

Regulation of VoIP Services Consultation

10 May 2006

Nokia appreciates this opportunity to comment on Ofcom's approach on VoIP regulation. VoIP regulation is a topic that is under discussion in many countries around the world and the approaches vary. Hence, Nokia welcomes any clarification to the regulation, which Ofcom is providing for the UK market.

In addition to the national approach in UK, Nokia would encourage Ofcom to continue in the relevant EU bodies to work towards a common view on this difficult regulatory matter. We see the work Ofcom has done would be a very good fit to the common European discussion as well.

NOKIA'S ANSWERS TO THE CONSULTATION QUESTIONS

Question 1: Given recent developments, do you agree that Ofcom's focus should be on the following three objectives in developing our policy for VoIP services, namely (in so far as is possible) (i) enabling innovation in a technological neutral way, (ii) ensuring consumers are well informed, and (iii) ensuring maximum availability of 999 services?

Nokia agrees with the Ofcom's focus and supports the direction. For sustainable development, the playing field has to be technology neutral with a minimum of artificial technical hurdles. In addition, the consumers have to be informed about the differences of VoIP and the traditional telephony service in a balanced manner. Finally, continued high level of access to emergency services is also important in VoIP.

Question 2: Do respondents agree with this approach for the interaction between network providers and PATS providers?

Nokia agrees that the PATS providers should do everything needed to guarantee a high level of their service. In addition, Nokia agrees that it is not feasible to obligate a third party network provider independently to ensure the level of integrity of their network.

However, Nokia recognises that practical challenges for a network independent PATS provider to negotiate SLAs with all or even the most relevant third party network providers is very difficult if not impossible.

In addition, Nokia sees that the third party network providers have an incentive to provide a certain level of network integrity as part of their normal operation to provide e.g. Internet access or transit services.

Hence, in Nokia's opinion, there should be flexibility in this regard in regulation and unnecessary regulation should be avoided. If there is evidence in the future of market failing in this regard, regulation then may be needed.

Question 3: Do you agree that the limitation of GC 3 obligation to providers of service at a "fixed location" is not sustainable in the long term? What views do you have on how this may be addressed?

Nokia agrees that nomadic nature of VoIP will be increasingly used in the future. In Nokia's opinion, the industry should work together in the long term to create alternative mechanisms to address the requirements of the obligations. However, such technologies are not finalized, yet, and thus, requiring them when a service is used nomadically is not appropriate at this time.

Question 5: Are there particular issues in relation to VoIP services that should be addressed in this review?

Nokia would like to call for a harmonised EU wide approach to VoIP regulation. Hence, Nokia would welcome Ofcom's input to the process.

Question 6: Do you have any comments on Ofcom's proposed modification to the PATS definition in GC 18?

Nokia supports the incentive for VoIP providers to provide emergency services. In addition, Nokia finds it important that the EU member states would have a common policy on the matter.

Question 7: Do you agree with the proposed application of the code?

Nokia agrees with the proposed application of the code.

Question 8: Do you agree with the proposed approach for informing consumers that services may cease to function if the broadband connection fails or there is a power cut or failure?

Nokia supports informing the consumer adequately of the dependence of the voice service of the underlying broadband connection.

Question 9: Do you agree with the proposed approach for informing customers where access to emergency calls is not available?

Nokia agrees that the unavailability of the emergency service needs to be clearly and adequately indicated to the user/consumer. Nokia, however, believes if a primary mechanism for voice service, e.g. through GSM/UMTS circuit switched network, is provided in a device with the ability to make emergency calls there shouldn't be any additional consumer informing requirements for the secondary voice service.

Question 10: Do you agree with the proposed approach for informing consumers that access to emergency calls may cease to function if the Data Network fails or there is a power cut/failure?

Nokia supports that the consumer is informed about the dependency of the VoIP emergency services of the underlying data network availability.

Question 11: Should the code be extended to point of signature acknowledgement in respect of reliability of access to emergency calls?

Nokia believes it is adequate the consumer is informed and thus, a signature acknowledgement is not needed.

Question 13: Do you agree with the proposed approach to informing consumers where services do not provide emergency location information?

Nokia agrees with the given approach.

Question 14: Do you agree with the proposed approach to informing customers where services do not provide number portability?

Nokia agrees with the proposed approach of informing customers.

Question 15: Do you agree with the proposed approach to informing consumers about the types of facilities that might not be available, but which they have come to expect from a telephone service?

Nokia agrees with Ofcom's approach.

Question 19: Do you have comments on this proposed enforcement approach?

Nokia understands there is a need for enforcing a policy to make sure it is followed. Nokia, however, does not have a view what measures are needed. Nokia would like to remind Ofcom about the possible challenges for VoIP providers implementing the requirements. Hence, some of the requirements may not be implemented equally to the traditional phone network. In addition, there may be further challenges connecting to service (e.g. emergency services) that are located in the PSTN. Thus, the providers should be given adequate time to implement the requirements.

Question 20: Are their other areas of research activity that Ofcom should consider to ensure it understands market developments?

Presumably emergency services in the IP domain may support multimedia content in addition to or in place of voice. Therefore it may be relevant to market research if there would be likely or preferred future communication means for the user to share additional multimedia emergency information with the emergency centre such as video, photos (MMS) and text messaging. One study area could also be possible interactions between the emergency service and emergency warning systems. Another market research area could be automatic sending of emergency information triggered e.g. by fire alarms or car crash detectors.

