

Debunking Internet Myths: slow, centralised and local reality

The UK Government remains consistent in its commitment to roll out “superfast” broadband across the country. But what does superfast broadband mean and will having superfast broadband in the UK really give the increased in capacity and access to global content that it should. A [July report from Ofcom](#) on internet speeds and research presented at the Annenberg/Oxford Media Policy [Summer Institute](#) paint a surprising picture of what speed consumers really get and the other limits to online capacity and access. It turns out that the network we rely on is often much slower than advertised and extremely centralised, despite the common mantra of a global and widespread infrastructure.

Ofcom’s data shows that the average UK broadband speed increased by 10 per cent from November 2010 (6.2Mbit/s) to May 2011 (6.8Mbit/s), but, at the same time, the gap between actual speeds and advertised (‘up to’)

speeds also increased. While millions of Britons in May 2011 were being sold an average advertised speed of 15Mbit/s, they were actually surfing the internet at less than half that speed. Though the report shows that superfast broadband services are now available to more than half of UK households, **over 75 per cent of UK residential broadband connections are still delivered by copper ADSL telephone lines**. This means that despite a superfast backbone, most people’s internet speed is still slowed by the line that brings it to their home. The UK regulator underlines that with ADSL lines “the closer a consumer lives to the exchange [i.e. the physical access point to the net], the better the performance”. This means long as homes are served by copper, in dense urban areas, speeds can be better, while in rural areas the same speeds are not possible. So what does superfast broadband really mean for the consumer?

But speed and capacity is not just dependent on delivery to home. According to Professor [Christian Sandvig](#) presenting in Oxford, the internet relies on on a fragile assumption – the steadiness of the normal global usage pattern. But when this pattern dramatically changes, as happens during exceptional events, such as 9/11 or Michael Jackson’s death – online content suddenly becomes inaccessible because of network’s congestion. This phenomenon, also called ‘Slashdot effect’, shows how the often claimed extra-capacity of the network is actually much lower than we commonly think, due to the fact that improving networks’ capacity is highly expensive.



Professor Christian Sandvig

Further complicating this is what Sandvig calls the ‘transport layer’ or the global distribution of both undersea cables and internet bandwidth. It turns out that the network is actually highly centralised. While the US clearly hold the position of the nerve centre, the strongest infrastructural connections still lay between the American and the European coasts of the Atlantic.

The centralisation and national level control that Sandvig identifies has implications beyond simple matters of capacity. He points out that this allowed Egypt to shut down the entire national net and China to implement the so called ‘great-firewall’. Local governments also continue to hold a significant degree of power over the way national domain names are assigned. Sandvig gives the example of the different fate of two ‘url shorteners’ – vb.ly and bit.ly – both technically associated to the Libyan national domain name (‘.ly’), but with no relation at all with Libya (they chose the extension ‘.ly’ purely because of its attractive sound). While bit.ly is still online, the Libyan Telecom and Technology agency, however, was able to shut down vb.ly, simply because they considered offensive the fact that on its homepage appeared a girl with a sleeveless shirt. This small example shows the complexity of relations between national and international levels on the internet, and

how 'local networks' still hold a relevant degree of power that can impact users access to content and services, notwithstanding the generally claimed global dimension of the net.

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