Next Generation New Build
Promoting higher speed broadband in new build housing developments

Response to Ofcom's Consultation from OpenHub Ltd

Introduction

OpenHub provides turnkey solutions for smart homes and smart communities within new and existing developments. OpenHub specialises in providing developers and builders with digital solutions both within the home and estate-wide, to increase property values whilst addressing community, energy management, security, telecare, assisted living services, and digital entertainment.

First-mile connectivity is a key element in the overall solutions that OpenHub offers. The company therefore maintains an active involvement in both current broadband solutions and in the wide range of issues surrounding the emerging market for next generation access infrastructure. OpenHub welcomes the opportunity to contribute to this important Ofcom consultation.

This response adds to our earlier response to Ofcom's consultation on Future Broadband - Next Generation Access at the end of 2007. The two responses should be considered together. Ofcom rightly acknowledges that new build housing presents the opportunity to install duct at the time of housing construction with a consequential savings in civil works costs. New build housing therefore represents the best opportunity for the installation of next generation access systems. It is therefore particularly important that the UK moves forward as expeditiously as possible in order to secure the benefits that these networks can deliver for the UK as a whole.

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?

Ofcom's predecessor regulator Oftel established the NICC for this purpose. This was done because there was recognition that standards were needed for the inter-connection of networks in the UK. Whilst we have had limited involvement with NICC's activities, we understand that these have had the following characteristics:

- Membership of the different committees of NICC was freely available to all industry participants who had a legitimate interest in being involved.
- Existing international standards were used wherever possible and UK-specific variants were only developed where absolutely necessary.
- The body was called a Consultative Committee because it was appreciated that on a wide range of issues the Industry was best

placed for agreeing collectively the solutions required without the specific intervention of Oftel; NICC therefore made recommendations to Oftel on standards for use in the UK network. However, where NICC was unable to agree a way forward on a specific issue then the matter was referred to Oftel for a Determination. This arose because the NICC did not operate on majority voting – there was a requirement for Operators to agree, and this meant that minority interests and views had to be considered seriously.

- Oftel participated in the activities and therefore, along with other members, had the opportunity to set the agenda.
- Because of its greater resources, BT has been in a position to provide extensive input to NICC. It therefore potentially has had greater influence in securing outcomes that were in its interest. However, it also has to be recognised that, without the leadership work and inputs provided by BT, NICC work would have made slower progress.

NICC continued when Oftel's activities were subsumed within Ofcom. However, there have been moves to separate NICC's activities from Ofcom and to amend the principles of its operation; our understanding is that these moves have not yet been completed.

We consider that NICC represents the appropriate body for the development of standards. We also consider that the changes being implemented (in terms of membership and majority voting) and separation from Ofcom may not lead to the best outcome for the UK as a whole and that there is an argument for restoring the previous arrangements. Under those arrangements, the Regulator could have a direct influence in the development of the standards required and would therefore be well placed to act if standards failed to materialise. Ofcom should also be mindful that organisations have different capacities to support standardisation work; this should not mean that smaller organisations have less influence in securing outcomes that may be in the best interests of the UK as a whole.

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

This is a wide-ranging question attached to a relatively small area of the consultation. Our response addresses the wider issues that we think are important.

Our guiding objective is that we believe that the entities who provide connectivity should never be in a position to control what services can be run over their connections, any more than those who build roads should be allowed to control who and what drives upon those roads (with the provision that no damage is thereby caused, of course).

Whilst we understand Ofcom's interest in exploring passive access options, we do not generally consider that these represent the best approach for the

development of competition. We address this in more detail in response to Question 4 below.

We consider that the development of true "Open Access" models is in the best interest of consumers. We addressed these issues in our response to the September 2007 Future Broadband consultation. We note that Open Access (OA) is referred to at Annex 7 (Sections A7.10 and A7.11). Our understanding of OA is the separation of network from service provision and that this is done in such a way, both technically and commercially, as to positively encourage the provision of large number of service choices for consumers. In general, these OA networks have low entry barriers such that a service providers costs are closely related to revenues thereby encouraging innovation and choice.

