NEXT GENERATION ACCESS OFCOM CONSULTATION

Cable&Wireless

DECEMBER 2007

EXECUTIVE SUMMARY

- Cable&Wireless welcomes this consultation. Several organisations; telcos, land developers and local authorities are about to proceed with the deployment of limited next generation access network facilities. This consultation is therefore opportune in order to provide the regulatory clarity for (current and prospective) investors of networks, services and applications.

- We support a market led approach for a UK move to higher bandwidth network infrastructure. In the UK almost 100% of users have access to broadband services and the bandwidth available over these connections continue to grow as newer DSL technologies are deployed. We expect that bandwidths up to 24Mbit/s will meet the needs of the majority of users in the short and medium term.

- Whilst we can see the prospect of a society with multiple household communication connections and 'must have' bandwidth intensive consumer applications, we are not there yet. At the present time our focus should be on understanding how UK networks will evolve and how this might be facilitated so that at the right time relatively fast change can take place. The OTA has commenced an industry work stream to look at sub loop unbundling. Openreach is consulting about potential wholesale GPON based services. Cable&Wireless is working with Openreach on its product proposals and also with other potential GPON investors to provide vital backhaul connectivity.

- It is highly likely that the UK will have a number of technical solutions for delivering higher bandwidth services with a mixture of point to point, point to multipoint fibre and sub loop unbundling. Companies will choose to invest in these at times that are appropriate to their customer base and their business models.

- Ofcom proposes that all next generation access network services developed by BT Openreach be offered on Equivalence of Inputs (EoI) but that charges are set on commercial terms. A safeguard regulatory remedy "Anchor Product Regulation" is proposed. This sets charges for a base next generation access service product in line with charges for a comparable copper based service. As a day one solution Cable&Wireless supports these proposals. However as next generation access networks extend beyond "test" phase and upgrade of current existing networks occurs, more orthodox regulatory remedies under the EU legislative framework need to be implemented. Ofcom is required to regularly review markets. Future assessments will need to take account of next generation access deployments. Where SMP arises, including for next generation access networks appropriate SMP remedies must be put in place. In addition it is vital that correct investment signals are sent to potential subsequent network investors. Cable&Wireless believes this is best achieved by requiring services to be charged on a cost orientated basis.

- Our experience in product launches by BT over recent years illustrates an ongoing requirement for regulatory mediation even with EoI instituted. Ofcom needs to ensure that the product requirements of other Communication Providers are not unjustifiably ignored and that all parties have sufficient influence within the process.

- There is no doubt it is tempting to compare our NGA rollout against other nations. But we need to have a firm view of what users will be doing with greater bandwidths and how willing they will be to pay. Whilst looking less desirable in a league table of roll-out it is far more economically credible to engage in widespread rollout when applications and services push up user demand and improve the commercial attractiveness of higher bandwidth packages. We caution against trading potential competition off against rapid rollout of next generation networks in advance of demand for these services and the emergence of take up of applications requiring far greater bandwidths.

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INTRODUCTION

- Cable&Wireless is a key player within the UK Communications Market. Our business has evolved as the UK Market has developed. We continue to invest in network infrastructure and services:
    - recent completion of rollout to 800 exchanges for local loop unbundling;
    - upgrade of our core infrastructure to next generation IP;
    - service innovation within our product portfolio (having been the first to market with many LLU based services);
    - innovation in service experience in order to achieve the service excellence which has been lacking in our sector.
- Focus within the UK has to date been upon updating core network infrastructure in order to remove costly historic infrastructure from networks which improves economics and enable more remote handling of customers services.
- Cable&Wireless directly serves corporate users. In addition we wholesale services and work in partnership with other Communications Providers who in turn serve other retail markets including SMEs and residential customers. We have recently invested in local loop unbundling and continue to develop our services upon this platform. Cable&Wireless has a number of business sites connected to its network with direct fibre connections in appropriate situations we will continue to connect business customers directly to our network otherwise we will connect using BT fibre for the “last mile”.
- Currently our plans do not include wide scale investment in next generation access networks. This plan will of course be reviewed as time passes. We recognise that plans to develop next generation networks and associated services may be advanced by the requirements of our wholesale partners and as such we do not exclude ourselves as a future investor in this area. In responding to this document we are mindful of our position as both a purchaser and potential investor.

