Chaltel's Response to Ofcom's Consultation

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Future broadband: Policy approach to next generation access

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Background

This introduction sets the background to our answers to some of the consultation questions, and some information on emerging technologies suitable for next generation access networks for new build premises.

We understand that Ofcom aim to ensure fair competition in the telecom market in the United Kingdom, and encourage investment in next generation access to deliver regulated narrowband services, in particular telephone services (PATS), broadband and TV services. To achieve these objectives, Ofcom proposed to adapt the existing principles of contestability, innovation and equivalence as explained in Ofcom consultation document on "future broadband: Policy approach to next generation access" published on September 16, 2007.

At the same time, in assessing the most appropriate regulatory approach, Ofcom must have regard to its statutory duties as defined in the Communications Act 2003 in carrying out its duties: to further the interests of citizens in relation to communications matters; and to further the interests of consumers in relevant markets, where appropriate by promoting competition.

In addition, OFCOM has the duties and powers relevant to next generation access deployment which include: securing the availability throughout the UK of a wide range of electronic communications service; and the desirability of encouraging the availability and use of high speed data transfer services throughout the United Kingdom.

Having regards to OFCOM's principles laid out within the Strategic Review of Telecoms that may apply to next generation access deployments, and consider where these new networks

might result in a change in these principles. These principles include: i) promote competition at the deepest levels of infrastructure where it will be effective and sustainable; ii) focus regulation to deliver quality of access beyond those levels; iii) as soon as competitive conditions allow, withdraw from regulations at other levels; iv) promote a favourable climate for efficient and timely investment and stimulate innovation, in particular by ensuring a consistent and transparent regulatory approach; v) accommodate varying regulatory solutions for different products and where appropriate, different geographies; vi) create scope for market entry that could, over time, remove economic bottlenecks; and vii) in the wider communications value chain, unless there are enduring bottlenecks, adopt light-touch economic regulation based on competition law and the promotion of interoperability.

In assessing the most appropriate form and location of competition, there is a range of principles that Ofcom feels are appropriate. This includes, while the economics of next generation access and technology choices remain unclear, ensuring that regulatory policy allows maximum scope for experimentation and innovation in future.

At the same time, Ofcom needs to consider the most appropriate approach to migrating from today's regulatory regime to one that is designed for next generation access while continuing to protect consumers' and citizens interests. Similarly, network operators and investors must consider the best strategy for deploying, or migrating, their current network of next generation access in the relevant market.

We also appreciate that the regulatory framework in the United Kingdom must be considered within the regulatory framework of the European Union. In particular, consideration must be given to the Universal Service Directive (Directive 2002/22/EC); and Radio and Telecommunication Terminal Equipment Directive (RTTE) (Directive 1999/5/EC). These Directives define the responsibilities of the national regulatory authority and Member States in formulating the regulatory framework in their respective Member State.

Under the Universal Service Directive (Directive 2002/22/EC); there are important definitions under Article (2) that are particularly relevant to the consultation; in particular:

- public telephone network;
- publicly available telephone service (PATS);
- network termination point (NTP).

Where Publicly Available Telephone Service (PATS) means "a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services."

The Network Termination Point (NTP) means "the physical point at which a subscriber is provided with access to a public communications network; in the case of networks involving switching or routing, the NTP is identified by means of a specific network address, which may be linked to a subscriber number or name";

The NTP represents a boundary for regulatory purposes between the regulatory framework for electronic communication networks and services and the regulation of telecommunication terminal equipment. Defining the location of the NTP is the responsibility of the national regulatory authority, where necessary on the basis of a proposal by the relevant undertakings.

Under Article (23) of the Universal Service Directive on Network Integrity, "the Member States shall take all necessary steps to ensure the integrity of the public telephone network at fixed locations and, in the event of catastrophic network breakdown or in cases of force majeure, the availability of the public telephone network and publicly available telephone services at fixed locations. Member States shall ensure that undertakings providing publicly available telephone services at fixed locations take all reasonable steps to ensure uninterrupted access to emergency services."

The other Directive that is important to our debate, from the viewpoint of the telecom equipment provider and the electronic communication network provider, is the Radio and Telecommunication Terminal Equipment Directive (RTTE) (Directive 1999/5/EC).

