Section 1

Executive summary

New build fibre networks are the first step in next generation access

1.1 The move to next generation access networks is one of the most fundamental changes in telecommunications infrastructure since the introduction of competition. Consumers continue to benefit from the broadband services available across the current generation of copper and cable networks. Next generation access networks, discussed in our September 2007 consultation on Future Broadband[1], offer further opportunities for new services and business models.

1.2 Since our September consultation we have seen several announcements of investment in next generation access: Virgin Media, upgrading its cable network; H20, using sewers to deploy fibre links in small cities; and BT in Ebbsfleet, a new build property development. Ebbsfleet may be the first deployment of fibre in new build but we know there are others planned. Government targets indicate there should be 3 million new properties by 2020 at a rate of approximately 240,000 per year[2] and Openreach has suggested it may deploy fibre to developments greater than 1,000 homes.

1.3 New build fibre deployments are an opportunity for providers to trial new services, understand consumer needs and improve their service offer accordingly. We want to encourage these deployments and one important way in which we can do so is by clarifying the regulatory environment. Our Future Broadband consultation set out our strategic approach to next generation access in general. This consultation sets out our proposals for next generation access in new build developments, in order to:

- ensure efficient and timely investment is open to different providers;
- help providers successfully deliver services, particularly through clear standards;
- promote competition and protect consumers; and
- ensure equitable regulatory treatment of providers.

Ofcom's approach to next generation access in new build housing

1.4 Ofcom's approach focuses on enabling providers to invest and compete because we believe competition is the best way of ensuring that the benefits of next generation access are passed on to customers. This view is supported by the UK's experience in current generation broadband: in 2002 UK broadband penetration stood at 7%, and six years later penetration has reached 57%[3], driven in part by fierce competition from local loop unbundling operators (LLUOs).

1.5 This competition is due to investments by a number of market players within the regulatory environment put in place by Ofcom following our Telecommunications

[1] http://www.ofcom.org.uk/consult/condocs/nga/
[2] From a base of 165,000 per annum in 2006
[3] The percentage of UK households with a broadband connection according to Ofcom's Communications Tracking Survey, Q4 '07.

Strategic Review[4] (TSR) in 2005. The review came to two main conclusions: firstly that today's wireline access networks are not replicable or open to multiple investors (contestable); and secondly that the deepest point where it is possible to promote effective and sustainable competition is the local loop.

1.6 New build networks are different. There are opportunities for investment to be contestable at the point of deployment. However, once new build developments are complete, wireline communication networks may display the same characteristics of an enduring economic bottleneck as does the existing copper access network. There are therefore two ways in which competition can be promoted:

a) contestable investment at the point of deployment;

b) in areas where market power develops, the application of appropriate regulatory obligations including wholesale access remedies.

1.7 As well as promoting competition we want to give providers the regulatory clarity they need. These two aims are interlinked: the regulatory environment in new build will be determined by the competitive conditions in place.

Promoting contestability in new build deployments

1.8 Ofcom wants investment in new build next generation access (NGA) to be contestable. This is likely to result in more competition and greater benefits to consumers.

1.9 Contestability is easiest to achieve when networks are being built: the incremental cost of building two access networks in parallel may not substantially differ from building only one. Even if two networks are not deployed at the same time, laying spare duct could reduce barriers to entry for new wireline access networks after the development is finished. The investment would continue to be contestable.

1.10 However contestability is not the same as competition. Even with contestable investment opportunities, there may be other factors which prevent the development of a competitive market and necessitate regulatory intervention to protect the interests of consumers.

Promoting competition following deployment

1.11 If there were a number of fibre networks serving individual homes then there might be sufficient infrastructure competition to ensure a competitive market. As a result there might be little need for regulation promoting access to networks to ensure the benefits of competition are available to consumers.

1.12 However, if there is only one access network, wholesale access to that network might be required to promote competition in services to consumers. In many cases the infrastructure owner might choose to provide access on commercial terms: in our conversations with investors, many are keen to attract as many service providers as possible to their network and propose 'open access' models to give end-customers the greatest possible choice. They know that if customers can choose from lots of different service providers, they will value the network more.

[4] http://www.ofcom.org.uk/consult/condocs/statement_tsr/

Regulatory obligations on new build NGA providers to promote competition

1.13 Ofcom would prefer not to impose new regulation on new build network providers, especially given the probable small size of the developments. However, where a competitive market does not develop, it may be necessary to impose *'ex ante'* regulation. Ex-ante regulation is imposed only after conducting a thorough market review and a finding of significant market power in the relevant economic market, which may be defined by geographical boundaries as well as by services.