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Question 1 When do you consider it would be timely and efficient for next generation access investment to take place in the UK?

The availability of higher bandwidth services at the right price and with appropriate service level guarantees is of importance to our customers.

Cable&Wireless has invested in developing services that are able to run over broadband connections enabling our corporate customers to use these types of services to cheaply connect small sites such as local stores or local offices and remote workers.

Initially these services were deployed using BT's wholesale offerings (IPStream and Datastream) and more recently via our 800 exchange local loop unbundling rollout. At the present time we continue to develop the services that we offer over these upgraded copper loops ensuring that our customers are able to run at the bandwidth and via service protocols their applications require.

Our corporate customers also benefit from business specific services such as Ethernet and SDH leased lines which of course can run at far higher bandwidths. We envisage continued opportunity to utilise far more the benefits of local loop unbundling for both our business customers and our wholesale SME and residential users. In time (not within the current horizon) customer demand for bandwidths will increase. At this point Cable&Wireless expects to look to the opportunities offered by sub loop unbundling or interconnection with Openreach's and Other's GPON systems. It is not our current intention to lay our own GPON systems but we remain aware that partnership and customer requirements in the future may change this.

We believe that there is a step by step evolution to the attainment of the vision of fibred / very high bandwidth availability to all premises. At present companies such as our own continue to focus on:

- upgrading services along the current DSL path of evolution;
- upgrading backhaul services (which have been identified as a potential bandwidth bottleneck);
- improving back office functionality associated with service experience.

Applications that are dependent upon the availability of very high bandwidths have not yet emerged and it is likely to be the emergence of several "must have applications" that pushes forward widespread next generation access rollout.

By consulting now and setting out its likely policy options Ofcom is ensuring that when the time is right investors are able to proceed immediately. We welcome this approach.

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Question 2 Do you agree with the principles outlined for regulating next generation access?

Ofcom outlines that it has a number of challenges that arise from next generation access deployment including:

- in advance of deployments how do we ensure that there are the right conditions for timely and efficient investment in next generation access networks,
- once these are made how do we promote competition in the case where these networks are an enduring economic bottleneck, and
- how should existing regulatory obligations and remedies evolve following deployment?

Together with these challenges Ofcom wishes to obtain agreement to adhere to a number of regulatory principles:

- contestability – allow competition to drive investment by ensuring the opportunity to invest is as contestable by as many parties as possible once they have a viable business case
- reflecting risk in returns – recognising that next generation access investments are inherently risky and structure future access regulation to ensure the expected financial returns reflect the level of the risk at the time of the investment
- regulatory certainty – provide confidence that the regulatory regime will be in place for some time to come and reflect the long term nature of these investments.

In advance of deployment

For investors in physical networks planning to proceed immediately, at this stage the critical activity is closure of any regulatory uncertainty. The publication of this document and final statement will achieve this. For investors in downstream networks and services Ofcom's work on making investments contestable will be key.

The proposed regulatory model

The UK is in a unique position currently, having functional separation of BT fully institutionalised. Ofcom is able to specify that BT Openreach must develop all its next generation access network services on a fully EoI basis.

Ofcom proposes that next generation access services offered by BT be on an EoI basis and aside for an "anchor product" prices be set on a commercial basis.

The obligation to develop next generation access services on an EoI basis from day one has multiple benefits. Properly implemented and controlled it should mean that all Service Providers are able to offer the retail services they wish to offer immediate following wholesale product launch. With EoI inbuilt from the outset Openreach will have consulted all Communications / Service Providers on their requirements for the service and appropriately planned these into the roadmap for functionality and geographic rollout.

EoI however does not deal with BT's incentive to maximise BT Group profits. In a situation where Openreach has full control over the commercial terms associated with NGA services Openreach can be expected to ensure that the BT Group overall achieves the greatest financial benefits of the investment. As a vertically integrated organisation BT has the capacity to choose which business unit derives profit, whereas as competitors to BT will be reliant upon the margin between the wholesale product and the retail tariffs to achieve their profits.

Progression of regulation

As next generation access networks extend beyond the "test" phase and upgrade of existing networks occurs, regulatory remedies required from EU legislation rightly need to be implemented. Ofcom is required to regularly review markets. Future assessments will need to take account of next generation access deployments. Where SMP arises, including for next generation access networks appropriate SMP remedies must be put in place.