We consider that "Equivalence of Input" falls a long way short of being a form of Open Access (as proposed in Section A7.10). In current Equivalence of Input on GPON, this amounts to a maximum possible choice between two Communications Providers who are each assigned their fixed ports on the GPON ONU. It seems most probable that the CP, or CPs if there are two, will then mainly want to promote its own service bundles, in line with existing service offerings on current networks, together with higher priced options exploiting the additional capability of NGA networks. We consider that this approach will not encourage the development of innovative services. NGA represents a major opportunity *inter alia* for addressing issues on utility management in the home, the development of assisted living services for older people, and for providing information services for promoting more effective use of public and private transport. Ideally this would be done on a universal basis. These are issues of substantial importance to the UK as a whole. It is our view that it is very unlikely that these opportunities will be realised for new build housing based on the regulatory approach under consideration.

The consultation recognises the "demand risk with regard to new services" at Section 4.20. However, it fails to acknowledge the risks and uncertainties associated with contestable investment. The optimum NGA design and implementation differs significantly depending on whether the NGA will be the only network installed providing services to nearly all homes, or a competitive network providing service to only a proportion of homes. Furthermore, at the time of design and implementation it may not be clear which scenario will apply. The regulatory approach favouring contestable investment therefore makes NGA introduction more difficult. There is significant merit in the implementation of a single NGA network, according to agreed minimum standards, operated on an Open Access basis and providing its base services on a regulated rate of return basis.

Turning to telephony, the consultation fails to address issues associated with the network termination point at the home. In the Ebbsfleet trial, it is our understanding that a Master Socket will no longer be provided by the access network provider (Openreach). This represents a significant change and it is surprising that the issues raised are not addressed in this consultation. We consider this further in our response to Questions 3 and 4.

We also find it surprising that the provision of entertainment services over NGA in new build housing is not addressed specifically. The Openreach IRS product is addressed at Sections 5.41 to 5.45; as stated this is an essentially proprietary solution supporting Sky's service only. There is no question associated with that part of the consultation. The provision of IPTV based services – both nationally on a multicast basis and more locally on a unicast basis – ought to be supported more strongly. There are examples in Open Access networks where consumers have a choice of IPTV services from a mix of suppliers over the same IPTV set top box, and may choose more than one provider of services. The Open Access provider plays a role in the definition of how the different TV services are presented so that this consumer choice can be made possible.

In summary, we do not consider that passive access represents the best approach to encouraging competition. We also consider that a true Open Access model implemented as a single network operated under a regulated rate of return is more likely to deliver innovation and choice. We are also concerned that the consultation fails to address the network termination point at the home and the provision of entertainment services.

Question 3a: Do you believe that 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?

Our view is that this is a relatively short-term issue: where a genuine need exists, an alternative fibre-based solution will rapidly become available. The roll-out of fibre should not be burdened or compromised by added costs to support legacy solutions.

Existing copper products should be replicated on fibre where that is reasonably practicable. Where that is not practicable then the copper product should not be mandated and an alternative approach based on ALA adopted.

Question 3b: 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 obligations?

Yes. To roll out a copper network as well would be ridiculous. We need to accept that in return for realising what should be the substantial advantages of a fibre network, including operational advantages, then the legacy capabilities (and substantial limitations) of copper should be abandoned.

In respect of Section 5.19, we do not see how "in the case of GPON sub-loop unbundling" can represent a practically realisable option where the 32-way splitters are all widely dispersed geographically. We can see that there could be options if those splitters were located at a single point such as an existing exchange location.

Question 3c: Do you agree with Ofcom's approach in relation to WBA and new build areas?

Yes.

Question 3d: 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?

We believe that there is a strong argument for taking a common sense approach and moving forward acknowledging that fibre has different capabilities. ISDN services were developed as the first DSL-based services to specifically exploit the capabilities of copper. The UK should move forward and develop services based on ALA-type products.

Question 3e: 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?

This question highlights the need to consider the network interface at the home. Whilst there could be good arguments for abolishing an analogue telephony interface altogether with a NGA fibre network, that does not form part of this or earlier consultations and would be an issue that would be subject to debate. If it is accepted therefore that support for analogue ("black") phones is a requirement for NGA in new build, then there is a corresponding requirement to provide the equivalent of the current Master Socket (inside which the current network interface resides). It is our understanding that there is a proposal in Openreach's case for Ebbsfleet to achieve this with the use of an Analogue Telephony Adapter (ATA) which is to be provided separately by the telephony Communication Provider and connected to the telephony Ethernet port on the GPON ONU. This represents a significant change and we do not think it is one that is in the best interests of the end user. Is the ATA to be provided after the consumer has moved in to the new house and chosen his CP or is this a *de facto* BT provision? The user would presumably also need to exchange the ATA on choosing an alternative CP? From a consumer's perspective maintenance of the existing network interface makes most sense. Also, in the context of the requirement to provide battery back-up, the separation of the ATA introduces further difficulties.

