

## **BSG publishes new model for analysing domestic demand for bandwidth**

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Today the Broadband Stakeholder Group (BSG) published a report outlining a new way for measuring and forecasting demand for bandwidth in UK homes. The group called for greater policy attention to be given to how demand relates to infrastructure provision.

Pamela Learmonth, CEO of the BSG said, *“Despite global interest in whether broadband infrastructure is currently meeting demand and will continue to do so, there is a lack of evidence and methodology available to inform this critical question. This was our key motivation for commissioning new research in this area and this study presents a technology-neutral approach to forecasting demand, rooted in the applications consumers want to access.”*

The model for forecasting bandwidth demand, used in the BSG’s report, combines the usage profiles of various applications with the usage of profiles of individuals. These individual profiles are then combined into various household profiles. 156 household profiles are modelled in the report, based on demographics, intensity of use and TV type. The household profiles have also been combined to create a picture of national demand.

This model indicates that the median household will require bandwidth of 19 Mbps by 2023, whilst the top 1% of high usage households will have demand of 35-39 Mbps. These speeds are lower than those previously cited regarding future capacity needs and the report highlights reasons why this might be the case:

- 64% of UK households comprise one or two people and therefore there is a natural limit to the online activities of these majority households.
- The bit rate for a given quality of video has fallen steadily over time and will continue to do so due to improvements in compression techniques. As such the model assumes an annual improvement in compression of 9% for SD, HD and 4K TV.
- Traffic volume forecasts (which continue to predict rapid and continued growth) are different to what might be expected for bit rate. Video is a considerable driver of traffic and broadband usage but is relatively less important in bit rate terms. Existing access networks could potentially absorb greater amounts of traffic without upgrade.

Communications Chambers, who developed the model on behalf of the BSG, has presented a middle case falling between an evolution of today’s consumer expectations of the

performance of applications and a perfect world where all applications would be instantaneous. The results are also presented on a '4 minutes excluded monthly' basis – i.e. including all required demands except for the 4 busiest minutes in the month. As the report states, reducing the excluded minutes pushes up the requirement. For example for a 4 adult, high usage household with a 4K TV, reducing the excluded minutes from 4 to zero would push the bit rate requirement in 2023 up from 38 Mbps to over 50 Mbps.

The report also highlights a number of sensitivities to the model results which could change anticipated requirements. These include changing user expectations for factors such as download speeds and notably, reducing the time one would expect a software download, such as a console game, and upload of files to take. For example, in significantly reducing the base case assumption of 10 minutes waiting time to 2.5 minutes, then 16% of households require 83 Mbps. Reducing the waiting time further would quickly take demand over 100M bps for those households.

Learmonth added: *"In publishing this report we are not presenting a magic number for desired bandwidth speeds one decade out. Rather, we are demonstrating that to facilitate an informed policy debate around whether broadband infrastructure in the UK will enable consumers to do what they want over time, then we need to develop a better evidence base. Like any good maths student, we have not simply given a number, but shown our working. We want to use this to develop a formative and evidence based discussion on future bandwidth needs and what this means for wider broadband policy".*

## **Notes to Editors:**

### Policy context

This new BSG report follows the publication of Ofcom's latest Infrastructure Report on 24 October 2013. That report gives a broad overview of the status of digital infrastructure and highlights availability of superfast services (30Mbps) to 73% households, with 22% of existing fixed line subscribers now taking up a superfast service. The report also looks at the relationship between usage and speed and identifies 10Mbps and below as the threshold where data consumption stagnates: <http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/infrastructure-report-2013/>

### What is the Broadband Stakeholder Group?

The BSG is the UK Government's leading advisory group on broadband. It provides a neutral forum for organisations across the converging broadband value-chain to discuss and resolve key policy, regulatory and commercial issues with the ultimate aim of helping to create a strong and competitive UK knowledge economy.

**The full report, underlying model and other associated papers can be accessed at:**

<http://www.broadbanduk.org/forecastingdomesticdemand>

**For more information, please contact Deborah Nazareth at the BSG press office on 07715 701827.**