Under Article (2) of the RTTE Directive, the following important terms are defined:

- 'apparatus';
- 'telecommunications terminal equipment';
- 'interface' means

  (i) a network termination point, which is a physical connection point at which a user is provided with access to public telecommunications network,

  (ii) an air interface specifying the radio path between radio equipment

  and their technical specifications;

- 'harmonised standard' and its relation to technical specifications.

Under Article (4) of the DTTE Directive "the Member States shall notify the interfaces which they have regulated to the Commission, and the Commission may withdraw harmonised standards by publication of a notice in the Official Journal of the European Communities."

It is the task of the European standardisation organisations, notably ETSI, to ensure that harmonised standards are appropriately updated and drafted in a way which allows for unambiguous interpretation.

We understand that this regulatory framework undergoes regular reviews that might lead to fundamental changes in the regulatory framework and the roles and responsibilities of the different players involved in delivering electronic communication networks, communication services, and telecom equipment and software for this market.

However, it clearly identifies the players and their responsibilities in defining the regulatory framework within the Member States and the importance of the regulatory boundaries, which some of them have to be defined using technical specifications, the framework for regulating the network, the services and the terminal equipment.

In response to the consultation, we feel that we can only provide useful answers to the following questions:

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

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

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?

And provide comments on:

Section 9: Next generation access and new build premises

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

We totally agree that there is a risk that regulatory policy focussed on contestability could actually result in inefficient investments by some operators who wish to obstruct potential competitors. Such inefficiency may take the form of selecting a specific technology that precludes the risk of competition through contestable investments. For example, an operator with significant market power may choose to invest inefficiently in FTTH technologies because they are difficult to unbundle, and will reduce contestability.

This underlines the importance the architecture and the regulatory points, such as Network Termination Points, being defined by the national regulating authority. There might be an approach to use technical standards to define these regulatory points; however they should be judicially used to define the regulatory interface. If only technical standards are used to define these regulatory points, Ofcom should ensure that these technical standards reflect the architecture that will be used by Ofcom in defining the interfaces between the different players in the market place.

Regarding the approach of using an anchor product pricing, it can be argued that voice, although it is considered a narrowband service within PATS, is such an anchor product. If OFCOM decides to use an anchor product approach, we fully support their objectives to ensure that:

- no customers are made worse off today as a result of the introduction of next generation access networks;
- no customers are made worse off in the future, relative to the position they would have found themselves in with respect to current generation access networks, as a result of next generation access investment; or
- in the absence of competition, there is an effective constraint on the pricing of next generation access services by an operator with significant market power.

Regulatory certainty

By definition, risk is about uncertainty and it needs to be determined and minimised before making a major decision. These risks could be market, technical, financial, regulatory….etc. Ofcom and the European Union can influence all of the risk elements which impact the different players within the electronic communications market, whether they provide content, services, networks, electronic communications equipment, infrastructure …etc.

As pointed out in the consultation document, next generation access networks will be with us for many years following their deployment. They therefore represent a long term investment.

Whilst many of the areas of uncertainty facing an investor in next generation access are inherent, one area where Ofcom can contribute to certainty is with its regulatory policies and the regulatory framework.

This might be achieved by regulatory framework based on clear and transparent regulatory requirements supported by technical interfaces that achieve the regulator’s statuary duties and objectives.

This applies to all elements of the architecture including: content, software, services, networks, infrastructure and network terminal equipment.

Unfortunately, there are several cases where investors have declined to invest in innovative technologies, patented by individual inventors and small enterprises, to solve problems associated with the deployment of next generation access network. The reason given for not investing was regulatory uncertainty regarding the interpretation of the existing regulatory framework and its application to next generation access networks.

For example, over the last 100 years line powering of a voice channel by the network operator has become established as the preferred solution, compared to solutions based on local powering at the customers' premises, to ensure continuous telephone service in areas where there is no local power supply or when there is a power failure at the customers' premises. Line powering can easily be achieved over a copper-based network. The solution is less obvious for a next generation optical fibre access network, but technical solutions have been proposed by some inventors. The uncertainty in interpreting the phrase "providing access to emergency services" as part of the definition of PATS has made it very difficult for inventors of such solutions to attract investment to develop the technical solutions. The investors argue that line powering might be required for the PSTN service, but there is uncertainty in the regulator's position regarding this feature, and its impact on the provision of PATS, over fibre-based next generation access network. This is unfortunate, because line powering can provide the most resilient network to support uninterruptable access over the public communication network, and therefore can save the lives of many citizens in cases of emergency. These innovative solutions can also have lower total capital and operating cost. However, the different players might try to exploit the opportunity to deploy next generation access networks as means to change the regulatory framework and burden the customer with higher cost of customer premises equipment, as well as change any legal liability associated with equipment malfunctioning due to power failure or negligent battery maintenance. This can be avoided by carefully defining the network termination points to ensure that customer and citizens' rights are protected.

