

## *Introduction*

The government has stated aims of improving equality of access to Internet services and ensuring the UK remains competitive as business becomes increasingly dependent on on-line services. To ensure that investment is used to the greatest possible effect in supporting these aims, gathering the right information is critical. Specifically:

- Do faster broadband access speeds significantly improve the experience of popular digital services?
- How can investment and effort be best targeted to deliver improvements in consumers' and business' ability to work, transact and communicate using the Internet?
- How can the UK's access to online services be compared to other nations, in terms of consumers' and business' ability to use relevant services?

Actual Experience, a young British company born of 10 years of UK academic research, has been working with government, Ofcom and businesses to provide a framework to answer these and other relevant questions.

For this consultation, a critical ability is to enable BDUK, central and local government, Internet service providers and others to target investment and effort where it will have the greatest effect and subsequently validate that investment produces an improved quality of Internet services to consumers and business.

This requires a new metric, alongside those of broadband access speed and coverage, specifically focussed on the *quality* of the services consumed – be they popular consumer applications or digital products critical for business. Once the quality of consumer and business experience can be quantified, there is meaningful information to understand:

- The effect that previous investment has had in enabling high-quality Internet services;
- Whether additional investment is required to further improve consumer and business experience;
- Whether experience is sufficiently good to divert planned investment to other areas where it will have a greater effect

This approach allows the creation of a new benchmark for digital Britain, relevant for inclusion in the USC, to define the standard of service required for any citizen to efficiently transact, interact, work, play and communicate on-line. As new services and demands evolve, the ability of UK infrastructure to support them can be proven, allowing continuous cycles of assessment and targeted investment where it will have the specific desired effect.

Actual Experience's work with Ofcom, due for publication in the upcoming 2014 Infrastructure Report, shows application of these concepts for consumers across the UK.

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*Q4 Is an on-going disparity of provision of broadband services inevitable? If so should this be addressed and how might this be done most effectively?*

One of the principle issues facing equality of broadband access speed is the ‘uncertain business case for building next generation communications networks in some hard to serve and more rural parts of the UK’<sup>1</sup>

If broadband access speed remains as the defining metric of quality for Internet services, then there will inevitably be a significant gap between the best-served areas and the rest of the UK. For instance, if the 2017 target is met (superfast broadband availability to 95% of premises<sup>1</sup>), there will have been a 7-year gap since BT Infinity became available in more commercially attractive areas<sup>2</sup>.

But if the focus is on delivering a high-quality service, at whatever access speed is required for that, the picture is different. Actual Experience’s work for Ofcom and others shows that speeds significantly below ‘superfast’ are sufficient to deliver an excellent experience of Internet services for today’s consumer and business applications. The key is for providers in the Internet ‘supply-chain’ to manage their infrastructures appropriately. Thus, although there may be a continuing disparity between the broadband speeds available in different parts of the UK, it is nonetheless possible to deliver a high quality Internet service to consumers and business alike, with current or previous generation broadband.

This is highly relevant information in terms of properly directing investment, which is by definition a finite resource. For example, investment can be diverted away from areas where experience is currently “good”, regardless of access speed, and towards areas on the other side of the ‘digital divide’ or where increased coverage is needed to support the USC.

Focussing investment on *quality* of broadband connectivity enables ubiquitous quality for all of the UK, regardless of geographic location or connection speed. Such focus inevitably leads to a shrinking “digital divide” and ensures the UK remains demonstrably competitive in terms of consumer and business ability to work, transact and communicate online.

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<sup>1</sup> DCIS consultation paper §1.31

<sup>2</sup> BT launches new Infinity broadband service, V3, published 2010-01-21

*Q7 What metrics do you think should or will become relevant in comparing network performance in different countries? What metrics should most appropriately be used as the basis to set objectives for government policy?*

Since the advent of broadband services, access speed has been used as a metric for defining and comparing network performance. However, even with current consumer access to ‘superfast’ broadband and business use of very high-speed private networks, users’ experience of digital products is frequently both highly variable and poor.

Actual Experience’s work for Ofcom, other regulators, ISPs and business has shown that high quality Internet services can be consistently delivered with current, or even previous generation broadband. So whilst access speed is important, especially with respect to meeting future demand, it is not the only relevant metric.

To meet critical objectives – equality of access to Internet services for citizens; maintenance of the UK’s position of leadership as a place to do business; national infrastructures that continue to provide efficient access to current and future services – it is necessary to consider metrics that define how effectively consumers and businesses can consume relevant services, in addition to their speed of access to reach them.

Understanding quality from the perspective of the consumer of the service validates current and future investment and explicitly documents improvements in the ability to use Internet services. It is also a leading indicator of consumer and business satisfaction for Internet and digital services. Furthermore, where factors other than access speed are responsible for poor consumer experience, information would be available to direct investment and effort to overcome obstacles – resulting in more consistent quality across the UK.

