



Delivering super-fast broadband in the UK

Vodafone welcomes Ofcom's determination to establish clear principles about the regulation of Next Generation Access Networks (NGAN) as early as possible. We agree with much that is contained in the consultation document.

A number of questions that are raised in this consultation have already been addressed by the Draft Commission Recommendation on regulated access to Next Generation Access Networks. We have therefore attached our response to the guidelines to this Ofcom consultation as we believe that this document best describes Vodafone's position with regards to the regulatory challenges posed by next generation access networks (NGAN).

Where we have seen the need to elaborate further, and outline Vodafone's views with respect to issues that are exclusively raised by this Ofcom consultation, we have answered the posed questions in more detail. Otherwise you will find a short summary of our position previously expressed in Vodafone's response to the EC guidelines.

Vodafone would also like to refer to the comments made in response to Ofcom's discussion document on the technical requirements of Ethernet Active Line Access which deals in more detail with the questions surrounding fibre wholesale access.

Question1 - Is there further evidence available on the applications and services or consumer benefits that may be supported by next generation access?

Vodafone does not hold any further information regarding particular products that might drive demand for NGANs other than the ones outlined in the consultation document.

Question 2 - Who should lead on defining and implementing a process for migrations to and from next generation access networks? What roles should industry, Ofcom and other bodies play?

We believe that the efforts to develop a migration process to NGANs need to be led by Ofcom. An appropriate migration framework that creates the necessary certainty for existing broadband operators needs to be established as early as possible.

Question 3- What role is there for Ofcom in the ongoing debate on next generation access versus industry's role in progressing this debate through multi-lateral and bi-lateral discussion?

There should always be scope for direct discussions between operators in order to drive the development of an effective NGAN framework. Such exchanges and negotiations should and will take place regardless of regulatory oversight and do not need to be seen as an alternative to regulatory intervention.

However, Ofcom needs to be also aware of the central role it needs to play in influencing the design of the future broadband networks and thereby determining the extent of Broadband competition in the UK. Too passive a regulatory approach risks losing even the gains from fixed broadband competition which we have seen in recent years. Ofcom cannot wait for the production of a 'reference offer' by the SMP operator after the network has been built. It should instead adopt a proactive role by assessing the prospects for competition and regulation in light of the operators' NGAN plans and proposed technology choices before anything is built.

Ofcom however cannot and should not mandate particular technologies, but should certainly encourage operators to build NGANs which will facilitate the greatest competition at the lowest cost.

Question 4 - How far does current regulation, including market definitions, equivalence and the BT's Undertakings, need to evolve as result of next generation access deployment?

Vodafone does not believe that the deployment of NGAN alters current SMP determinations in Market 5 and the existing wholesale broadband remedies should therefore be maintained.

With regards to Market 4, Ofcom should establish a framework which provides clear and strong incentives from the outset in favour of NGAN investments which maximise the prospects of 'downstream competition'¹. We believe that Ofcom should define the regulatory remedies it considers appropriate in light of the proposed network architecture by the SMP operator (FTTH GPON, P2P, and FTTC). The SMP operator can then determine whether they wish to amend their proposals in light of the regulatory framework proposed by Ofcom.

This approach might appear to conflict with the principle of 'technological neutrality' as it could lead to the development of rules that are seen to apply to particular technologies. However NGAN technology choices have direct consequences for competition.

Question 5- How important are passive products such as forms of sub-loop unbundling and duct access? Can the economics of these products support the promotion of effective and sustainable competition at this level? Which passive products should Ofcom pursue?

Regulators should encourage investments offering 'the most competition at the lowest cost'. Ofcom therefore needs to pay particular attention to the location of concentration points in FTTH, the provision of co-location space within cabinets in FTTC, and the availability of dark fibre. Getting these three issues right is fundamental if competition is to be extended in NGAN.

We believe that it will be necessary to incentivise operators to deploy FTTC cabinets which allow co-location within the cabinet. Similarly, the viability of competition should be the key determinant when seeking to optimise the location of FTTH-GPON concentration points; this may suggest that the concentration point is located higher in the network (e.g. at existing exchanges).

We think that Ofcom understates the potential for dark fibre to contribute to competition. Duct sharing yields few if any obvious competitive benefits to consumers or competitors beyond those which would be secured if dark fibre were made available on appropriate terms from the outset². Existing Unbundled Copper Loops are the copper equivalent of dark fibre - so it is hard to see why the same approach to remedies should not apply in the NGAN context. We are not aware of duct or pole sharing being advocated in preference to 'dark copper' in the current context.

We believe that, compared to dark fibre, duct sharing will be less extensive and more expensive, adding significant regulatory overheads (both in terms of delay and direct costs of duct audits etc) in return for few additional competitive benefits.