Ofcom should encourage innovation in equipment for the next generation access by providing certainty in the framework that will be applicable to next generation access networks.

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

We believe that Ofcom needs to develop an architecture that enables it to achieve its objectives. Part of this architecture is the Network Termination Point (NTP) which is mandated by the Universal Service Directive and Radio and Telecommunication Terminal Equipment Directive. The architectural points used for regulation, which will include the NTP, can be used to encourage competition between pairs of architectural points. Alternatively, Ofcom can rely totally on regulating the services rather the infrastructure and network used for the delivery of service. This approach carries the risk that some players within the supply chain could establish an effective monopoly in levels below the service level.

In all cases, regulatory certainty will be required over the lifetime of the investment.

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 agree with the concerns highlighted by the recent report from the Broadband Stakeholders Group concerning the low level of deployment of next generation access in the United Kingdom.

The debate about whether to be a first mover or delay deployment until best practice is clear, will depend on the position of the players within the telecommunications supply chain. It also reflects the position of the players within the global market, and implies that the different players have the choice to make that decision.

By its very nature, and with the exception of satellite communication, the access network is national. We therefore agree that late deployment of next generation access means that the UK risks being 'left-behind' in investment and the loss of benefits associated with the development of new applications, new services and innovation. There is also a huge risk that leadership in innovative telecom equipment for next generation access networks will be lost forever by the United Kingdom. The UK lost its last major national telecom equipment manufacturer shortly after 2000. The investment in next generation access could revive the UK telecom equipment industry by exploiting intellectual property and innovative solutions developed by British inventors and enterprises.

Of course, later adoption of a new technology might actually prove beneficial by lowering the risks in technology selection based on mature standards, and choice of the best available technology. However the benefits of not being a 'first-mover' depend on where the player sits within the supply chain.

It is interesting to note that South Korea has a national policy to encourage investment in national infrastructure so that national players from the different parts of the supply chain will benefit. The situation is different in the USA, where competition between incumbent network operators and CATV operators is driving the investment in next generation access by the incumbent network operator. In Japan, investment in the next generation access network is driven by a combination of national policy and competition to incumbents by real estate developers and utilities companies.

We believe that there should be a national policy to encourage investment in next generation access using contestability and offering incentives to small innovators in the electronic communication sector.

Section 9 Next generation access and new build premises

We warmly welcome Openreach announcement of its plans to deploy FTTH in Ebbsfleet, and understand that this is a pilot project to trial new technologies, which does not fully conform to existing regulations. The initiative will offer Openreach customers an opportunity to enjoy the benefits of the next generation access network. This will be particularly useful if the access technology is "future-proofed" so that it can be to supply multi-Gigabit services, when they are required..

We also understand that Openreach have discussed their proposals for Ebbsfleet with Ofcom, and that the choice of technologies and services in this experiment does not set any precedent for the regulatory policy that will apply to wider next generation access deployments. This should provide an opportunity for customers, network providers, communication service providers, content providers, equipment suppliers, investors, infrastructure builders and regulators to identify all the issues raised by these new technologies in next generation access network compared to deploying technologies used in existing access networks.

We believe that this decision to experiment with the technologies and only treat Ebbsfleet as an experiment is the correct one, as alternative optical communication equipment will emerge that will satisfy the existing regulatory framework without any amendments or exemptions.

We also support Ofcom's commitment to ensuring that the right regulatory environment is in place to support next generation access to new build developments, while at the same time continuing to protect consumer interests; providing clarity on the regulatory environment for investors in next generation access networks to new build developments; and promoting competition and innovation.

Next generation access networks for new build developments are likely to be a significant development for the industry in the near term, and we would like to contribute to the consultation planned for the later part of the year on the specific issues this raises separately from the issues posed by wide scale next generation access deployment.