Where robust reporting shows that quality and experience meets government targets, no additional short-term investment would be required. Finite financial resources can be diverted to where they will have a demonstrably greater effect – accelerating the path to USC targets and more quickly closing the gap between the best and worse served areas of the UK.

Actual Experience’s work for Ofcom and others has already resulted in a body of evidence to show how focus can be directed to improve quality and equality of access throughout the UK.

*Q27 How might efficient investment in communications infrastructure be supported, for example by changes in the regulatory framework?*

Internet provision in the UK (and elsewhere) relies on a large number of providers co-operating to deliver services to consumers and business. This integration of providers and equipment can be referred to as a 'digital supply-chain'. All the elements of these complex, dynamic digital supply-chains must work together to enable high-quality services of any type – from popular consumer applications to business-critical services.

The starting point for increasing investment efficiency should be to inform both the strategy and regulatory framework with relevant information, ensuring that no part of the digital supply-chain wastes resources or remains under-resourced as a result of investment in the wrong places.

Transparency of service quality information for all parties is critical in this context. A broadband provider cannot deliver the best possible service to their customers without understanding how the content provider, the consumer and other parts of the digital supply-chain are working together. A regulatory framework to ensure equality of access to complete quality information for all relevant parties would enable greatly improved focus to improve the quality of the UK's online experience.

Now, far more precise targeting of investment from providers, government and other sources is possible. This means that resources are directed where they will have a demonstrable effect on improving consumers' and business' ability to consume online services, with each instance of investment measured and tracked against this improvement.

This approach drives efficiency, proving the benefit of investment where it is made and ensuring that resources are diverted away from areas where there would be little change and instead targeted where they will have greatest impact.

*Q29 Is there a role for a revised USO or USC to ensure that minimum consumer demand requirements are met and to reduce the potential for a new digital divide? What might this look like?*

Current USCs revolve around speed, e.g. 2Mb broadband should be available to all UK premises by 2015.

There is a strong case for a complementary element in the USC and ultimately a USO that defines a level of quality for relevant services. In this context, the consequence of investment to increase capacity – meeting demand for current and future services, coupled with a strategy to ensure focus on the quality of services delivered, would result in a highly capable platform delivering social and economic benefit.

A defined ‘quality metric’ would operate in conjunction with the current speed-based USC, providing an opportunity to improve services in advance of major infrastructure change and delivering a faster benefit to consumers and businesses. Moreover, as infrastructure evolves to address increasing demand, Internet service quality can be maintained and monitored in the long term – giving rise to a meaningful USC that can evolve into a USO in time.

*Q41 In which future communications technologies do you consider the UK has, or could achieve, an international leadership position?*

No other country has defined quality as a leading metric for Internet services and investment – only quantity (speed) has been considered. Should the UK focus on the quality of digital service delivery to consumers and business, in addition to access speed, a leadership position would rapidly be attained.

Actual Experience's work for Ofcom and others, referenced in the upcoming 2014 Infrastructure Report demonstrates this approach. The company is a home-grown British organisation, born of 10 years of research at a British university. The company's ability to deliver analysis of the quality of on-line services is considered unique by the IET<sup>3</sup>, analysts<sup>4</sup> and others.

*Q43 What role might local bodies have in facilitating the future delivery of digital communications infrastructure?*

A quality metric which makes service performance transparent to all would enable any interested body to have fact-based deliberations on meeting the needs of the consumers and businesses they represent.

That information informs quantified requests for funding – proving whether investment is required and how much improvement is needed to meet local or national targets.

Local bodies can also enlist the assistance of those whom they represent, providing additional anonymous performance data that can be analysed for providers, government and others to track the quality of Internet services locally, regionally and nationally – further refining the information available to judge the UK's overall performance and to effectively direct investment.

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<sup>3</sup> Winner of the 2012 Global Innovation Award "...the only company in the world that can automatically create a supply-chain view based on user experience and zoom in to pin point and help solve...problems."

<sup>4</sup> Frost & Sullivan Global Customer Value Leadership Award 2013

*Q44 How can councils maximise the digital communications infrastructure in their local area to support their work on economic regeneration?*

With finite resourcing, it's critical for councils to be able to see where they should focus effort and investment to best serve their local populations, in terms of economic regeneration, equality of access and ensuring that Internet service quality remains high.

Investment without visibility is essentially blind and therefore at risk of delivering little or no benefit. The success of investment, change and transformation, whether in local government or global enterprise, requires transparent performance metrics, such as:

- The current quality of relevant Internet services;
- The effect of investment and transformation on the quality of those services;
- Where bottlenecks and other issues exist that harm consumer and business experience.

With this information to hand, councils can be confident of delivering targeted, quantifiable benefits by directing time, effort and investment specifically at the areas required to meet their strategic goals.

Actual Experience's work for government to date has shown how this targeted approach can be used to iteratively improve services for local populations through both access speed increases and other efforts to improve the quality of the digital supply-chains responsible for supporting consumer and business Internet services.