

Response to the Ofcom consultation document 'Next Generation Networks: Further consultation'

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The Ofcom consultation document is very useful in developing clarity about the regulatory implications of Next Generation Networks (NGNs). This response, by an independent observer with a technical background, is intended to build on it by suggesting where further details and some changes could be helpful, especially in the processes for consumer protection and network co-ordination.

Question 1. Do you agree with Ofcom's proposed approach for the charges of narrowband voice SMP products provided over next generation interconnects?

There seem to be gaps in the approach. In particular, it is not clear what is meant by 'an appropriate rate of return'. (For instance, is the rate above the costs of migration and stranded assets, to reward BT for investing in NGNs? Is the rate set so as to influence the speed of migration?) Arguably it is too early to say more than this, but there are other matters, of similar degrees of detail (in particular, in the discussion of routing efficiency benefits and functionality costs of MSAN interconnection in Annex F) where there appear to be firm preconceptions.

Question 2. Do you agree with the overall approach that there needs to be continuity for existing SMP products, but that it would not appropriate to continue them indefinitely?

Indefinite continuation of obsolescent products would certainly be inappropriate. However, more could be said about what is meant by 'indefinite'. Though specifying the duration of the period before withdrawal may not be appropriate or possible (3.19), proposing a minimum duration or a minimum customer base, product-by-product, might be feasible and would be helpful for planning purposes.

Question 3. Do you agree with the general criteria Ofcom has proposed for the withdrawal of legacy SMP products after an interim period?

The distinction between SMP products for providers and SMP products for end users is presumably that between the third and fourth points in 3.23. On the treatment of SMP products for end users, at least, perhaps more detail is needed. (For instance, what criteria are used to determine whether the time allowed for migration is adequate? Are consumer organisations, trade associations and so on to be "fully consulted on the options following withdrawal"? Would BT be allowed to propose phased dates for withdrawal, with financial or other discouragement to end users that have not switched to NGN products by then?)

Demand might dictate the lifetime of products such as FRIACO (3.22). However, demand is not independent of pricing: research for the Ofcom Consumer Panel this year showed that 17% of those without internet access say that the main reason is concern about cost.

Question 4. Which network intelligence capabilities are likely to be associated with the underlying network where BT has SMP and cannot be independently provided by alternative providers, and why?

Any information that is derived from end terminal properties and that is used for an SMP service has to be available also to alternative providers. Of course, much of this information

is passed from end terminals in the application layer and should therefore be available to alternative providers that terminate the application protocols. However, some of it might use proprietary protocols (between end terminals and MSANs, say) or options in non-proprietary protocols (such as DHCP). The most likely such information is that provided by DHCP options and inferred from MAC addresses and other data. Location information is the most obvious example, but many other details of the end terminal could be provided to the network in that way. The framework being developed by the IETF GEOPRIV working group should let these details be passed to alternative providers using presence protocols. The framework is general enough that at this stage determining the rules for data protection is more important than determining the information itself.

Question 5. What are your views of the practical implications of applying Equivalence of Input to NGNs (eg in relation to MSAN interconnection, end-to-end quality of service, and depth of network hooks)?

Services are characterised in terms of the information passed to or from their external reference points (which might be end terminals or management stations, for example). With equivalence of input, if BT itself used information passed to or from the external reference points of an SMP service, then that information, or information having equivalent use, would need to be made available also to alternative providers. This would be so even if the information was passed to or from the external reference points by network elements that were not themselves external reference points of the SMP service. The same security and other checks for network integrity would need to be applied to users inside the BT network as would be applied to users inside alternative provider networks.

This principle might well not need to be applied. Many service providers are likely to rely as far as possible on information (for quality of service, say) passed in the application layer: its greater simplicity of use will compensate for any potentially lower opportunity for product differentiation. In the core network, products can often be enhanced more cheaply and simply by overprovisioning than by using information passed to the network layer from end terminals. Such information is likely to be used only in the local loop, where 3GPP releases may provide the protocols.

Question 6. Do you agree with the issues Ofcom has identified that need to be addressed by all communication providers as they move to NGNs and what others are there?

The list of issues should be useful. Additionally:

- Carrier selection might raise difficulties. It might need to be associated not just with E.164 phone numbers but also with SIP URIs, say (so end terminals would ensure the inclusion of suitable headers in SIP messages).
- End-to-end call quality (3.73) does not mention fixed mobile interworking, and, in particular, problems with tandem codecs (repeated voice encodings and decodings). Voice media gateways for fixed networks do not always support the AMR codecs and control protocols that reduce these problems.
- Enterprise networks are also becoming NGNs. The connections with those networks, and the end-to-end performance and resilience of combinations of those networks with public networks, deserve more public discussion.

