

Regulation of VoIP Services

Cable & Wireless response to Ofcom Statement and further consultation

Wednesday, 10th May 2006



CABLE & WIRELESS

Introduction

Cable & Wireless welcome the opportunity to respond to this consultation. We believe that it is timely, given that VOIP is the latest innovative development in the telecommunications industry and is likely to have an increasing impact on the services provided to businesses and end consumers.

Cable & Wireless believes that Ofcom has an important role in ensuring that innovation such as VOIP is fostered. Innovation ultimately delivers economic growth and gains to the nation's companies and citizens. However, the full benefits of VOIP will only be achieved if the market place operates in a pro-competitive manner and end users are protected. As Ofcom will be aware, ensuring a balance between encouraging competition and protecting end users can be difficult. In this case we believe that removal of the interim forbearance policy, strict rules on how to communicate to small businesses and residential consumers about voice services and having clear guidelines to industry in relation to network resilience and number portability, would meet that balance.

To be clear we believe that larger corporate customers will be aware of the issues surrounding supply of voice services and to apply guidelines or rules in relation to communication with such customers would be unnecessary and over burdensome. We urge Ofcom to make clear this difference in emphasis in its final statement.

Our comments on the main themes of the consultation are below. We then address Ofcom's specific questions.

Removal of Interim Forbearance Policy:

Cable & Wireless welcome the ending of this policy as it was an anomaly which did not comply with the requirement for technological neutrality laid down by the EU directives. Its removal is pro-competitive and should help ensure a level playing field between all providers – whether or not they use VOIP technology.

Protection of Consumers

Whilst innovation and communication to small businesses and end consumers are important in delivering both economic growth and benefits to those purchasing telecommunications services, Cable & Wireless believe that protection of end users must be paramount. As such this should be the first of Ofcom's objectives. In its public workshop on the consultation, Ofcom said that it believed that enabling innovation should be balanced against consumer protection and that if the situation re provision of 999 changed significantly as VoIP services became more popular, the policies laid out in the consultation could be changed later. We fear that this may be 'closing the stable door after the horse has bolted'. Leaving aside the risk to end consumers, retrospectively changing methods of provision wastes resources compared to ensuring maximum availability of 999 with high resilience from the outset.

Cable & Wireless believe that whilst larger businesses will be aware of all aspects of their contracts for telecommunication services, protection of smaller business customers and residential consumers requires strict rules as to how any type of voice provider communicates with them. However, whilst the approach of developing guidelines on how to interact with customers and inform them of these services is well meant, we are concerned whether the information provided will be read or fully understood by the target audience. Cable & Wireless believe that a 'traffic light' approach would be understood more clearly by end users. This would work in the following manner:

Red would refer to services which were non-PATS – customers would be told that this offered no access to 999 and that they may not be able to port their number to or from this service.

Amber would refer to services which were notionally PATS but customers would be told that they should be wary of relying on this service for sole telephony provision (for instance, the service would not work without electricity, the service provider has no influence over the infrastructure either directly or via contractual provisions, or the 999 service is provided on a best efforts basis i.e. with no prioritisation of traffic, location information or operator manual hold etc). They should also be told that they may not be able to port their number to or from this service.

Green would refer to services that are currently viewed as PATS i.e. would work without electricity, 999 calls are prioritised etc. As such customers would be told the service offered reliable 999 access and was appropriate where there was only one line.

Providers would be required to use the traffic light system at point of sale and, if appropriate, on associated CPE/PC clients etc.

Cable & Wireless believe that this would be a technologically neutral approach. For instance, a VOIP provider using DSL could be classed as green if the service provider secured contractual deals with the network provider to ensure that the DSL was resilient and put battery back up in the access modules.

This system could be easily imposed using General Condition 3 i.e. Ofcom could evaluate whether a particular service provider was meeting the requirements for network integrity which were implied by the traffic light colour communicated to customers.

The Network Integrity Guidelines

Cable & Wireless disagree with Ofcom's approach to network integrity. We are concerned that it does not result in a level playing field, is inconsistent and not technologically neutral.

As we understand it, Ofcom has removed the network integrity guidelines as they believe that these are too technology specific. However, in the same document, a set of guidelines aimed specifically at VOIP providers are proposed, to explain how they can be compliant with General Condition 3. We believe that this is contradictory and could be viewed as showing a bias towards VOIP providers.

Ofcom's proposed approach will result in considerable uncertainty because CPs (particularly non-VoIP ones) will be left with no guidance as to how Ofcom would apply General Condition 3 hence cannot take appropriate measures in the design of their networks.

