KCOM comments on the Ofcom consultation on NEXT GENERATION ACCESS - "Delivering super fast broadband in the UK"

Overview

KCOM operates the incumbent core and access networks in and around the Hull area, and provides consumer and business broadband services to its customers in the region. KCOM also provides a range of broadband services nationally through wholesale access services brought from BT and other providers and niche use of "classic", MDF based LLU. KCOM is currently a member of a consortium, led by Thales, which is preferred bidder for the South Yorkshire Digital Region (SYDR) project that is seeking to deliver next generation broadband services in Sheffield, Barnsley, Doncaster and Rotherham.

Consequently, KCOM has a good understanding of NGA deployment issues and economics, which we have shared with Ofcom in the course of the review leading up to this consultation. In this response we will reiterate some of the views expressed in these bilateral discussions, and also provide our perspective on the specific questions raised.

In previous comments, we have noted the highly competitive nature of the UK broadband market, with a wide range of providers providing services at relatively low cost. Competition has driven service take up and use, with a wide range of service options and price points. Service availability is amongst the highest in the world, and both price and take up benchmarks compare well with other developed economies.

Unfortunately, consumer sentiment is still not entirely positive, something that Ofcom has noted and attempted to act upon. Service delivery from some operators has been poor; a natural consequence, perhaps, of such dynamic market conditions. Broadband services are commonly referred to as being "up to XMbps" speeds. This reflects two main factors, firstly the existence of contention at a number of points in the service providers infrastructure and/or the Internet overall, and secondly, for DSL based services, the variability of peak line speed associated with line length, line condition and static and dynamic noise levels. The former is predominantly the result of investment decisions made by service provider in order to deliver commercially viable products; the latter is the result of the "laws of physics". With current network topologies and technologies, whether cable modem, MDF based ADSL or wireless, these factors will remain, and, unfortunately, many customers feel let down by the user experience they actually have, compared with the marketing promises apparently made.

Ofcom's work on improving the clarity of communications between providers and customers and introducing more rigorous performance benchmarking may well help to alleviate current perceptions of misrepresentation. However, more fundamental concerns about real world broadband service performance have emerged that show little signs of diminishing. Consumer expectations are changing. The intensity of broadband use has increased, and the applications used, such as P2P file sharing and video streaming demand higher bandwidth for longer periods. Meeting these expectations is proving

difficult – many consumers are complaining about poor or variable performance caused by contention and line conditions having a detrimental effect on their user experience.

Clearly there is a latent demand for higher bit rate and more consistent services. Only NGA solutions will enable this, whether FTTK (which includes re-engineered HFC cable networks) or FTTH. The issue is whether, in current economic and market conditions this demand can be met.

Only a few months ago, BT stated categorically they could see no short term business case that would justify large scale NGA investment. Whilst they apparently contradicted this position only a few weeks later with their proposed deployment of FTTK to cover 40% of the UK population over the next few years, more recent comments have suggested that even this is in jeopardy in the light of current concerns about economic recession. Our own analysis suggests that the current investment case for NGA is marginal, given current perceptions of customer propensity to purchase and is only likely to make sense in certain circumstances, with relatively high penetration rates in a given area being a prerequisite. Virgin Media have "announced" the planned deployment of next generation cable modem technology (DOCSIS 3.0), but whether this actually delivers "real" NGA capability (consistent and sustainable actual bit rates in excess of 20 Mbps for all) without significant additional infrastructure investment remains unclear, and VirginMedia's ability to finance any significant investment may also be questionable in the current economic climate. In this context, it is unclear what NGA investments will materialise in the UK in the short term and what impact, if any, will there be on the UK "e-economy." The regulatory framework in force may have a real bearing on this.

Whilst some of the speakers and delegates at the BSG event on the 9th June adopted a stance of "never mind the evidence base, we need it now", the BSG report released at the same time concluded are that there is no proven case that early NGA investment conferred economic advantage, and that there are market structure and competition condition differences between the UK and the early adopters that explained our position. The overall message seems to be, "let's leave time for the business cases to be built and in the meantime try and remove impediments to investment".

