NEXT GENERATION ACCESS IN NEW BUILD DEVELOPMENTS

SKY'S RESPONSE TO OFCOM'S CONSULTATION

25 June 2008

Summary

Sky welcomes Ofcom's consultation on this important subject. NGA in new buildings is a crucial step to wider deployment of NGA in the UK; it will provide a test bed for demand, and it will allow operators to develop products and refine their systems and processes. The speed and extent of new build NGA deployments depends on what Ofcom does following this consultation: too much uncertainty and there will be little investment; over-regulate and much of the scope for innovation could be lost.

New build NGA will also set the scene for NGA in other ways. As operators roll out large-scale NGA overlay networks in the future, they will base their wholesale access products on those that they developed for new build. Achievement of Ofcom's regulatory objectives in telecoms for perhaps decades to come – for example competition at the deepest level possible, and maximising scope for innovation – depend on how these wholesale products are developed on these new networks. And because these products are entirely new, they offer a unique opportunity to 'design in' flexibility from the start.

Ofcom's challenge is to combine an appropriate degree of standardisation of wholesale products with flexibility. Standardisation is important because without it, the UK faces the prospect of a patchwork of fibre networks, each with a few thousand premises, with no service providers interested in stitching together disparate wholesale products into a marketable retail proposition. Flexibility is important because without it, retailers' scope to innovate – the one of the key benefits of NGA networks in the first place – will be lost.

We make the following points in this response, which we expand in more detail below.

- **Standardisation of Active Line Access (ALA) products is critical**, if we are to avoid a patchwork of little NGA networks which too small to interest retailers.

- **Standardisation needs to allow flexibility to promote innovation**. The general principle should be that interfaces are tightly standardised, whereas product capabilities are as flexible as possible to allow the maximum scope for innovation.

- **Ofcom needs to help industry with some leadership in developing standards**. Without it, there is a risk that industry defaults to making Openreach's current GEA product into the standard. This would be a missed opportunity; the GEA product is a good first step but an ALA product that maximised innovation would be significantly more flexible.

- **New build is a great opportunity for standardisation at the passive layer**. With multi-chamber ducts installed and duct access, end-to-end infrastructure competition may be possible in new build premises.

- **Ofcom should consider the benefits of Analogue Telephony Adaptors on NGA networks** to allow consumers to use their existing CPE, and to help communications providers provide voice services, even if WLR and CPS emulation products are not available.

- **Ofcom should consider carefully the trade-off between the extent of battery back-up required and the economics of NGA roll-out.**

Question 1: What can Ofcom do to encourage timely standards development for new build NGA wholesale access products and interfaces?

Which industry body is best placed to undertake the standardisation of these products and interfaces?

What action should Ofcom take if these standards fail to materialise?

Standardisation of ALA products is critical

There is a real need to develop and agree standards for NGA wholesale access products to enable CPs to offer services in new build areas. There are many examples of networks with tens or hundreds of thousands of premises connected, which are of no real interest to third party service providers because they offer non-standard wholesale products. Kingston Communications is one. More tellingly, the much-promoted NGA open access network in Nuenen, the Netherlands, is another – with no third party service providers. Without standardisation, the UK faces a real danger of a patchwork of local NGA initiatives with no direct competition between either service providers or infrastructure operators, no national promotion of services and little innovation at the retail layer.

Since the objective of standardisation is to maximise the potential for third parties to use these networks, it makes sense that these standards should be applicable for all NGA networks and not just new build areas.

Standardisation needs to allow flexibility to promote innovation

Sky supports a degree of standardisation which enhances rather than restricts innovation and welcomes Ofcom's statement that its main object is "to promote innovation because ALA would be designed to maximise the extent to which CPs could control the underlying infrastructure".

Over-standardisation could restrict the ability for operators to innovate and could undermine much of the potential benefits of NGA. There are two dimensions to standardisation; the trading interfaces, and the product capability as derived from the technology choices of the wholesaler.

Trading interfaces need to be strictly standardised. They have a high impact on retailers' ability easily to purchase wholesale inputs, and the standards around, for example, XML schema can be more specific as innovation in this area has a less direct impact on consumers and competition.

Ofcom should ensure that whilst standards around product capabilities are developed, innovation is not compromised. If a retailer wants to offer a retail product with a particular set of features across multiple NGA networks, they need to be able to do so. But this should be because all the wholesale products are sufficiently *flexible* to allow them to offer those features, not because all wholesale products are *standardised* to offer those particular features. Standardisation should focus on specific capabilities that are in the consumer interest, whilst allowing for different avenues to delivery of those capabilities.