In our view Ofcom should commission the NICC to either produce a new set of guidelines for IP networks which could be used in conjunction with the PSTN guidelines or produce a set of guidelines which are completely technologically neutral. These could then tie into the traffic light system proposed by Cable & Wireless (see above). Compliance with the guidelines would be used by Ofcom for enforcement of General Condition 3.

Number Portability

Cable & Wireless believe that there are severe shortcomings in Ofcom's proposals in relation to number portability in its document.

First, the changes to the detailed wording of the text of General Condition 18 will not deliver the outcomes Ofcom requires. Our rationale is discussed in our answer to question 6.

Second, and as significantly, the downgrading of the functional specification and Ofcom's proposal that losing providers will not be able to ask for proof that the gaining provider is a PATS, will inevitably lead to greater difficulties in establishing agreements between operators. Although we would be confident of winning any dispute that arises where a new entrant communications provider tries to deviate from industry agreed practices, this will increase the resources required to establish portability agreements both for communication providers and

for Ofcom.

We urge Ofcom to re-visit all these issues.

Cable & Wireless Answers to Ofcom's 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 technologically neutral way, (ii) ensuring consumers are well informed, and (iii) ensuring maximum availability of 999 services?

Cable & Wireless broadly agree with the three objectives listed by Ofcom - though we believe that they should be re-prioritised with the third objective first, to ensure that it is clear that availability of 999 (or 'safety of life') services is of paramount importance.

We also have the following more detailed comments on the text in the document which discusses the objectives.

Cable & Wireless agree that regulation should be technologically neutral. This is a goal of the EU directives and theoretically the right approach, ensuring a level playing field and that the correct signals are generated for investment and innovation. This is the main reason we support the ending of the 'interim PATS' policy. We believe it made entry by VOIP providers substantially easier than entry by providers of voice services who used other forms of technology.

We also agree that 'consumers should be well informed' – with the caveat that large businesses will be well informed without the need for regulatory intervention. However, Ofcom appears to rely quite heavily on the ability of all consumers (and we assume that this also includes small businesses though this is not made clear) to understand the differences and potential deficiencies of new and different services. We do not believe that all small businesses and residential consumers have the ability and time to understand the differences in services which are increasingly available, and to make fully informed, rational decisions on that basis. Given the potentially life threatening implications of this lack of understanding, we believe that Ofcom has an important role in ensuring that such customers are protected – provision of information on its own may not be sufficient and extra measures required to ensure that the information is comprehended. As such, more priority should be given to ensuring maximum availability of 999.

In paragraph 3.6 Ofcom notes that 'Consumers and citizens in the UK currently enjoy high levels of 999 access in terms of the extent of fixed voice services with 999 access (all currently fixed voice services provide 999 access), the reliability of these services and the ability of these services to provide accurate location information to the emergency services'. We agree with this description and also agree that it is important that this level of service is not reduced in any manner. We assume that when Ofcom talks about 'high availability' it is short hand for the description in this sentence. It is worthy of note that although UK citizens benefit from these features of 999 (plus others not mentioned, such as priority routing) they are largely unaware of what goes on 'behind the scenes' so are unable to make informed judgements about accepting a lower quality service.

Finally we agree with Ofcom's analysis in paragraph 3.7 that market forces will not lead to optimal levels of availability of 999 services. Hence it is important that those who supply fully resilient, high quality 999 services are not disincentivised from doing so.

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

Ofcom has identified that a service provider could be providing a PATS service to an end customer but the underlying network operator be unaware that this is occurring. Whether this

was because of the lack of a contractual relationship between the service provider and the network provider or because of inadequate SLAs being put in place even where there was such a relationship, it is important for Ofcom to clearly state that the regulatory requirements rest on the provider with the direct contact with the customer. If they do not comply with the regulatory requirements then enforcement proceedings should be concentrated on these retail operators and not on the underlying network operator who should not be liable.

Ofcom suggest that it may not be reasonably practical for a PATS provider to negotiate SLAs with the range of network providers used to deliver their service. However, they encourage PATS providers and network providers to develop SLAs if, as part of their risk assessment, they see this need. However, it would be difficult for a network provider to make a risk assessment of a scenario they may not be aware of. Further, Cable & Wireless believe that merely 'encouraging' SPs to develop such SLAs is not adequate – Ofcom should be making it clear that they are required to comply with their regulatory obligations and if this implies that numerous SLA agreements should be put in place, then that is merely the cost of their entry into the market place. Otherwise Ofcom is in danger, once again, of regulating VOIP providers on a different and more lenient basis than other voice providers.