In the early phases of rollout it is likely that the true unit cost of supply will not be fully comprehended – the full range of services will not be developed as we await consumer demand and appropriate applications. At this stage it is difficult to set cost orientated charges. However, as the rollout of next generation access networks becomes common place we expect that these networks will be considered within relevant market reviews. Where SMP in the provision of these services is found we expect that SMP remedies for cost based charges to be imposed.

The debate about regulation of next generation access has tended to focus on the risk faced by the potential access builder. There are often concerns expressed that the imposition of a cost orientation obligation on the regulated access builder will deter that operator from making the investment; in part because of the risk the regulator will misunderstand the risk/reward equation in next generation access.

However there is another side to this story. Over the last twenty years, the UK telecoms market has seen BT's competitors invest several billion pounds building their own access networks. The decision to build was taken either because of the absence of an option to buy access from BT, or because the 'buy' price was high enough to justify the 'build' decision. Over time, BT's access prices have declined significantly, either through commercial decisions or regulatory intervention. This has forced companies to write down

those alternative access network assets by BT's competitors. It is therefore vital that in next generation access, BT provides efficient investment signals to other market players as soon as possible. In our view this means that wholesale charges must be set at cost orientated levels, with an appropriate return on capital to reflect the real risk faced by the access builder.

Other areas important for regulation

Ofcom will be aware of complaint around Openreach's consultation process earlier this year. Although NGA products need to be offered on an EoI basis there are not firm processes in place which ensure that non BT product requirements are prioritised. Whilst it is understandable that Openreach wants to meet the requirements of a retail organisation that has considerable market share it is appropriate that non BT CP's requirements are adequately acknowledged and developed.

A critical area which Ofcom needs to address now in order to ensure that other CPs are capable of contesting BT's investment in NGA is the regulatory treatment of the availability and mixing of rented space within BT's premises. This is not a problem specific to NGA but one that to date remains unresolved.

Existing regulation

Cable&Wireless remains committed to its LLU investment. In order to achieve potential scale economies we are looking to leverage our local presence to the benefit of all of the services we offer. It is important that any NGA services from BT Openreach enable utilisation of our local networks where we desire. Ofcom discusses in the consultation document potential future migration from existing regulation. Ofcom recognises the importance of enabling investors in LLU to recoup their investment and the associated implications on incentives to invest in extending LLU reach and investment in general should there be genuine risk of unexpected shifts in regulatory regimes. We welcome this acknowledgement.

Question 3 How should Ofcom reflect risk in regulated access terms?

There seems to be a presumption that investment in NGA represents an enormity of risk. Cable&Wireless disagrees with this point of view.

The timing of the investment and the location of the investment greatly influences the extent of risk. Evidence in the UK implies an incremental approach to investment will be adopted – which as Ofcom identifies reduces exposure to risk and enables the business case and consumer demand and willingness to pay to be tested.

At present BT is planning to deploy NGA infrastructure at Ebbsfleet. The network is being deployed as the development is being installed. The new Ebbsfleet community will be the test market for BT's and other Communications Providers next generation access services.

Customers within this location will only have the choice of purchasing fibre based services and as such BT is guaranteed that all customers requiring fixed telecommunications services will at least be utilising its network and services at a wholesale level.

Cable&Wireless expect deployment of NGA where this represents a replacement of current systems or upgrades to parts of the network (FTTX) will be made when consumer demand materialises or where network cost savings promote the switch over. Rollout of NGA in order to derive network cost reductions and the rollout of services to areas where demand is evident further reduces potential risk.

We do not consider that there is justification for a special treatment for regulated access terms to reflect the risk of next generation access networks.

Question 4 Do you agree with the need for both passive and active access remedies to promote competition?

Yes we support the need for both. It is highly likely that the UK will see a mixture of NGA technologies being deployed. Investors will seek a method that is most commercially attractive and one that evolves its existing network deployment. Cable&Wireless is keen to explore more widely the potential of unbundled fibre with the view to offer point to point NGA services and leveraging of its infrastructure installed to support its LLU network. At this stage we should not be excluding potential options for development.

The approach to connecting with next generation access networks and deploying next generation access networks is likely to develop over time and in sync with consumer demand for higher bandwidth services. While consumer demand is low CPs are likely to purchase few points of interconnection which aggregate up national demand. As local volumes grow those with existing network infrastructure will have a rationale for interconnects closer to the customer.