¹ Both in the sense of competition in the downstream retail market and in the sense of competition at a later point in time.

² Dark fibre is likely to be available wherever duct sharing is feasible, but the converse is not true. It is true that, compared to duct sharing, dark fibre may limit the ability of competitors to develop a fundamentally different passive network architecture from the incumbent, but (a) the competitive benefits of this are uncertain (mobile operators have competed effectively with substantially similar network architectures) (b) many fibre deployments already involve both tree and branch and ring deployments which would allow different configurations.

Question 6 - What are the characteristics of high quality, fit for purpose active wholesale products? How far can active products with these characteristics support effective and sustainable competition?

Ofcom needs to make it clear that a failure to provision the passive remedies outlined above would have consequences for the Market 5 remedy. Where pro-competitive network investments have been made, the operator concerned would be expected to have greater pricing freedom of their WBA product (subject to normal competition law). Where investments are made which do not promote competition, the regulator will need to set strict WBA pricing rules to ensure that competition is safeguarded. Wholesale Broadband Access (WBA) should be viewed as a remedy which both safeguards service competition *and* which encourages the development of competitive infrastructure.

A key requirement which distinguishes NGAN WBA from existing bitstream will be the specification of wholesale (as opposed to resale) products which effectively support the integration of multicast video and TV services. Vodafone is very supportive of Ofcom's efforts to define a new range of competitive options for the provision of broadband services. We agree with Ofcom that a fibre bitstream product needs to be as close as possible to access at the physical layer of the networks and offers similar scope for innovation and control as access to passive infrastructure would deliver.

Vodafone also supports Ofcom's identification of the 5 functional characteristics of Ethernet ALA. For more details please see Vodafone's more specific comments regarding the technical requirements for Ethernet Active Line Access.

Question 7 - Are there other options for promoting competition through regulated access that have not been considered here?

Please see answers above.

Question 8 - How far may options for joint investment provide greater opportunities for competition based on passive inputs? Are there lessons that can be learned from similar ventures in other industries? What are the risks and advantages of such approaches?

Joint investments between alternative operators do not necessarily change the underlying fibre economics, in particular where the market share threshold for an efficient network deployment or the unbundling of an existing network are very high. To Vodafone's knowledge there are no existing precedents where of jointly deployed fibre infrastructure, which itself might be an indication of viability of such an approach.

The announced to deployment of non-overlapping fibre networks (e.g. densely populated districts of Paris) should not be seen as joint investments that create greater opportunities for infrastructure based competition, as each network forms a regional monopoly.

Question 9 - What should be the respective roles of Ofcom and industry in defining and implementing product standards?

Vodafone supports Ofcom's efforts to date to establish appropriate processes, including consultation with stakeholders, to oversee the effective and timely development of the principles and key characteristics of such an Ethernet Active Line Access product. We believe that the relevant (UK and international) standards bodies should complement the Ethernet ALA work initiated by Ofcom, but that Ofcom needs to continue playing an active role in safeguarding the timely launch of such a product.

Vodafone encourages Ofcom to extend the scope of the Ethernet ALA work stream to include the improvement and standardisation of operational deficiencies and processes of ordering, provisioning, migrating and repairing of future fibre bitstream services.

Question – 10 How far do stakeholders consider the pricing approach outlined here of pricing flexibility for active products and cost orientation plus considerations for risk is appropriate at this stage of market development?

Active Access

We think that establishing prices for WBA products is likely to be one of the most challenging aspects of the entire regulatory framework for NGAN. Vodafone shares Ofcom's view that price setting methodologies which require cost modelling in unstable and immature conditions, such as we find with NGA, are very challenging. The alternative is to apply some form of 'retail minus' pricing rule. The question then becomes whether this is applied ex ante by Ofcom, or whether the problem is essentially outsourced to the SMP firm through the application of ex post price squeeze tests (which effectively require the SMP operator to test whether they would meet retail minus pricing rules to avoid a price squeeze).

We can see the attraction of outsourcing for Ofcom. The introduction of anchor product pricing constraint seems to us an additional but relatively weak safeguard, which might be appropriate during the initial period of transition from DSL to NGA but which will become increasingly less relevant over time. It also risks introducing perverse incentives, such as encouraging the SMP operator to seek to inflate the pricing of the anchor product in anticipation of its application to NGA. Recent proposals to increase unbundled copper loop pricing in some EU markets may be indicative of this. On balance, we think Ofcom should consider the application of an explicit ex ante retail minus pricing rule as the least problematic of the options.

Passive Access

Vodafone broadly agrees with the proposed principle that pricing and rates of return for passive access products need to reflect the levels of risk when investments are made. However one aspect of pricing which is not addressed at all in the consultation documents concerns how the costs are then shared amongst firms. Vodafone's strong preference is to apply an allocation method which takes the total costs of the asset and allocates them across users in proportion to their utilisation. A heavily utilized asset (e.g. a duct which is fully used) will have lower unit costs than an under-used asset (a duct which carries spare capacity for future entrants), but in both cases the total costs will be fully recovered across the available demand at all times.