Cable & Wireless believe that under our traffic light proposals, if a network was being used for a 'green' service, it would have to be aware of this via the contracts put in place by the service provider. Where 'amber' services are concerned an operator could well be unaware of the service being provided but the service provider technically able to comply with requirements without direct communication with the network provider. This could perhaps be accommodated within existing regulation by Ofcom specifically implementing a lower requirement re network resilience for these services.

The situation will probably be more difficult to regulate using Ofcom's proposals, as these define PATS in more black and white terms. In contrast, we believe that our traffic light approach is more transparent and practical.

Question 3: Do you agree that the limitation of GC3 obligation to providers if service at 'fixed location' is not sustainable in the long term? What views do you have on how this may be addressed?

In paragraph 4.29 Ofcom notes that *'if a service is provided at a contractually agreed location which is fixed in its nature (for example the end user's residential home or business) then this would constitute a service provided at a fixed location. However, there may be nothing to prevent a user from connecting to the service from another location (such as a Wi-Fi hotspot or Internet café). However, Ofcom believes that the network integrity requirements of Art 23 of the USD would not be relevant when the service is used in these other locations.'* As a result, there would be three types of PATS: fixed, nomadic and mobile, with only fixed PATs having obligations in relation to network integrity.

Cable & Wireless agree with this analysis. We also agree that it would not be sustainable to have this regulatory position in the medium to longer run as many customers would increasingly not be served by providers who met the GC 3 requirements.

Cable & Wireless agree that it is important to start considering how the industry can address this issue. Inherently once network operators have rolled out Next Generation Networks (NGNs), all customers/numbers may be able to roam. However, it is likely that in reality the bulk of customers will stay "fixed" at their "base" location for the majority of the time. As such, one approach would be to ensure that any network integrity conditions are applied at these locations. With the ability to roam allowed, network integrity would then not be possible for the (probably relatively small) number of times when the user is roaming. Cable & Wireless believe that this scenario could also be catered for under our "traffic light" system of service availability. Essentially, the integrity rules would be applicable to all services all time, but the provider of a roaming service could for instance, have a green light when used at home, amber light when away from home.

Question 4: In light of the other measures proposed in this document, are there particular issues in relation to VOIP services that should be addressed in this review?

Cable & Wireless accepts that regulation needs to be periodically reviewed to ensure that it is still fully effective given changes in: technology, the manner in which customers (whether businesses or residential customers) use such services and the manner in which suppliers interact with their customers. However, as Ofcom itself notes, one of the aims of the review should be to ensure that regulation is 'appropriately technologically neutral'. In other words, changes should be made to maintain/improve regulation in the face of changes in technology – not to make entry by suppliers using a particular type of technology easier.

It is confusing and slightly worrying then, when in the light of these aims, Ofcom refers to 'VOIP services' – VOIP is a technology which enables the provision of voice services. VOIP is not a service per se. Voice services should be regulated consistently regardless of the underlying technology used to provide them.

We urge Ofcom to only adjust regulation to make it more effective and efficient in dealing with particular market failures and not to regulate such that some technologies are treated differently to others.

Question 5: Are there particular issues in relation to VOIP services that should be address in this review? (Commission 2006 review of the directives)

We refer Ofcom to our previous answer. We believe that the same logic holds.

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

Cable & Wireless have a number of comments in relation to the proposed modification and this section of Ofcom's document.

First where the text of the condition is concerned, Cable & Wireless agree that the current version of General Condition 18 is not fit for purpose. However, we do not believe that the new text solves that problem. Both versions link portability to provision of inbound national AND international service. However, as 09 is not available from overseas, in reality 09 numbers would not be portable if a strict interpretation of the regulatory condition was applied.

Second, we were concerned that the text refers to "telephone numbers in a national or international numbering plan". From a numbering perspective Ofcom has jurisdiction only over the UK national telephony numbering plan. We do not believe that it has jurisdiction in relation to portability of other international numbers if used in the UK, e.g. Universal Freephone (00800), European Telephony Numbering Space (003883), codes assigned directly by ITU for Networks (e.g. C&W has 008822), Inmarsat codes if used on UK terminals (00970 etc),

Third, Cable & Wireless agree that the text should be adjusted to ensure that VoIP providers should not be able to rely on provisions intended for 08 to demand number portability without being PATS. However, the proposed changes to the text may not deliver this. For instance, a provider offering inbound and outbound as two separate contractual services would still be able to demand number portability for the inbound service without offering PATS on the outbound.