Care should also be taken to avoid UK specific standards, or vendor specific implementations. The result of such an approach would be to increase the cost to vendors who may need to produce UK versions of their products rather than taking advantage of global economies of scale.

Ofcom needs to help industry with some leadership in developing standards

Sky firmly agrees that it is industry's responsibility to arrive at a common set of standards. But it is also important that Openreach's Ebbsfleet developments do not unduly influence discussions. For example, the debate should not start from the position of assuming that a version of Openreach's Generic Ethernet Access product, and its interfaces, should become the 'standard' wholesale product.

Openreach's GEA product is a good first step towards an appropriate ALA product, but equally it demonstrates why a degree of standardisation is required to enhance the potential for CPs to innovate. For example:

- Openreach's GEA product definition restricts CPs to a maximum of 10Mbit/downstream and 2Mbit/s upstream for an assured services, with bursting only up to 100Mbit/s. It is important for innovation that there should be flexibility around end user speeds and assured traffic to take full advantage of fibre access technology

- GEA is currently designed with 4 ethernet ports to allow multiple CP services per premise. This increases costs, and may be unnecessary in many cases. As an alternative, a single port ethernet product could be developed. Customers requiring multiple CPs could be upgraded to a multiple port CPE on an exceptions basis.

- Interconnection for Ebbsfleet is at the local exchange level. We would expect this depth of interconnection to be available for other BT new build developments to allow CPs to reuse their existing backhaul infrastructure. Openreach has not confirmed its future interconnect strategy and in future it might wish to move to a long reach PON solution with only a small number of national interconnect points.

- Openreach has not yet committed to virtualisation of the CPE. Furthermore, standards bodies are working towards a wires-only model allowing competition for CPE at the retail level. Whilst Openreach recognises this is an industry requirement it has stopped short of formally committing to this approach.

- Openreach is shutting down some of its development working groups (such as the Openreach Fibre Products Industry Process and Technical Working Group) as a result of the lack of industry engagement with the Openreach products. Industry are not yet in a position to make a final judgement on the Openreach GEA product and shutting down these working groups appears premature.

We present these examples only to show why it is important that Openreach's GEA does not become the industry 'standard' by default. To avoid this, Ofcom needs to be pragmatic about the way industry is likely to come up with a set of standards, left to its own devices. Past processes, such as NGN UK, have shown that BT has far more resource available to put towards these kinds of fora than do others. The process is therefore likely to require strong neutral leadership, probably initiated by Ofcom.

Ofcom should explore whether the process used to industrialise LLU would be appropriate for this work, and therefore whether the OTA is an appropriate body to lead the detailed work.

There is likely to be a number of alternative NGA network architectures which are developed for new build developments, particularly in the short term whilst operators try different approaches in different locations to learn about the technology and user experiences. For that reason, Sky would also support the use of a neutral body to drive NGA wholesale interface standards, discrete from the ALA architecture stream.

New build is a great opportunity for standardisation at the passive layer

Ofcom's consultation focuses on standardisation of Active Line Access products, but Sky believes there is also great value in standardisation at the passive layer. It would seem appropriate for industry to agree standards around physical infrastructure which would allow maximum flexibility in future.

It is generally recognised that between 60-70% of the cost of NGA is the physical access costs. If this figure can be reduced by the reuse of existing infrastructure then it may be possible for multiple operators to justify building parallel access networks leading to a deeper level of competition in the market. For at least some premises, the deepest level of effective competition could extend all the way to the customer.

Sky therefore strongly encourages Ofcom to look at how physical infrastructure can be standardised and access granted to third parties. For example, when an operator builds duct infrastructure they could be required to use chambered ducts to enable future access by others. Some of this type of standardisation could require changes to Building Regulations rather Ofcom's formal powers, but it would be helpful for Ofcom to be proactive on this issue with the relevant authorities.

Question 2: Do you agree with Ofcom's approach to promoting competition and consumer choice in new build fibre access deployments?

Ofcom suggests that ALA products may be an appropriate alternative to local loop unbundling in an NGA environment. It is possible to conceive of ALA products which would deliver the same kind of scope for innovation that LLU has today. And therefore Sky supports this view in principle, but only if the ALA products are suitably flexible to enable CP innovation – as we discuss above.

As we also discuss above, Ofcom should also ensure that passive remedies are available through duct access. This can be facilitated by ensuring that new ducts are laid with spare capacity to enable alternative access providers access. Part of this can be enacted by changes to building regulations, but Ofcom should also think about how this duct capacity might be made available to alternative infrastructure providers.

Pricing is only discussed briefly in Ofcom's consultation. This is an important area, particularly with regards to how risk can be reflected in prices. Sky looks forward to seeing more detail in this area in Ofcom's Future Broadband publication later this year.