Furthermore, we would like to suggest that Ofcom analyses an alternative costing approach for unbundled fibre access, recently proposed by OPTA, the Dutch regulator. OPTA introduces a notion of an 'all-risk WACC' (weighted average cost of capital) which would consider uplifts on the WACC that is applicable to the legacy copper network. The 'all-risk WACC' would be re-assessed at the start of every 3-year regulation period and compared with the actual IRR achieved by the investor.

If the IRR approaches the 'all-risk WACC', the investor would be allowed to either choose to be price-regulated on wholesale fibre unbundling going forward and to offer greater volume discounts, or to extend the network to areas that are less profitable. In case the further deployment option is not chosen, the wholesale price cap would be reduced for the next 3-year period, but again allowing annual CPI-related increases.

Question 11 - Will indirect constraints allow for an approach based on more price flexibility for active products? How will such an approach affect the incentives of different operators to invest and deliver super-fast broadband services to end customers?

Unless the market for NGAN services in the UK is more developed it is impossible to make definite comments on the impacts of indirect constraints. However, due to this uncertainty Vodafone believes that Ofcom needs to be in a position to quickly change to a more appropriate pricing model (e.g. from anchor products to 'price minus') should price squeeze tests reveal market distortions.

Question 12 - What period of time would be appropriate for such an approach to ensure a balance between the need for longer term regulatory certainty with the inherent demand and supply side uncertainty in super-fast broadband and next generation access?

Traditionally price caps in the telecoms sector have been set for 4 years, and Vodafone sees little reason to depart from this practice. This should give sufficient time for the market to develop to a state where a meaningful review could take place. .

Question 13 - What are the key factors that could make a review of any pricing approach necessary?

Ofcom must retain the ability to intervene within this period in more direct price regulation of active wholesale products should it become apparent that there were margin squeeze issues

Question 14 - How far can the generic model for transition outlined here deliver both incentives to invest in next generation access while ensuring existing competition is not undermined?

Migration arrangements will affect investment long before migration happens and therefore need to be established as early as possible. We believe that the migration framework outlined by Ofcom is appropriate to safeguard existing broadband competition and investments by alternative operators.

Question 15 - What triggers would be appropriate for the commencement of any transition process?

Vodafone believes that all the triggers for the transition process listed in the consultation document should be taken into consideration before the transition process can be initiated. In particular the take-up of next generation access services at a given time should be used as an indicator whether full transition to NGANs can take place.

Question 16- Once triggers or circumstances for transition are achieved, what would be an appropriate period for the various phases of transition (consultation, notice period, transition)?

Vodafone agrees with the sequence of the phases of the transition process proposed by Ofcom.

We believe that SMP operators will need to provide a minimum of 5 years notice of their intention to either withdraw ULL facilities or to phase out CGA wholesale products. Following these announcements a consultation period should commence which should give affected stakeholders sufficient time to react to the SMP operator's plans.

SMP operators could be allowed to withdraw ULL facilities prior to the expiration of the 5 year notice period in some circumstances, but would in this case be required to make available a 'ringfenced' WBA product at a price which would allow existing ULL users to face the same economics as had been available to them under existing facilities based arrangements. These prices (which would likely be lower than general WBA prices) would only be available in respect of lines migrating from existing ULL facilities that were being decommissioned

Question 17 - Over what geographic area should any process of transition be managed, for example region by region or nationally?

Considering that different NGAN topologies will most likely be deployed in various geographical areas (e.g. FTTH deployed at greenfield sites and very dense urban areas, FTTC in less urban

areas, other local FTTH deployments by non-incumbents) Vodafone suggests to manage the process of transition regionally.

Question 18 - What actions, if any, should, Ofcom undertake to support new revenue models from next generation access?

We believe that at this point of time it is uncertain which new revenue models might develop for NGAN services and therefore consider that Ofcom's intervention to support any such revenue model would be premature.

Question 19 - What role should public sector intervention have in delivering next generation access?

The public sector can play a decisive role in stimulating demand and supply of NGAN and we would like to refer to the work done by Analysys for the BSG describing potential models for efficient and effective public sector intervention in the deployment and take-up of next generation broadband in the UK. Like the BSG we do not advocate wide-scale public intervention in next generation broadband at this stage and in particular in areas where such intervention would stifle the development of privately funded fast broadband networks.

Question 20 - Are these the right actions for Ofcom and other stakeholders to be undertaking at this time? What other actions need to be taken or co-ordinated by Ofcom

Please see Vodafone comments above.

Vodafone UK
4 December 2008