Question 21: In relation to ensuring high availability of 999 access, are their other measures that Ofcom could consider?

Ofcom could consider in the future features currently worked on in the industry (e.g. IETF, 3GPP) to provide location information dynamically for nomadic and mobile use. In addition, the support of additional media (messages, video, and pictures) by the emergency centres should be considered to enhance the quality of emergency services in the future.

Question 23: Do you agree a cross industry meeting would be a useful approach to move this issue forward? What other steps could be taken to provide support for 056 numbers?

Nokia supports Ofcom's view on 056 numbers.

Question 24: How can a VoIP call be traced for detection and prevention of malicious and nuisance calls? How could a suitable call screening service work in a VoIP network?

The best way to allow for traceability and also credibility of calls in a VoIP network is to provide adequate level of caller authentication. If the caller's identity can be trusted to be used only by the authorised party the calls can be

traced to the right caller. There are multiple ways to screen, block and allow calls based on the identity of the caller using appropriately “black and white lists”. These mechanisms can be implemented either at the terminal or in the network as appropriate for the usage.

Question 25: Do you agree that SPIT could be a potential problem and what techniques can be used to minimise the impact of SPIT on consumers of VoIP services.

Nokia believes that there is a risk of SPIT being a problem in the future networks. As in question 24, Nokia believes the best way of effectively fighting SPIT is to ensure strong, traceable, authenticated and credible caller identities. Only this way the source of the malicious traffic can be found and the source can be blocked. In e-mail, where SPAM is a major problem, the issue is that the source of a message can be easily forged and thus, blocking traffic according to identity can result in no real effect to the spammer. However, there is a potential to block a legitimate source.

Question 26: Have there been any instances of a VoIP service being compromised or used to deliver malware or a DoS attack?

Nokia is not aware of any instances of a VoIP service being compromised. However, especially when the voice service is used over multipurpose platform (such as PCs) there is always a risk of that platform being infected and disabled. However, manufacturers and service providers have an incentive to make sure that the risks are minimised.

Question 28: Is it reasonable to ask VoIP service providers to participate in schemes designed for e-commerce?

Nokia believes that some of the concepts currently used in e-commerce are applicable also in VoIP services. These include authentication of the users using cryptographic mechanisms. Nokia also believes that adequate security is needed to keep VoIP commercially viable also in the future.

Question 31: Are there any other steps that a VoIP service provider could consider in respect of the IP network layer and service application layers to ensure network integrity?

The tools are limited for VoIP service provider to guarantee the integrity of the whole network – especially on the IP network layer. The most important tasks that the provider can do is to guarantee the high availability of its network nodes (servers, and gateways) and to ensure its connection to the Internet has adequate bandwidth and is protected from network failures (e.g. by multihoming).

Question 32: Are there any other steps that a VoIP service provider could consider in respect of parts of the underlying network that they do not control?

As in questions 31, the mechanisms for the VoIP service provider to ensure network integrity of the parts of the network they do not control. They may not even be aware of the access provider their customers use, let alone the

upstream providers the network access providers use. The best way to guarantee network integrity is to use industry standard, proven equipment and technology for customer equipment and their own. In addition, ensuring break-free connection to the Internet by using multiple Internet providers and redundant links from the service provider's data centre helps to avoid risks.

Question 33: What additional steps could a VoIP service provider take to support nomadic users with regard to maintaining network integrity?

The VoIP service providers have even less control over nomadic users and the networks they use than fixed users in third party networks. Besides making sure their own Internet connectivity and service availability is in order the operators can do little to the network integrity. However, using customer equipment that is proven to work in different network conditions helps to ensure availability of the service.

In addition, Nokia believes the providers of the access network have a commercial interest to provide good quality access.

Question 34: Do respondents consider whether other options to ensure continuity in the case of a power outage are appropriate?

Nokia does not see any alternative mechanisms to ensure continuity during power outages

Question 35: What other steps could be taken to provide reliable location to assist the emergency services in their work?

When using VoIP from a fixed location, self-provisioning the street address is an adequate mechanism. In addition, groups like the IETF and ETSI TISPAN are working on technologies to provide the street address of a broadband user dynamically from the access network. Mechanisms based on the IP address are not reliable and may need access to information in the access network about the location of allocated IP addresses. In addition, geographically allocating IP addresses may result to lower privacy when using other services (e.g. the Web) and reveal the customers location to unwanted parties.

Question 36: What other steps could be taken to provide reliable location to assist the emergency services in their work in the case of nomadic users?

Some of the technologies that are applicable for fixed network location (e.g. broadband network indication location) can be used for nomadic services as well. In addition, some mechanisms used in mobile networks, currently being specified in the 3GPP, e.g. location services, can be used nomadically when using appropriate access mechanisms. We would like to point out that in some deployments the VoIP network may not be able to find the location of the user, and the user equipment may need to find out its location based on access specific mechanisms. The user equipment may have to be trusted to give its location to the VoIP network for emergency service location.

Question 37: In addition to participating in the NICC working group on providing location in IP networks and the 112 expert group, what other steps should Ofcom take?

Nokia would like to use this opportunity to point Ofcom to the work also made in organization like the Third Generation Partnership Project (3GPP), European Telecommunications Standards Institute (ETSI) TISPAN, and the Internet Engineering Task Force (IETF). These organizations are working on global standards on providing location for emergency services.