The subsequent publication of the Caio Report confirmed this analysis and emphasised that looking at how potential barriers to private sector investment in next generation access to broadband can be removed should be the priority. These might typically be the capital costs of civil works, the additional costs and complexity of planning regulations and the network rates regime. We welcome the indication given in the Pre Budget Statement made by the Chancellor on the 24th November:

"The Government will shortly publish its response to the Caio Review of Next Generation Access broadband (NGA). The Government agrees with the Review's conclusion that investment, can, and should, be driven by the market. The response will also outline Government's plans to address planning, access and other supply-side issues, to lower the cost of the build out and create the conditions to favour adoption of new investment models. In addition, the Government will set out a vision for NGA and implement a benchmarking process to review NGA roll-out in order to inform future policy."

Equally important is the need for the establishment of an appropriate regulatory framework that provides real incentives to investment by removing uncertainty and regulatory risk. This consultation is key to establishing such a regime. Regulatory or other incentives that lead to multiple market entry may dilute the returns available and lead to an inefficient outcome.

Key issues

The BSG and Caio work has identified a number of factors that are linked to early NGA deployment and successful take up. These are discussed below.

Mass Market Incremental Revenue Opportunities

Most, if not all, of the private sector funded initiatives are in markets where significant incremental revenue opportunities exist over and above conventional broadband access and voice. Most commonly this is IPTV and generally this is where no strong DTH satellite operator is established. This leaves the opportunity for "triple and quadruple plays" in competition with HFC cable operators of varying financial strength and footprint coverage. This is clearly not the case in the UK where IPTV is competing against a very strong DTH sector, with VirginMedia and Freeview mopping up the rest of what may be close to a saturated multi-channel TV market. (Although, as media consumption evolves towards more "non-linear" models, this situation may change.)

There has been some speculation about the incremental revenue opportunities in the small business sector, but there is little evidence to date that this has sufficient scale and scope to justify extensive NGA deployment.

Access to Existing Duct Infrastructure

FTTX deployment costs are dominated by the civil works problems associated with deploying ubiquitous fibre networks, whether to the kerb or the premise. Access to existing duct significantly reduces this problem, with the most obvious example being the deal done by Free in Paris to gain access to the municipally owned sewers.

This is an area Ofcom are currently looking at but it is not clear that existing telco duct is in the right place, has sufficient capacity or is extensive enough. Non-telco assets may offer more opportunity but are typically privately owned and, hence, less likely to be available at attractive prices without primary legislation constraining existing property rights. It should be noted that the commercial rates quoted by H2O (who have struck commercial deals with several water companies for access to the sewers) are not particularly attractive.

High Proportion of Multiple Occupation Buildings

Those countries with a relatively high proportion of flat/apartment dwellings rather than the UK norm of individual households have a substantially lower cost of deployment for FFTX. Again, this is not the case in large parts of the UK.

Competitive Pressure

Allied to the IPTV opportunity in some ways, strong and ambitious cable TV operators (e.g. Comcast in the USA), may encourage incumbent telcos to invest in NGA to maintain or gain competitive advantage. As noted earlier, VirginMedia's status in this context is rather more questionable.

However, too much competitive pressure on current generation products may have a negative effect and chill the prospects for NGA investment; it is arguable that the atypically high number of ISPs active in the UK market falls into this category, with oligopolistic price stability the likely result.

In this model, the pursuit of market share prevents the establishment of a rational differentiated service pricing regime attracting a premium price for the higher performance service NGA will enable. In our incumbent "Hull area", our ISP, Karoo is, to an extent, insulated from this phenomenon. This has allowed us to introduce more rational pricing models, with usage caps and an element of "pay as you go". We are, however, still subject to pressure from comparisons with the rest of the UK market and may not be able to raise prices to generate sufficient capital to fund NGA deployment.

A further factor to be considered is that current LLU based competitors may have concerns about the returns on their existing investments. If NGAs are deployed rapidly and provide enhanced services cost effectively, their current MDF based services are likely to lose market share quickly and their network assets become stranded. This may affect their attitude to regulatory or policy intervention which could be severely damaging to their financial interests.

Larger Scale Public Sector Intervention

Many of the most obvious examples of widespread and early NGA deployment such as Japan, Korea and, to a lesser extent, Sweden have resulted from specific national or regional government initiatives. These have either covered the capital cost of NGA deployment through a new "AccessCo" vehicle, or provided some form of subsidy for existing market players. It seems unlikely that, outside SYDR, funding sources for equivalent interventions will be found in the UK, unless a radical reassessment of "public sector broadcasting" value and funding recipients takes place, as discussed below.

However, we would note the interest of more regional government agencies in exploring mechanisms to enhance "ICT Connectivity" in their areas, and there may be merits in the development of a public/private funding model.