1.14 The form of regulatory intervention would need to be considered on the facts of specific cases. However, it could look like the regulatory environment in Kingston upon Hull, a relatively small area with a dominant provider which is regulated accordingly. In the case of new build, wholesale infrastructure access may be possible through access to passive products, for example unbundling or duct access. If infrastructure access is not appropriate due to technical or other issues, we would be likely to require a form of active line access (ALA). ALA products retain as much as possible of the innovation potential inherent in passive forms of line access, in contrast to existing bitstream services. Their characteristics were discussed in our September consultation and are the subject of ongoing engagement with industry[5].

1.15 The prospect of regulatory obligations following the contestable investment in new build NGA might be considered a disincentive to investment. This should not be the case. The demand for existing telephony and broadband services is known and it is no more risky to provide these services in new build areas than elsewhere: regulation based on the model applying elsewhere should not discourage investments to deliver these services in new build. The situation for the new services that fibre can deliver is different: here there is significant demand risk. Initially then, we will focus our regulatory approach on ensuring that consumers have access to existing regulated services at existing prices. Network operators will benefit from much greater discretion in pricing the new fibre services. We believe this approach gives the right signals for efficient investment while protecting customers. In our publication on Future Broadband later this year, we will further consider the issue of pricing.

Standards are key to any commercial access model

1.16 In today's access networks, ISPs, and others providing services such as broadband to UK customers, are accustomed to the current range of wholesale access products, often developed in response to regulatory obligations. These include wholesale line rental (WLR), carrier pre-selection (CPS) and local loop unbundling (LLU). Service providers have invested in understanding how to order, manage and sell these products and would have to adapt their internal systems and processes to take advantage of new wholesale products.

1.17 While they may be eager to do this for a new market of many millions of customers, a market of a few thousand homes, or even less, is unlikely to justify the investment. New build developments vary in size from a few homes to ten or twenty thousand: all are relatively small and 'local' in comparison with the established national network of 26 million homes. This fragmentation may be compounded by different investors making different technology choices, resulting in a patchwork of new build network technologies.

1.18 There are two ways to address this issue of wholesale demand. The first is to reduce the investment required by service providers to use the new wholesale products.

[5] See http://www.ofcom.org.uk/consult/condocs/nga/ethernetala/

This can be achieved by reducing their cost or by minimising the difference between the new products and the old ones; for example, by replicating some or all of the features of the existing products. The second way is to increase the size of the addressable market beyond the number of houses in any one development. This would be possible if different housing developments could be served by the same wholesale access product.

1.19 Both of these responses would be supported by the development of common standards. Standardisation makes it easier for service providers to deliver service across different housing developments. Standardisation also helps to reduce the costs of network deployment: standardised network equipment is cheaper.

1.20 Given the critical role of standards in making access to new build developments commercially attractive, Ofcom believes it would be highly desirable for an appropriate industry body to take on the challenge of standardising wholesale access and seeks views as to which body would be most suitable. We strongly believe that the industry is better placed to set standards than the regulator but we also seek views as to what action Ofcom should take if the appropriate standards fail to materialise.

Protecting consumers from potential harm

1.21 Next generation access offers new possibilities for service innovation. It may also potentially weaken some of the existing protection for consumers.

1.22 In copper networks, the line is powered from the exchange so that it continues to be active if there is a power cut in the home, enabling ongoing access to emergency services. In general, fibre networks do not support line power, so the line will fail if the consumer premises power fails. Our recent statement on Emergency Access for VoIP Networks[6] set out certain requirements on publicly available telephony service (PATS) providers; for new build we propose that the relevant General Condition can be interpreted as being met through the provision of a battery backup facility. This facility will provide power to the consumer's terminal equipment in the event that the domestic power supply is unavailable and therefore maintain continued access to emergency services.

1.23 Existing consumer protection provisions continue to apply including the Universal Service Obligation (USO), which ensures access to basic voice telephony services at uniform prices across the UK. The USO currently applies to BT and KCOM in Kingston.

