About INCA

INCA is an association of independent next generation networks. We promote the development and adoption of common technical & business standards amongst local projects and act as a unified voice for local projects to government and industry. We encourage partnerships with public, private and community sector organisations to facilitate investment and faster roll out of next generation broadband infrastructure, particularly in under-served areas – the 'Final Third' of the country.

Introduction

The current regulatory regime was designed for traditional copper networks. A market based on fibre optic networks, which will deliver such diverse services as internet, gaming, file sharing, health services, TV/VoD and voice, is going to require a new way of thinking. The current product structures are a good reflection of the old world but the UK cannot remain competitive and develop the best superfast broadband network in Europe by 2015 by applying tradition copper-based products to new fibre optic networks.

There appears to be a disconnect between Government policy on the one hand and Ofcom's economic regulatory policy on the other. The "Final Third" is proving to be a persistent market failure in terms of broadband provision and requires different regulatory treatment and a move away from a product-centric regime.

BT's Undertakings served to stimulate local copper loop unbundling, but the competitive problems that were present 10 years ago are now re-emerging . The fact that Ofcom has repeatedly granted exemptions and exclusions on the Undertakings (for example on Wavestream and SLU products) has meant that there is very little equivalence in the provision by BT of products that would support NGA services. Unless adequate passive products for NGA provision become available, the same problems will occur that forced Ofcom to contemplate a referral to the Competition Commission.

INCA welcomed the publication by Openreach of its reference offer for Passive Infrastructure Access ("PIA"). There are a number of ways to deploy networks capable of delivering high speed broadband but it is important that access to BT's ducts and poles is available wherever possible, so that infrastructure is not duplicated and civil works are not undertaken needlessly.

However, BT limits the use of its PIA product to the provision of "Next Generation Access Services". As of May 12th[1], BT proposed the following definition (which is currently being negotiated with interested parties):

> "For the purposes of this Agreement, the provision of Next Generation Access Services means those broadband, telephony or cable television access services provided at high speeds (generally capable of speeds in excess of 20 Megabits per second) :
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> – over fibre cables in the Access Network either deployed as fibre to the premises (FTTP) or fibre to the cabinet (FTTC) technologies based on providing a connection over optical fibre some or all of the way to end user customers; or
> – over coaxial cable in the Access Network for cable television services;
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> to a community of premises, both residential and commercial (or a proportion of a community of premises being the addressable broadband market of that community) by means of point to multipoint telecommunications apparatus (which in the Customer's case shall mean Customer Apparatus) installed in spine duct in the Physical Infrastructure within the Access Network connected to a Local Access Node and which shall exclude the provision of point to point services offered with the intent or effect of providing private circuit type services."

Alternatives to BT's infrastructure are also being considered, such as electricity pylons, sewers, railways and public sector networks. Of these infrastructure owners, BT is alone in placing restrictions on how and where its network may be used. INCA members have, for example, discussed sharing electricity networks and at no point have restrictions on use or access been raised. It is Ofcom's economic regulation which enables BT to limit access to its network in a way that jars with the Government's policy objective. When other infrastructure owners are being actively encouraged by the Government to make their facilities available for telecommunications, it seems perverse that Ofcom should allow so many restrictions to be placed on BT's own offer.

In the WLA Market Review, Ofcom expressed the view that backhaul and business connectivity must be dealt with in the BCMR, i.e. it belongs in the European Commission's Market 6, rather than Market 4. Ofcom's "Business Connectivity" market includes connectivity services purchased by telecommunications companies as an input into broadband markets. Such contrived market segmentation of PIA is unhelpful for both businesses and investors and we hope that Ofcom will take a broad policy view on the matter.

The Broadband Commission for Digital Development, which is sponsored by the ITU and UNESCO, has suggested[2] that, in order to attract the large-scale investment required to advance networks to the next stage of development in terms of improved speed and coverage, the steps regulators could take include:

[1] Slides from the Passives Industry Working Group

[2] http://www.broadbandcommission.org/report2/full-report.pdf

- "Actively encouraging the sharing of essential facilities such as cable landing stations, local switching centres or fibre backbone networks
- Adopting rules to provide for infrastructure sharing, particularly involving "passive" sharing of towers, ducts, rights-of-way and other support facilities
- Amending regulatory frameworks to eliminate discriminatory rules that favour one company or industry over another in a converged services market"