Question 3: Do you

(a) believe that the existing obligations must be met by replicating the existing copper

products, or that an alternative approach could be satisfactory? What are the

implications of replicating existing products on fibre?

Ofcom should consider the benefits of Analogue Telephony Adaptors on NGA networks

Sky starts from the position that regulation should as far as possible be technology neutral. If the competitive intent of voice-specific regulatory obligations such as WLR and CPS can be delivered through upstream regulated products such as Active Line Access products, then that is a sensible objective. It would allow deregulation of voice-specific commitments.

However, there is a consumer dimension at play here, and a pragmatic point around competition. The consumer dimension concerns customers' ability to plug in their existing CPE to fibre networks. The pragmatic point is that it is expensive for CPs to develop digital voice products for fibre networks, and many will not do so, at least in the short run. Customers on NGA networks will end up with less choice, and connection to an NGA network could be a source of frustration rather than benefit for consumers.

One way to help alleviate these issues would be for NGA operators to provide an Analogue Telephony Adaptor (ATA) integrated in to the Optical Network Terminator (ONT) to provide customers with an analogue phone port. The ATA would allow a basic voice service enabling customers to use their existing analogue phone equipment when they move in. This solution would also alleviate some of the battery backup issues discussed in more detail below. An integrated ATA would not prevent CPs from offering their own voice services and ATA if they so wish.

We would encourage Ofcom to consider how it can work with NGA providers to ensure that such adaptors become standard issue.

(b): Do you agree that SMP holders rolling out fibre do not need to roll out a copper network in parallel solely to meet their LLU obligation?

It is clearly unreasonable, and a barrier to innovation, to require copper networks to be laid in parallel with fibre.

(c): Do you agree with Ofcom's approach in relation to WBA and new build areas?

Sky considers that ALA products, so long as they are sufficiently flexible, will be part of the Wholesale Local Access market. This is because in most places, they will be the deepest part of the network where competition will be effective and sustainable. Under the terms of the Undertakings, where Openreach provides ALA products, they would be made available on an Equivalence of Input basis. Any wholesale products which make use of ALA as an upstream input would be part of the Wholesale Broadband Access market.

In some cases though (and it is not yet possible to determine how widely) other CPs may wish to interconnect at the infrastructure layer (for example via duct access). Due to the significant scope for innovation that this offers, Sky believes that Ofcom should also mandate SMP providers, and encourage other operators to make duct access available as an ancillary service to the WLA market, at least for new build premises.

(d) Do you believe that the WLR obligation must be met by replicating the existing copper product, or that an alternative approach based on an ALA-type product would be satisfactory?

Sky considers the alternative approach should be satisfactory subject to a flexible ALA product

(e): Do you believe that the CPS obligation must be met by replicating the existing copper product or that an alternative approach based on an ALA type product would be satisfactory?

Sky considers the alternative approach should be satisfactory subject to a flexible ALA product

(f): Do you believe that the IA obligation must be met by replicating the existing copper product or that an alternative approach based on an ALA type product would be satisfactory?

Sky considers the alternative approach should be satisfactory subject to a flexible ALA product

(g): Do you agree with our proposal to interpret GC3.1 (c) as being met through the provision and use of a battery backup facility to maintain uninterrupted access to emergency services in new build developments?

Ofcom should consider carefully the trade-off between extent of battery back-up required, and the economics of NGA roll-out

Sky supports the aim of Ofcom's proposals around battery backup. However, Ofcom should be aware of the cost implications of this policy which in practice may require multiple batteries per household as each piece of active equipment within the voice path will need backup.

The regulatory requirement around battery backup directly affects the cost of offering voice services to customers. For example, there could be as many as four pieces of active equipment requiring battery backup in the home. For example, in Ebbsfleet there will be the ONT (owned by Openreach), an Ethernet switch (provided by the developer), the customer router and the ATA (both provided by the CP). The cost of providing battery backup for each of these pieces of equipment separately could be in the range of £120-£150 per connection.

One of Ofcom's aims for NGA in new build areas is to "promote competition and protect consumers". There is a trade-off between the degree of battery backup required and the feasibility of NGA rollout. Over-specifying battery backup requirements may also distort competition by reducing the number of CPs prepared to offer NGA services.

Ofcom should work with stakeholders to agree the level of backup required to ensure it strikes an appropriate balance between promoting competition and protecting consumers.

Question 4: Do you think access to the duct network, including non telecoms duct, is a potentially feasible means of promoting competition in new build? If so what types of commercial and operational models could successfully support such access arrangements in the UK?

See question (1) above.

Sky   **25 June 2008**