concurrent video call and 5–10 Mbps for cloud backup operations.

WORKED EXAMPLE

A 50-person office with heavy cloud usage typically needs **200–500 Mbps download and 50–100 Mbps upload** as a minimum. If your upload sits far below that, expect video calls and backups to suffer long before downloads do.

02

Speed Test Methodology

How you test matters as much as the results. Follow this methodology for accurate, meaningful measurements.

Casual speed tests from a WiFi-connected laptop produce unreliable results. Follow this structured methodology to get measurements that genuinely reflect your connection performance:

- 01 **Test from a wired connection.** Connect a laptop directly to your router or switch via Ethernet. WiFi introduces variables (interference, distance, congestion) that mask the true connection speed.
- 02 **Close all other applications.** Ensure no background downloads, cloud sync or streaming is consuming bandwidth during the test on the test device.
- 03 **Test at multiple times.** Run tests at 9am, 12pm, 3pm and 5pm over several days to capture peak and off-peak performance variations.
- 04 **Use multiple test servers.** Test to your ISP's server (best-case), a UK server (typical) and a European server (worst-case realistic) to understand latency across destinations.
- 05 **Measure all four metrics.** Download speed, upload speed, latency (ping) and jitter. All four matter for business applications, especially VoIP and video.
- 06 **Use business-grade test tools.** Beyond speedtest.net, use iPerf3 (raw throughput), PingPlotter (latency and route analysis) and your ISP's own tool for SLA-relevant measurements.
- 07 **Test under load.** Run a speed test while the office is at normal capacity to measure real-world performance, not just theoretical maximums on an idle circuit.

TIP — AUTOMATE TESTING

Tools like PRTG, ThousandEyes, or even a Raspberry Pi running scheduled speedtest-cli can automate regular testing and build a historical performance profile. This data is invaluable when negotiating with your ISP or justifying an upgrade.

03

Interpreting Your Results

Raw numbers are meaningless without context. Here is how to assess whether your results indicate a problem.

Compare your test results against these business-grade benchmarks to determine whether your connection is performing adequately:

METRIC	GOOD	ACCEPTABLE	POOR
Download vs contracted	90%+	70-90%	Below 70%
Upload vs contracted	90%+	70-90%	Below 70%
Latency (UK servers)	Under 15ms	15-40ms	Over 40ms
Jitter	Under 10ms	10-30ms	Over 30ms
Packet loss	0%	0.1-0.5%	Over 0.5%

If your download speed consistently falls below 70% of your contracted speed, you have grounds to raise a fault with your ISP and potentially claim against the SLA. For VoIP and video conferencing, **jitter and packet loss matter more than raw speed** — a 100 Mbps connection with 2% packet loss will deliver worse call quality than a 20 Mbps connection with zero packet loss.

WHEN TO ESCALATE

If your ISP cannot resolve persistent speed issues within their SLA repair window, escalate formally in writing. Reference your contract terms and request service credits. If issues persist beyond 30 days, consider invoking the early-termination clause for persistent service failure.

04

Common Performance Bottlenecks

When speeds are poor, the issue is not always the ISP. These internal factors frequently cause problems.

Before blaming your ISP, investigate these common internal bottlenecks that can throttle your internet performance regardless of the circuit speed:

- **Ageing router or firewall.** Your firewall's throughput must exceed your circuit speed when all security features (IPS, content filtering, SSL inspection) are enabled. A firewall rated at 500 Mbps may only deliver 150 Mbps with full UTM features active.
- **Network switch bottleneck.** Ensure switches connecting to the router are Gigabit or 10 Gigabit. A single 100 Mbps switch in the path will cap everything behind it regardless of your internet speed.
- **WiFi congestion.** Overcrowded channels, insufficient access points or legacy 2.4 GHz-only devices can make a fast connection feel slow. Always test from a wired connection first to isolate WiFi issues.
- **Cloud backup or sync consuming bandwidth.** OneDrive, SharePoint sync, backup jobs and Windows Update can saturate an upload connection. Schedule heavy transfers outside business hours and implement QoS.
- **DNS resolution delays.** Slow DNS servers add latency to every web request. Switch to fast public DNS (Cloudflare 1.1.1.1 or Google 8.8.8.8) or deploy a local caching DNS server.
- **Malware or compromised devices.** Cryptominers, botnets or compromised IoT devices can consume significant bandwidth without obvious symptoms. Monitor for unusual traffic patterns.
- **Inadequate QoS configuration.** Without Quality of Service policies, a single large download can starve VoIP and video traffic. Prioritise real-time traffic at the firewall level.