Article 12 of the Framework Directive (as amended) allows National Regulatory Authorities ("NRAs") to impose facility sharing (including access to ducts) on undertakings in control of bottleneck facilities, irrespective of market power. The Commission's Recommendation on Regulated Access to Next Generation Access Networks states:

> "The scope of this Recommendation primarily covers remedies to be imposed upon operators designated with Significant Market Power (SMP) on the basis of a market analysis procedure carried out under Article 16 of Directive 2002/21/EC. However, where it is justified on the grounds that duplication of infrastructure is economically inefficient or physically impracticable, Member States may also impose obligations of reciprocal sharing of facilities on undertakings operating an electronic communications network in accordance with Article 12 of that Directive which would be appropriate to overcome bottlenecks in the civil engineering infrastructure and terminating segments."

Article 12 also enables NRAs to require undertakings to provide the necessary information to be able to establish a detailed inventory of the nature, availability and geographical location of those facilities and make it available to interested parties. Ofcom should ensure that BT makes such information available as soon as possible.

The investment that took place in telecoms infrastructure in the 1990s reached the major cities (trunk nodes), but stopped short of the market towns. This is having a dramatic constricting effect on the availability of backhaul for internet and other data traffic; current contention rates are not sustainable as demand for bandwidth increases. Lack of backhaul capacity impedes the provision of local access.

Jeremy Hunt, the Minister for Culture, Media and Sport, has spoken of a "digital hub" in every community. However, there remains confusion as to what is meant by "digital hub", how large or small a "community" is and how the Government envisages that connectivity to these hubs from the trunk networks is to be achieved. The Digital Scotland paper advocated a national approach to the provision of backhaul. Absent such a policy of government investment, the alternative is to mandate access to the incumbent's network. Neither traditional telcos nor new entrants can afford to build out to all the market towns and communities where NGA investment is needed. NGA providers should not be expected to undertake civil works to build out to a community that is too remote to be served by a BT exchange or, in many cases, even a cabinet. So it is vital that all appropriate infrastructure (both BT's and others) is available to investors without regulatory constraint.

BT should make its ducts available to other CPs for the provision of NGA networks, irrespective of the location of the duct within BT's network or of the CP's own network topology. Other CPs do not necessarily share BT's network architecture. They may choose, for example, to serve a group of houses from a different direction from that in

which the BT serving exchange lies. Rural providers need to be able to carry traffic from a hub (i.e. a concentration node such as a VDSL modem or a GPON splitter, or a POP) in a small community back up to the internet. CPs should also be able to use PIA to "daisy-chain" between concentration nodes. So we urge Ofcom to remove restrictions on the use of PIA for backhaul.

The PIA product does not currently allow use for the provision of "leased lines" or "private circuit type services" (both terms undefined). This entirely misses the point that the upgrading of the local loop infrastructure is desperately needed by Britain's businesses, particularly small and medium sized enterprises. Britain's industries desperately need to increase their productivity and competitiveness by the use of cheaper, faster connectivity. Recent research[3] has shown that lower quality broadband is costing businesses over £350M/ per month. It also pre-supposes that CPs share the same hub-and-spoke architecture as BT, whereas they may instead choose a campus-style network, where buildings are connected in more of a ring.

We have limited our response to those questions most relevant to our organisation.

Question 2: What are your views on the extent to which broadband products can be used effectively for the delivery of business connectivity? How do you think this might change over the next 3 to 4 years?

Up until now, Ofcom has found that the market for leased lines includes SDSL services, but not ADSL services. With the advent of NGA services, the boundaries between "business" products and "residential" products will become blurred to the point where they may be indistinguishable (by some measurements at least) for all but the largest enterprises. There will certainly be more substitutability and elasticity of demand.

The period of this review with cover three to four years, which coincides with the term of this Parliament and the Government's aim to have "the best superfast broadband network in Europe by 2015". It is reasonable to assume that, if the Government's targets are to be met, a good deal of NGA investment will take place over the period of this review.

The high cost of leased line products has long been a major restraint on the growth in productivity and competitiveness of Britain's small and medium sized businesses. Current ADSL products are unattractive because of poor SLAs, slow upstream speeds and lack of suitable QoS specifications. The advent of NGA broadband can and should bring affordable, high speed broadband and increased upstream speeds to homes and businesses alike. It is vital that Ofcom recognises and supports the fact that "next generation access" is for businesses as well as residential consumers. Otherwise, in places where network operators successfully utilise PIA, SMEs would have to adopt domestic NGA services or potentially be forced to adopt legacy copper services by operators fearful of enforcement action by BT.