Alternative funding models

Much of the mass market "need" for NGA bandwidths is predicated on increasing "non-linear" consumption of multi media or video content. Given this trend, the "two sided business model" discussion is of increasing importance. If content businesses are going to profit from NGA enabled infrastructure, should they not have a role in paying for its deployment?

One UK specific variation of this is to look at the changing concept of "public service broadcasting". It is quite clear that PSB content will increasingly be consumed non-linearly and/or over broadband connections. The rise of the BBC iPlayer is the most obvious example. In this context, is it appropriate for the BBC to help fund NGA deployment, or, more likely, for Government to switch some PSB funding (whether from the BBC licence fee or otherwise) into some form of NGA intervention? A more palatable option for broadcasters might be to realise the "digital dividend" through the sale of the old analogue TV spectrum and invest the proceeds into NGA. Recent comments by the new Minister, Lord Carter, suggest that he is willing to explore these policy issues.

Reducing non-telecoms regulatory barriers

The most obvious initiatives that Government could take to encourage NGA investment would include:

- Simplifying planning regulations applicable to NGA street works and waiving the application of "lane rental" and/or administrative charges due to be introduced shortly.
- Extend the right of CPs to "fly wires" so that fibre can be deployed as overhead rather than underground connections in the "middle mile" or customer drop. (This is happening in the USA and Japan.)
- Review the application of the network rates regime so that, at the very least, incremental fibre access should not attract incremental hereditament. Ideally, the removal of network rates completely from those CPs investing in NGA might actually provide sufficient funding to make it happen!

Responses to specific Consultation questions

Question1 - Is there further evidence available on the applications and services or consumer benefits that may be supported by next generation access?

See comments made above. In a residential context, the key drivers are content related with HDTV being the most obvious. It is worth noting that, increasingly, consumers will expect to have several applications running concurrently, whether to service multiple individuals or devices in the household, or to support multiple service requirements. This aggregation effect will itself drive demand for higher bandwidths. In the Teleworker/SOHO context, increasing use of converged network productivity tools, such as Microsoft OCS and Sharepoint will have an important role in driving demand for more consistent and symmetrical connectivity, as will take up of "cloud computing" or other hosted applications.

Question 2 - Who should lead on defining and implementing a process for migrations to and from next generation access networks? What roles should industry, Ofcom and other bodies play?

Whilst Ofcom has instigated a series of policy initiatives on migration, the discussion, definition and implementation of the processes required have been left to industry, facilitated by the OTA. There is no reason why this approach should not be used for NGA.

Question 3- What role is there for Ofcom in the ongoing debate on next generation access versus industry's role in progressing this debate through multi-lateral and bi-lateral discussion?

Ofcom's role as a regulator should mean that it should not attempt to **lead** the industry but try to provide an appropriate regulatory framework within which commercial discussion and negotiation can take place. It would be unfortunate if premature imposition of "regulatory solutions" on NGA deployment for which there is no actual demand, particularly in current economic circumstances, resulted in a perceived reduction in the attractiveness of the associated investment case for such initiatives.

Question 4 - How far does current regulation, including market definitions, equivalence and the BT's Undertakings, need to evolve as result of next generation access deployment?

The economics of NGA deployment have received a great deal of attention over the last 18 months. Ofcom, the BSG and the ERG have all raised some interesting questions, particularly with respect to reasons why NGA deployment in the UK seems to be lagging

behind peer group developed economies in Europe and elsewhere. These touch on both the economics of NGA and the impact of the regulatory framework on the development of competition in the UK broadband market.

The European Regulators Group (ERG) Consultation Document and subsequent Statement on Regulatory Principles of NGA sought to establish both how NGA investment by incumbents could be regulated under the EU sectoral framework, and what types of regulatory remedies should be applied in particular circumstances.

The key regulatory question is what sustainable competition would look like with these new network architectures? Whilst explicitly accepting the current regulatory principles of the "ladder of investment" and the encouragement of investment at the deepest level of network competition possible, the ERG note that these may have to be interpreted in rather different ways for NGA. Specifically, they have noted the very different economics of Sub Loop Unbundling (SLU) compared with conventional LLU, with very high incremental investment levels needed per customer served, because of the need to deploy large scale "fibre to the kerb" (FTTK) and active street cabinets. This analysis was informed by a review of the published business models created by leading consultancies such as Analysys and WIK. The ERG noted that the prospects for NGA deployment are uniquely determined by the physical characteristics of the network in a specific geography, particularly the key metrics of number of customers per PCP equivalent, the number of PCPs per MDF site and distances between PCPs and their serving MDF.