Question 7. Do you agree with the policy principles Ofcom has identified for consumer protection during the move to NGNs?

The principles are largely satisfactory. However:

- They are focussed on the migration of existing services, not on the introduction of new services. There may be a need for proactive work on new services.

- Requiring “no detriment” during migration in all cases may be too severe (for end-to-end call quality, in particular).
- Changes to the network, even if they do not entail changes to end user services, may require extra customer support (call centres, FAQs, and so on). There is some evidence that IP telephony can increase the support needed, perhaps because of difficulties in fault location.

Question 8. Do you agree with the overall processes for developing 21CN obligatory products?

The processes do not appear to involve Ofcom. Yet BT might easily overlook the need to consult about a particular design decision or product feature (say) and alternative providers might be reluctant to share their requirements for new SMP products. Explicitly determined processes inside BT for ensuring consultation, and involvement of Ofcom early in discussions, might be needed.

Question 9. Do you believe that there is a need to co-ordinate and steer cross industry NGN issues which is not met by existing bodies and process?

This co-ordination is needed. For instance, the responsibility for developing individual technical standards may lie with NICC but the responsibility for determining which standards need to be developed, according to an overall view of interconnection, does not seem to do so.

Question 10. Do you agree that there is a need to co-ordinate the planning and implementation of NGNs on an industry wide basis?

This co-ordination is needed. In fact, arguably the ‘planning’ is not just programme and project planning but also top-level network planning: 3.77 and 4.8 remark that a reference interconnect architecture may be needed. The choice of architecture might require an economic justification provided through Ofcom processes rather like those for the recent assessment of number portability implementations.

Question 11. Is there a need for a process to address the wider consumer protection issues arising from the move to NGNs?

This process is needed. The NICC user panel appears not to function and would in any case not be concerned with the strategic, commercial and operational questions due to NGNs. Instead there should be a body that is properly resourced and has appropriate terms of reference.

The need for this process is not confined to NGNs. For instance, it arises in discussions of key performance indicators for end user services.

Question 12. Has Ofcom identified all the correct industry processes that will be needed to deal with move to NGNs?

The first five points of 4.2 are fairly comprehensive, and the sixth point catches anything else.

Question 13. Do you agree that it appropriate for Consult 21 to continue to take responsibility for developing detail of SMP product migration and development of new products?

Reasons like those put forward by Ofcom for strengthening the independence of NICC from Ofcom apply also to some aspects of Consult 21. Those aspects would be more appropriately handled by an industry body, independent of BT, that would ensure the right levels of credibility with, and commitment by, other operators. (Of course, disrupting existing arrangements at this stage may nonetheless be undesirable.) The Consult 21 working groups have done valuable work, but one or two may ultimately be inconclusive.

Work on product migration and development is likely to create new work items and revised priorities for NICC. The industry and Ofcom should consider whether this work should be

undertaken by a strengthened NICC instead of by Consult 21. (At the same time the work should not lay down technical requirements without assessing the corresponding commercial requirements.)

Question 14. Do you agree that Consult 21 combined with bi-lateral commercial negotiation and backed-up by Ofcom dispute resolution is the best approach to the agreeing the commercial aspects of new and migrated products?

Some matters of principle are not just the subject of bilateral negotiations. For instance, the separation of application-related charges from network-related charges might develop the industry as a whole but not individual providers. In addition, alternative providers do not all share the same opinions about MSAN interconnection rights and technologies. Consequently bilateral negotiations might have results that were not to the overall benefit of the industry and the community. Again earlier involvement of Ofcom could be beneficial.

Question 15. Do agree that NICC should continue to be responsible for standardisation of NGN interconnect, but needs to be re-constituted as an independent industry owned body?

The discussion of NICC governance (4.30) identifies potential problems in providing resources to NICC. The problems may not be solved purely by reconstituting NICC. The proposed exploration of options (4.32) should seek to determine and remove the root causes of the problems as well as the constitution of NICC.

Question 16. What are your views on the establishment of a new multi-lateral industry group to address NGN issues, its terms of reference and governance arrangements?

Several matters addressed by Consult 21 have implications beyond the SMP products of BT, even if their most immediate applications are to those products. As many providers will be developing NGNs, there is a need for a broader forum that can place the requirements of 21CN in a context that can take fuller account of the responsibilities of Ofcom. In particular, having consumer representation in the group would help to take account of consumer interests.

Several of the Ofcom “Criteria for promoting effective co and self-regulation” are relevant to the governance and operation of the group (and of NICC), even though Ofcom would not be transferring any regulatory powers. For instance, the group should be “accessible to the members of the public” and extend the current practice of Consult 21 in publishing notes about working group meetings.