We comment in the attached Annex in greater detail regarding the implication of the active remedy that BT Openreach proposes to implement and the consequential impact on a passive remedy.

Question 5 Do you consider there to be a role of direct regulatory or public policy intervention to create artificial incentives for earlier investment in next generation access?

We caution against trading potential competition off against rapid rollout of next generation networks in advance of demand for these services and the emergence of take up of applications requiring far greater bandwidths.

Whilst it is tempting to compare our NGA rollout against other nations we need to have a firm view of what users will be doing with greater bandwidths and how willing they will be to pay. Whilst looking less desirable in a league table of roll-out it is far more economically

credible to engage in widespread rollout when applications and services push up user demand and improve the commercial attractiveness of higher bandwidth packages.

We, presumably like many other CPs, wish to keep our options open for investing in NGA and therefore agree it is important that such investments remain as contestable as possible. By artificially encouraging next generation access network rollout we risk; making and that investment uncontestable; immediately entrenching BT in a position of market power; the need for ongoing regulatory involvement to micro manage the market in the long term.

ANNEX

In order to avoid pursuing “Passive” options for NGA (e.g unbundled ducts as per France), it is vital that any “Active” NGA product meets CPs requirements. In C&Ws opinion, the current BT Openreach GPON GEA product proposal is not fit for purpose in at least three key areas : Multicast, CPE ownership & integration and CP interconnect.

1. The lack of multicast capability will force CPs to consume additional backhaul bandwidth (good for BT Openreach backhaul product line but not for CPs, developers or consumers) or to provide an additional layer 3 aware Ethernet switch next to the BT OLT/switch to replicate functionality already in the GPON equipment (but not made accessible to CPs). The standards and equipment to support multicast on GPON already exist. At the Ofcom NGA workshop on 26th November, CPs agreed that a requirement perceived by Openreach around encrypting content on the GPON did not exist (since CPs will take care of this at the application level) and hence a very simple solution is feasible for the “multi-CP” customer environment in which BT Openreach operates using today’s technology and standards.

2. In order to provide triple-play with multicast to consumers, the current BT Openreach product proposal requires six new boxes to be deployed in a consumer’s home. This is a step back from the space/power required to deliver triple-play over DSL and is against the spirit of the European Code of Conduct for reducing power in broadband access systems. It is important that CPs are able to provide their own integrated CPE on the end of the fibre in order to provide a better solution with respect to price, functionality, power and space. Many vendors provide a range on ONTs tailored to different end-user scenarios e.g. consumer, SME (with E1 ports), MTU (with say 48 Ethernet ports). Ultimately the goal should be to allow CPs to provide integrated ONTs from a vendor of their choice once standards and interoperability have matured. An interim step would be for Openreach to offer a wider range of ONTs with the management partitioned between physical & link layer (via OMCI for Openreach access) and service layer (e.g. for router or voice ATA control via TR-069 ACS).

3. Many CPs (including C&W) have invested in broadband access infrastructure via LLU. One of Ofcom’s principles is to promote infrastructure-based competition at as deep a level as is sustainable. This can be applied by leveraging LLU infrastructure as we move forward to NGAs. DSLAMs and MSANs have GigE ports that can be used to subtend “slave” DSLAMs from a “master” DSLAM. These same GigE ports can equally as well be used to collect traffic from the GigE handover port from the BT Openreach OLT/switch in the local exchange. This enables the CP to leverage their LLU space, power and backhaul thus promoting

deeper infrastructure competition. It is imperative that the regulation around "Active" GPON GEA and associated BT products allow existing CP infrastructure and LLU space to be used in this way. A simple (existing) Cablelink product is then all that is required from Openreach to facilitate interconnect. It would be extremely inefficient to force CPs to buy additional space (e.g. Netlocate) and power (and perhaps equipment) to collect GEA GPON traffic – that would not be the path to a competitive NGA infrastructure for the UK.

The issues above have been raised with BT Openreach in bi-laterals and also documented and presented at various Openreach and UK telco industry sessions where Openreach were present. However, they seem to be falling on deaf ears. The Openreach consultation process is not working and CPs requirements are not being formally captured. In addition to the product outline that BT Openreach have produced, they need to urgently produce an unvetted list of CP requirements as a living document. In addition they need to produce a roadmap to illustrate when in the product development the functionality will be added to the product to meet CPs needs.