05

Optimisation Techniques

Practical steps to get the most from your existing connection before committing to an expensive upgrade.

These optimisations can significantly improve perceived performance without changing your internet circuit. Implement them in order of impact:

- **Implement QoS policies.** Configure your firewall to prioritise VoIP (SIP/RTP) and video conferencing above all other traffic. This alone can transform call quality on congested connections.
- **Schedule bandwidth-heavy tasks.** Move cloud backup, Windows Update and large file sync to outside business hours using group policy or scheduling tools.
- **Enable bandwidth limits per user or application.** Prevent a single user downloading a large file from saturating the entire connection for everyone else.
- **Deploy split-tunnel VPN.** For remote workers, configure split tunnelling so only business traffic traverses the VPN — browsing and streaming go directly to the internet.
- **Optimise DNS.** Deploy a local DNS caching server or configure fast public resolvers to cut the latency added by DNS lookups on every request.
- **Review and clean up cloud sync.** Audit OneDrive and SharePoint sync. Users syncing entire libraries they rarely access consume upload bandwidth unnecessarily.
- **Upgrade your firewall if it is the bottleneck.** If UTM throughput is lower than your circuit speed, you are paying for bandwidth you cannot use. Upgrade the appliance or offload security to cloud-based services.

QUICK WIN — BANDWIDTH MONITORING

Install a bandwidth monitoring tool (PRTG, ntopng or GlassWire) to identify exactly which devices and applications consume the most bandwidth. Often a single device or service is responsible for the majority of congestion.

06

When to Upgrade Your Connection

How to tell when optimisation is no longer enough and a circuit upgrade is genuinely required.

After implementing the optimisations above, if you still experience performance issues, it may be time to upgrade. Use these decision triggers to justify the investment:

- **Sustained utilisation above 70%.** If your connection is consistently above 70% capacity during business hours after optimisation, you are approaching saturation and performance will degrade during peaks.
- **VoIP quality issues persist after QoS.** If call quality problems continue despite properly configured QoS, insufficient raw bandwidth is the likely cause — QoS cannot create bandwidth on a saturated line.
- **Cloud migration is planned.** Moving servers or applications to Azure, AWS or other platforms significantly increases both upload and download requirements. Model the impact before migrating.
- **Headcount growth.** Each additional user adds 5–10 Mbps of demand. If you are hiring significantly, upgrade proactively rather than reacting to complaints.
- **Video conferencing is now the norm.** Each HD video call needs 3–5 Mbps both ways. Twenty concurrent calls need 60–100 Mbps of upload bandwidth alone.
- **ISP cannot meet SLA consistently.** If your current connection type fundamentally cannot deliver the reliability you need (e.g. FTTC with chronic congestion), upgrading to FTTP or a leased line is the solution.

MAKING THE BUSINESS CASE

Quantify the cost of poor performance — lost productivity, failed video calls, customer complaints and staff frustration all have real costs that typically dwarf the price difference between connection types.

07

Your action plan

Turn this guide into action — capture who owns the work, when you will review, and the commitments you are making.

OWNER	DATE COMPLETED	NEXT REVIEW DUE
_____	_____	_____

Top priorities to action

01

02

03

My commitments

- ☐ I will run a **structured speed test** from a wired connection across peak and off-peak times.

- ☐ I will **benchmark my results** against the table in Section 03 and log any metric in the “poor” band.

- ☐ I will **check internal bottlenecks** (firewall, switches, WiFi, DNS, cloud sync) before raising a fault with my ISP.

- ☐ I will **implement QoS**, schedule bandwidth-heavy tasks outside business hours, and review whether a circuit upgrade is justified against Section 06.

Notes

Need help with your IT?

Cloudswitched helps UK businesses implement these recommendations — speed testing, QoS design, firewall sizing, leased-line procurement and full connectivity audits.

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