Question 5: Do you think that separate markets could now exist for access and backhaul products? If you do, please explain why. Question 6: Do you think that separate markets could now exist for broadband backhaul products and, separately, for mobile backhaul products? If so, please explain your reasons. Question 7: Do you

[3] http://www.it-analysis.com/technology/productivity/news_release.php?rel=23569

think there are other sources of demand for symmetric broadband origination outside the services mentioned above which are relevant to our assessment? If so, please explain your reasons.

We think it is important that Ofcom revisits the question of whether the access and backhaul segments should be considered as separate markets. In the last BCMR, Ofcom found that CPs were generally likely to purchase access and backhaul together *as a combined product*. This means a managed/ active product. But where PIA is used, there is no active product involved, so it can be purchased in a more piecemeal way.

The previous BCMR referred to "LLU backhaul circuits" (as well as mobile backhaul products). We would like Ofcom to take a fresh look at the way that backhaul needs to be used by NGA network operators. We do not think it is appropriate or workable for NGA networks to have to purchase managed (i.e. active) services from BT for backhauling high capacity local fibre networks.

Moreover, differences in network architecture between copper networks and NGA networks mean that what BT considers "access", NGA CPs may consider backhaul. NGA networks may wish to buy PIA or dark fibre from a POP or VDSL modem in a village or hamlet back up to the trunk network. An example of this is the hamlet of Curtisden Green in Kent which is served by a BT exchange in Goudhurst, but is too far away from a BT cabinet to be able to receive VDSL services.

BT have stated that it is not possible for a local NGA provider to fit a VDSL unit closer to end users' premises than the existing BT cabinet is because the Access Network Frequency Plan (ANFP) agreed by the NICC only provides for up to 2 DSL signal insertion points in the cable – at the exchange, or at the cabinet. It is not possible to insert a second cabinet closer to the customer.

So it is not possible to obtain "backhaul" from a node in Curtisden Green. If restrictions like this are not lifted, communities like Curtisden Green will remain on the wrong side of the digital divide. Backhaul from remote communities like this might be more appropriately described as "mid-haul" or "community-haul", since it falls within BT's local access network.

BT is now introducing smaller cabinets which serve 96 lines, rather than the standard 288. This will allow deployment of cabinets (by BT and its competitors) where concentrations of customers are lower, which will enable VDSL to be provided to communities which are unable to benefit from it today. These continuing changes to network topology mean that Ofcom should keep restrictions on PIA usage to a minimum.

The market for backhaul is not homogenous across the country. Whereas most of the enduring market power is in the local access network, certain backhaul routes (mostly those in rural areas) see little or no competition, and little scope for competition in the future. This is akin to the "Market 1" areas that Ofcom identified in the Wholesale Local Access market review. It is harder to obtain backhaul to these areas because there is often no fibre connectivity to BT's local exchange. This results in excess construction charges, which in turn leads to disputes caused by the lack of transparency (i.e. publicly available maps) regarding BT's fibre network.

Question 18: What are your views on the role that passive remedies could play in this market for the promotion of downstream competition? In your view, what implications might adoption of passive remedies have on the provision of active remedies?

As we have discussed above, we believe it is vital that passive remedies (both PIA and dark fibre) are available to investors in NGA networks in order to provide connectivity to the communities, particularly in the "final third" of the country, that will benefit from fibre upgrades in the local loop. The benefits will be not just to those providers and their customers, but to the economy as a whole. Moreover, the cost of **not** providing such remedies is potentially catastrophic, as it would likely strangle the nascent NGA market.

We do not believe that the introduction of passive remedies should necessarily lead to the removal of regulation of downstream wholesale active remedies. Active remedies may still be appropriate for some business models, particularly for businesses operating on a smaller scale and without significant capital expenditure.

We appreciate that the high cost of active products may be subsidising various BT products by reducing their common costs. However, we do not consider this complication to be sufficient justification for ignoring the fact that BT has significant market power in backhaul and a competitive level playing field requires that new entrants should be able to access it on equivalent and fair terms.