How did we uncover this data?

Cable.co.uk has undertaken an analysis of a set of open source speed test data made available by Measurement Lab, a partnership between New America's Open Technology Institute, Google Open Source Research, Princeton University's PlanetLab, and other supporting partners.

Measurement Lab (M-Lab) aims to provide an open, verifiable measurement platform for global network performance, as well as hosting the largest open internet performance dataset on the planet. It is this open dataset that Cable.co.uk has analysed.

Analysis methodology

The download part of Measurement Lab's NDT application measures the throughput of a single TCP connection, attempting to transfer as much data as possible for a period of at least ten seconds. This data set has been queried for tests run in the year to 10 May 2017, in order to compile a league table of download speeds for countries tests have been performed by at least 100 unique IP addresses.

Any tests that have not managed to 'stress' the connection by creating congestion between the client and server machines have been excluded from our analysis. Likewise any tests that ran for less than nine seconds, or lasted over fifteen seconds, have been excluded. Any tests that transferred less than 8 KB of data, or that did not properly establish a connection between server and client were also excluded.

Where multiple tests have been run by a single IP address, the average speed has been used for that address.

Reasons for tests being excluded

Transmission of < 8 KB of data
Test duration of < 9 seconds
Test duration of > 15 seconds
TCP congestion has not been reported
TCP three-way handshake has not been completed
Test has been in a congestion limited state for less than 80% of the test duration
Congestion has been caused by the client for more than 20% of the test duration
Test has been run between 11 May 2016 and 10 May 2017

Reasons for countries being excluded

Tests have been performed by less than 100 unique IP addresses in the year to 10 May 2017

Reasons why quoted figures are lower than other sources, such as Ookla

There are many things that impact the download speed reported by a broadband speed test. Included in this is what the test is trying to achieve in the first place. Some tests, such as that written by OOKLA, work hard to drive the ‘last mile’, the link between the test initiator and their ISP. This isn’t very indicative of a web user’s real-world experience, but an attempt to measure the speed of the line in ideal conditions.

The NDT application tests more internet infrastructure than an OOKLA test, sometimes connecting to a server that isn’t even in the same country as the web user running the test. This combined with the fact that NDT only uses a single TCP connection means that the figure is more a measure of user experience than it is of absolute line speed. Neither approach is right or wrong – they are simply different.

Above, where multiple methodologies exist – that are likely to bear differing absolute numbers – we should avoid fixating on the numbers themselves, and instead focus on relative accuracy.