Existing obligations to promote competition

1.24 BT (and KCOM in Hull) is subject to regulatory obligations as a result of findings of significant market power (SMP) in a number of markets These obligations have resulted in wholesale access products such as WLR which enables communications providers to control the voice part of the line and CPS which allows consumers to choose which communications providers handle their voice calls. CPS and WLR have been very successful in promoting competition; for example over three hundred service providers deliver services using BT's CPS product.

1.25 As we outlined in our Future Broadband consultation, next generation access services are likely to fall within existing market definitions for wholesale local and

[6] http://www.ofcom.org.uk/consult/condocs/voip/voipstatement/

wholesale broadband access, at least initially. If there is no competition in these markets following deployment, and if BT (or KCOM in Hull) is the only network operator, then the regulatory obligations it currently faces are well placed to address competitive concerns. We believe it would be premature to remove the existing obligations in advance of deployment. If a competitive market arises we can deregulate accordingly.

1.26 The LLU obligation currently applies to a 'metallic path' only: copper. In fibre new build there is no copper network and therefore copper unbundling is not possible. We believe it would not be proportionate to require a copper network to be built out solely in order to enable copper unbundling in new build fibre areas. This increases the importance of the other wholesale access products which are available.

1.27 While wholesale access products such as CPS and WLR help promote competitive provision of retail services they also largely define those services. They do not enable communications providers to innovate in the way that an active line access product would. The right type of ALA product could also meet some of the existing regulatory obligations, such as the control of voice calls currently provided by WLR. However this might not be enough to attract communications providers if it did not also replicate the exact functionality of the existing product. It makes sense for the new services to offer communications providers and consumers user experiences as close as possible to those of existing products; in this consultation Ofcom seeks views as to the extent to which it is also necessary to replicate existing functionality. The relevant obligations and our proposals are summarised below:

- ***Passive access:*** *Wholesale local access (WLA) market;* Local loop unbundling is an obligation to address SMP in this market. Where fibre is rolled out as part of a new build development we propose that the LLU obligation is not to be read as requiring the installation of a parallel copper network.

- ***Broadband access:*** *Wholesale broadband access (WBA) market:* The competitive state of the products upon which WBA services are based would drive the need for regulation. If these upstream products are not in a competitive market, we would want to ensure a suitable WBA product was made available, which could, for example, be based on an ALA-type product.

- ***Voice access:*** *Wholesale exchange line services markets and call origination market:* A number of obligations are in place to address SMP in these markets, including wholesale line rental (WLR), carrier pre-selection (CPS) and indirect access (IA). The obligation continues to apply in all cases. Ofcom seeks views as to whether, in each case, the obligation must be met by the replication of the existing wholesale products or whether it is possible to meet it in an alternative way, for example by the provision of an ALA-type product.

There may be other ways to promote competition

1.28 One of the major barriers to fibre rollout is the cost of the civil infrastructure. The proposals for the revised European Framework strengthen the references to duct access as a remedy and many other national regulatory authorities are consulting on duct access. Ofcom recognises the many challenges involved in securely sharing the duct network, but believes they may be more easily overcome in new build. We have conducted a review of international best practice in telecoms infrastructure sharing and the results are included in this consultation. We seek views on the feasibility and attractiveness of duct sharing in new build.

This consultation

1.29 This consultation aims to clarify the regulatory environment that will exist for next generation access network deployments in new build developments, so that potential investors in this market can make informed decisions. We strongly encourage all industry players to work together to develop appropriate standards to ensure the commercial success of wholesale access in new build, and will actively monitor progress in this area. Additionally:

> *BT (and KCOM in Hull)* must continue to meet existing regulatory obligations for existing products. It is proposed that the LLU obligation is not be read as requiring the roll out of a parallel copper network in new build areas. Fibre based products should offer communications providers and consumers user experiences which are as close as possible to those of existing copper based products. Pricing of existing products should be similar in both copper and fibre deployments.
>
> *Other potential new build NGA providers* should make the investment in a way that enables competition through wholesale access products which support innovation as well as meeting existing requirements.

1.30 We have emphasised the significance of new build next generation access deployments in paving the way for the next generation of communications services to meet the needs of citizens and consumers. Ofcom believes it is important that as wide a range of stakeholders as possible, including communications providers, housing developers and local authorities, actively participate in this debate and share their views. To this end we have a number of specific questions for consideration:

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?

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

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?

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

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

(d): 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?

(e): 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?

(f): 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?

(g): agree with our proposal to interpret GC 3.1 (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?

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?