These metrics vary widely across the EU and the ERG made it clear that the circumstances in a given market have to be examined in detail before drawing any specific conclusions. It also notes that in some circumstances, the adoption of the current LLU model of multiple competing CPs investing in duplicated infrastructure may not be viable at the SLU level, with all CPs likely to be sub scale. It did examine ways in which this problem can be mitigated, such as the use of mandatory duct sharing to establish lowest cost backhaul, but acceped that, in particular circumstances, such competition would be economically inefficient and unsustainable. We would concur and, based on our own analysis would suggest that the UK may well be in this category.

Question 5 - How important are passive products such as forms of sub-loop unbundling and duct access? Can the economics of these products support the promotion of effective and sustainable competition at this level? Which passive products should Ofcom pursue?

As noted earlier, we believe that the short term prospects for commercial deployment of true NGA are not good. This poses a number of problems. Clearly any commercial investor contemplating entering this market will be concerned that regulatory measures to promote competition encourage irrational market entry, to the detriment of all. In addition, those operators that do enter the market will have concerns that their legitimate commercial returns may be eroded away by regulatory remedies, particularly with respect

to the allowed rate of return on capital employed in the provision of any wholesale services they may be obliged to provide to other service providers.

To deliver NGA, significant new investments will be necessary, both at the active electronic system level and in terms of passive fibre and duct infrastructure. In order to avoid chilling the prospects for such investment it is important that appropriate economic signals are sent. In regulatory terms, this may best achieved by allowing first mover advantage to be gained and by imposing regulated access remedies only when SMP in the relevant market can be clearly shown. Even when this has happened, it would be appropriate to allow a higher cost of capital, reflecting the real risks on speculative investment, than for existing access services based on long established assets, and the provision of services should always be subject to a reasonable demand test and full cost recovery.

In the short term, this would mean that existing SLU obligations should be maintained on Openreach, reflecting the outcome of past access market reviews, and enabling operators other than BT to deploy FTTK. The extension of regulatory obligations to other services should happen only as the result of new or revised market reviews, rather than on any *ex ante* basis to "encourage" market entry. Firstly, it is not clear that such encouragement is necessary, and, secondly, such action may have the effect of distorting the market and could lead to an inefficient outcome overall.

The issue of whether "passive" obligations should be extended to duct and dark fibre is particularly critical in this context. Whilst it is true that there are significant assets of this nature already in the ground, it is not clear that they form an essential economic bottleneck for FTTK or FTTH solutions. In many instances, they are not in the right place to serve appropriate street cabinet sites and are very rarely engineered to provide secure, multi user occupancy. Our own analysis of both the SYDR and Hull opportunities suggests that a new duct overbuild will be necessary to deliver the appropriate "backhaul" infrastructure to meet real NGA service needs.

Any "passive" access obligations imposed on NGA deployments may only dilute the investment case and diminish the likelihood of such initiatives taking place. In time, as SMP is gained in downstream markets, active wholesale service obligations should be imposed, with a clear requirement that these should be engineered to be as flexible as possible. We also believe that any NGA deployment funded by public sector intervention, whether as a result of perceived market failure or otherwise, should have a non discriminatory active access obligation from day one, in order to minimise market distortion and to ensure that State Aid concerns are addressed.

Question 6 - What are the characteristics of high quality, fit for purpose active wholesale products? How far can active products with these characteristics support effective and sustainable competition?

Active inputs should, in principle, offer as much flexibility as possible, subject to evidence of actual demand for the service. As noted earlier, we view active inputs as the prime focus for the development of sustainable and efficient competition, with passive inputs providing a degree of backstop protection to ensure that NGA investment occurs and active access provides what the market desires.

Question 7 - Are there other options for promoting competition through regulated access that have not been considered here?

We cannot identify any regulatory initiatives but note our comments in the preamble with respect to broader policy issues.

Question 8 - How far may options for joint investment provide greater opportunities for competition based on passive inputs? Are there lessons that can be learned from similar ventures in other industries? What are the risks and advantages of such approaches?

Our direct experience of joint investment projects suggest they work best when there is a high degree of trust, limited competitive overlap and a well understood risk profile to the investment. NGA does not look a good candidate to satisfy these criteria, unless it is part of a more radical restructuring of the industry to introduce a fully separated passive access layer as is being proposed in Singapore, Australia and elsewhere.