We believe that Ofcom must address at least the two main issues identified in the current consultation documents, namely:

- technology selection for new build next generation access networks;
- how existing regulatory requirements may be met by these developments.

Technology selection

The choice of technology will impact the architectural choices available to Ofcom to regulate the market and might force Ofcom to use a regulatory approach that prevents them from reaching their objectives and statuary obligations stated in the consultation document. For example, PON requires significantly less fibre compared to equivalent point-to-point fibre roll-out and might reduce the cost of fibre and equipment at the telephone exchange, but it might increase the cost of customer premises equipment and raise issues related to security and privacy due to fibre sharing by different customers. This architecture might reduce the cost of the infrastructure, but increase the overall system cost due to the increased costs (purchasing and maintaining) of the customer premises equipment. We understand that, in a

recent consultation on Ebbsfleet, BT Group outlined its view that PON architecture is a more cost effective technology for new-build deployments, while some investors continue to consider the options provided by point to point fibre. It would be very useful to all stakeholders involved to share some information about the costing and business models to ensure that customers do not incur any extra cost and continue to receive the same services with the same resilience and integrity, irrespective of what architectures and/or technologies are used to deliver next generation access networks.

We believe that innovative technologies will emerge that should be considered by network providers. These will provide very low cost technological solutions to deliver PATS, TV and broadband either individually or packaged as “triple play” or even “quadruple play” to include mobility in the last 50 meters.

Regulatory requirements:

We understand that where next generation access networks are deployed, Ofcom will need to consider how the existing regulatory framework will apply to them. We believe that emerging innovative technologies will make possible the application of existing regulatory framework to fibre-based networks in exactly the same manner it is applied to copper based networks. Such innovative technical solutions should help existing regulatory policy to continue to meet its underlying objectives with regard to both promotion of competition, encouragement of investment and consumer protection. They should make the decision to deploy optical fibre instead of copper a commercial decision based on contestability without any impact on the existing regulatory framework for the fixed access network.

We believe that these innovative technologies should provide solutions to at least two of the five areas currently identified by Ofcom as a focus for the new build fibre consultation planned for the later part of this year; in particular the general conditions of entitlement, and universal service obligation.

Ofcom have correctly identified these issues and is considering whether the deployed next generation access networks will have any significant consequences in practice. We believe that innovative technologies can provide solutions that address the specific issue of line-powered telephony, and its impact on the regulatory requirement for the maintenance of emergency services access in the event of a power failure. These innovative solutions should enable the provision of uninterrupted access to emergency service over fibre in exactly the same fashion as it is currently provided over copper without using a battery at the customer premises or copper wires from the network to customer premises to provide electrical power. We believe that the innovative technical solution should enable the Universal Service provider to meet this obligation cost effectively by using optical fibre under the existing regulatory framework applicable to copper.

We support Ofcom’s position that, in advance of the planned new build consultation, no regulatory decisions can be made on the long term regulatory environment that will apply to next generation access or fibre to the home for new build developments.

We are pleased that BT agreed to meet all its existing regulatory obligations in Ebbsfleet regarding regulation arising from general conditions; and its obligations as a universal service provider. We understand that deployed fibre access networks are not line powered and this choice of transport technology from copper to fibre will impact the implementation of those General Conditions associated with the PATS requirement for emergency services access. Within the Ebbsfleet development, Openreach has indicated that it will provide battery backup for the customer premises equipment used by the Generic Ethernet Access product and ensure customers are adequately informed of the implications of the Generic Ethernet Access product and the battery backup for their service.

However, this shortcoming in meeting the regulatory requirement is due to the choice of technology. We believe that emerging technologies, which need investment, can offer a solution to line-powering a PATS service over a fibre based access network without the need for battery at the customer premises. This solution should lead to lower capital and operational cost, and reduce the cost to customers. It should also make the current regulatory framework “technology neutral” and applicable to fibre based access networks in exactly the same way as it is applied to copper based access networks. This should enable BT to meet the requirements arising from general conditions and provide universal service in a cost effective manner in wider deployment of next generation access network based on fibre. BT should also ensure that the network architecture it deploys in Ebbsfleet could be migrated to incorporate the emerging technologies and satisfy the market and regulatory requirement.

We have provided information on the emerging innovative technologies to BT Openreach and the BT Group and we hope that they will support the development and deployment of more suitable technologies in the next generation access network that satisfy the requirements of the customers, investors and regulator.

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