It is our understanding that one possible reason for favouring a separate ATA is that different CPs will have different service platforms. We acknowledge that the VoIP signalling standards used may be implemented in detail differently between different platform suppliers but we consider that it should be possible to secure inter-working to a standards-based ATA.

We therefore consider that the Master Socket should form the network interface as at present, and that is should be possible to provide CPS in a similar way.

Question 3f: 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?

Our response is similar to that provided under Question 3e.

Question 3g: Do you agree with the proposal to interpret GC 3.1 (c) as being met through the provision and use of a battery back-up facility to maintain uninterrupted access to emergency services in new build developments?

This question has a long history, dating back at least to the Oftel 2002 "Guidelines on the essential requirements for network security and integrity", itself based on an earlier consultation. A battery back-up facility can be used to maintain uninterrupted access to emergency services in new build developments. It will be important to achieve a clearer understanding of the detailed back-up implementation.

Ofcom will need to accept a reasonable level of provision as meeting the GC requirements. It would not be reasonable to provide service for extended (i.e. beyond a few hours) power outage at the consumer's premises, or for supporting unusual call patterns (particularly a high level of incoming calls – the main power requirement being to support ringing), or for extensive non-emergency use of the consumer's telephone.

As indicated in response to Question 3e, the ATA should be provided by the access network provider who should also make arrangements for meeting the battery back-up requirements in an integrated way. The provision of two separate battery back-up arrangements does not make sense.

Ofcom should also accept that it will be appropriate for consumers to have their own responsibilities in this area. These may need to cover the use of the phone in a power outage, and the maintenance and replacement of batteries. Under current circumstances where many consumers are only using DECT cordless phones, and therefore do not have a lifeline service over copper, it will be important to recognise the power limitations of a fibre-based NGA in the context of the wider advantages that may be realised with a fibre NGA network.

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?

As indicated in our response to Question 2 above, we do not generally consider that passive access options represent the best approach for the development of competition. Some of our reservations are evident in the case studies described in Annex 8.

One of our principal concerns relates to operational issues. Whereas with a trunk network it is possible to have physically different access to ducts, this is very much more difficult with an access network if civil works savings are to be realised. This is because in a new build there will need to be shared manhole accesses and a common drop route between the street and the home. If therefore more than one operator shares the physical infrastructure then there is a real danger that one operator‘s installation and maintenance activities will interrupt the services of another. This type of occurrence will lead to disputes between operators that will be difficult to resolve, and to complaints from consumers. The provision of more than one network and of more than one operational staff capability does not provide the most efficient overall solution. An alternative approach would be for one operator to have sole responsibility for all installation and maintenance activities, including the installation of the optical fibre – this would then amount to dark fibre rental. This could be workable, particularly if the operator does not itself provide active network and is not owned by a network or communications provider, i.e. is effectively an Open Access infrastructure provider. This is essentially the Stokab model, as described in section A8.14 of the consultation. This approach could be adopted in the UK if it were mandated as a requirement associated with new build housing.

This approach for the new build passive infrastructure assumes that appropriate decisions can be made concerning planning and design, the selection of micro duct (a single responsible provider will be inclined to select a specific solution) and architecture considerations (design for P2P will be different from PON depending on the service node locations and other factors).

We are concerned that PON architectures with splitters in the street could be used to significantly restrict the regulator’s ability to encourage competitive network provision. We are particularly concerned that the commercial opportunity for third-party unbundling of dark fibre becomes impossible, with the result that it becomes commercially unattractive to offer connectivity products with performance better than that available through the PON. This could restrict development of better connectivity in the 10-20 year timeframe, with the result that the UK would once again be falling behind its international competitors. Our suggested solution is that the “first mile” (by some definition) should be mandated as a point-to-point architecture: installations would thus be similar to existing copper local loop, and choice and upgrade on a per-customer basis can be freely encouraged. To avoid such an approach discouraging investment in the first mile, a regulated rate of return on dark fibre would be needed.

Alternatively, it could be possible to access non-telecommunications duct network at infrastructure build on the basis of the network being completely physically separated from a telecommunications duct network. In large part, two (or more?) different NGA infrastructures will have been installed and will then need to be maintained without major cost savings – this is not the most efficient use of resources. Operation, maintenance and changes in the utility network will need to have minimum impact on NGA network.