Question 9 - What should be the respective roles of Ofcom and industry in defining and implementing product standards?

The investment requirements for NGA are such that deployment is likely to begin in small developments. In terms of the required investment, even the Ebbsfleet development is not of a sufficiently "critical mass" size that would justify standalone development of a CP's systems and processes to provide service there. This is new ground as it is likely that not only the USO operators will deploy NGA technology but that "fibre loop" deployment will be undertaken by other CPs, some of whom may be completely new to the market.

Clearly standards are key to meeting both regulatory and competition requirements. Kingston notes that the development of apparently appropriate standards for NGA has been taking place in the DSL Forum. Agreement of the underlying CP product set requirement may be an area of activity for NGNUK, with NICC actioned to define the product architecture and standards required for services. NICC is generally biased toward the Network-Network interface set but does address access in the DSL-WG. The logical way forward would be for NICC to develop the DSL-WG into a loop access WG

and provide a reference product that draws on the available international standards. The status of such a product, and particularly if sponsored by Ofcom, would be a set of recommendations that would be in place as a regulatory or recommended access product. Should Ofcom consider that appropriate standards will not be available in due time, then it will be because there are barriers to their generation and any action to address the situation will have to consider the actual issues. KCOM sees a period of transition where the ideal standards may not be in place (but that they would be visible in the pipeline) and the publication of End User interfaces coupled with CP Wholesale Service Interfaces and Descriptions, fully describing the technical aspects of the services will be appropriate and adequate.

Question 10 - How far do stakeholders consider the pricing approach outlined here of pricing flexibility for active products and cost orientation plus considerations for risk is appropriate at this stage of market development?

We support the approach to pricing flexibility for active products but have reservations about a uniform cost orientation regime for passive, as noted earlier. Whilst we support an approach to SLU consistent with that adopted for LLU, its extension to duct and fibre access is in our view inappropriate, as also noted earlier.

Question 11 - Will indirect constraints allow for an approach based on more price flexibility for active products? How will such an approach affect the incentives of different operators to invest and deliver super-fast broadband services to end customers?

NGA services will not develop in isolation – existing broadband services will provide a very real and effective constraint. Allowing the market to find the appropriate pricing and service differentiation structure and levels through a process of discovery and innovation will provide greater incentives for investment.

Question 12 - What period of time would be appropriate for such an approach to ensure a balance between the need for longer term regulatory certainty with the inherent demand and supply side uncertainty in super-fast broadband and next generation access?

We see no reason to make this process time limited and would rely on Ofcom's periodic market reviews to determine if conditions have changed sufficiently to warrant a different approach.

Question 13 - What are the key factors that could make a review of any pricing approach necessary?

Evidence of lack of retail service take-up should be the key trigger.

Question 14 - How far can the generic model for transition outlined here deliver both incentives to invest in next generation access while ensuring existing competition is not undermined?

No comments

Question 15 - What triggers would be appropriate for the commencement of any transition process?

No comments

Question 16 - Once triggers or circumstances for transition are achieved, what would be an appropriate period for the various phases of transition (consultation, notice period, transition)?

No comments

Question 17 - Over what geographic area should any process of transition be managed, for example region by region or nationally?

No comments

Question 18 - What actions, if any, should, Ofcom undertake to support new revenue models from next generation access?

Ofcom should do nothing to prevent the development of such new revenue models, other than to ensure that appropriate consumer protection measures are put in place, concentrating on ensuring transparency of information provision by CPs. In particular, Ofcom should resist the imposition of "net neutrality" obligations that would restrict the development of "two sided business models" and reduce the availability of the funding needed to drive NGA investment. Whilst there are some real privacy and "barriers to innovation" concerns, existing regulatory powers through Communications, Data Protection and Competition legislation provide more than adequate protection.

Question 19 - What role should public sector intervention have in delivering next generation access?

In principle, provided that a clear economic case can be made justifying it, such intervention would be beneficial. The economic and social advantages of early NGA

deployment have been widely analysed, and it would be an entirely proper public policy outcome if this led to public sector initiatives to encourage deployment in those areas where it seems unlikely that the private sector will oblige.

Question 20 - Are these the right actions for Ofcom and other stakeholders to be undertaking at this time? What other actions need to be taken or co-ordinated by Ofcom?

See our opening comments.