Fourth, on a more general note, as we pointed out in the introduction to this response (and in our response to Ofcom to the Number Portability and Technological Neutrality consultation), Cable & Wireless strongly disagreed with the downgrading of the Functional Specification. We believe that new operators, be they VOIP or not, may wish to use different solutions and methodologies for setting up portability agreements. Lack of a legally enforceable standard set of methodologies will inevitably result in many more disputes, which will require resources

from industry and the regulator and slow down the number portability process.

As a related point, we would note that we believe that Ofcom's statement in paragraph 3.42 is incorrect. This states that the Ofcom consultation on Number portability 'proposed that the Functional Specification should not apply to number portability over NGNs providing VOIP services'. In fact the consultation proposed the removal of the legal/regulatory powers which sat with the functional specification.

Finally Cable & Wireless is concerned about the implications of Ofcom's proposal (within paragraph 5.5) that operators must provide portability without 'requesting proof (or written confirmation) from the other provider that he actually provides PATs'. Ofcom appears to believe that requiring such proof would help losing providers prevent switching. The implication is that if there is doubt about the nature of another company's services, we should send a complaint to the regulator.

Cable & Wireless believe that this is an impractical and short sighted policy which is also likely to lead to further disputes. We accept that setting unnecessary requirements before enabling switching would have a detrimental effect on competition. However, portability is a right which is associated with PATS and porting a number to a non-PATS provider may result in a customer being unable to port their number back again if they discover later that this was not the service they wanted. Further, given the association of PATS with emergency service provision, we do not believe that requiring proof or written confirmation that a service provider provides PATS, before entering into a portability agreement, is unreasonable. We urge Ofcom to reconsider its thinking on this point.

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

In paragraph 6.35 Ofcom confirms that the code regarding information provision to customers will only apply to small businesses and end consumers (i.e. not large businesses) via General Condition 14. Cable & Wireless agree that any information provision regulation should not be applied to larger business customers, as these customers have limited need for consumer protection measures, being well informed and proactive purchasers of these services.

As we have already noted, however, we believe that the Code of Practice whilst well intentioned, will not address the communication problem. The traffic light approach, suggested in our introductory session, would in our view simplify the complexity of this topic without diluting the essential message. One approach maybe to use the traffic light system alongside the (suitably adjusted) Code of Practice.

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

Ofcom proposes that customers should be informed at several points: during the sales process; within the terms and conditions of use and in a user guide. It is also suggested that information be produced on – service reliability; emergency calls (whether there is access, reliability of that access, emergency location information); ability to port numbers and any other information that domestic or small business customers might need.

Cable & Wireless believe that whilst comprehensive, the list of information to be provided and the level of detail, will result in the strength of the message being diluted. In our opinion many customers are unlikely to read and understand this sort of information.

Cable & Wireless also believe that Ofcom's comparison of VOIP service reliability (via broadband connection) to DECT handsets is a flawed one. Whilst DECT handsets may fail during a power cut, this should be obvious to many end customers given that they have to be plugged into a mains socket. By contrast understanding the relevance of the reliability of the broadband connection used to provide the VOIP service is not as immediately obvious. Additionally, it is rarely a requirement of a communications service that a DECT handset be

used (it is a customer choice); in contrast, with VOIP services based on mains-powered DSL equipment, it is clearly an inherent requirement that such CPE be used for the service to operate.

We believe that the 'traffic lights' approach simplifies and strengthens the message to customers. It is unreasonable to expect consumers to understand the design criteria behind data and traditional voice networks. Certainly the proposed text which refers to 'Data Network services' is far too advanced.

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

Please see our answer above.

Cable & Wireless believe that the 'access to 999' verses 'no access to 999' approach is too black and white, as customers do not understand the safeguards built into existing 999 services. The information that Ofcom suggest should be provided would not enable most customers to make a fully informed, rational decision between the service types.

In reality to fully explain the implications of the different service levels would require much more information – that currently proposed doesn't even refer to the current enhanced service levels provided via PSTN verses other types of calls. It is because of the difficulties of properly doing this that we prefer the traffic lights approach already outlined in our response.

We also believe that many people may not properly read and understand what they are signing. Just because they should read and understand the minutiae of their terms and conditions, does not mean that they actually do so. Obtaining a signature may do nothing more than protect the supplier rather than the end user. In many scenarios, this may be reasonable (buyer beware) but where the implications could threaten the life and safety of the user, then extra help or 'nannying' may be required.

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

Please see the answers to question 8 and 9.

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

Although we can see the logic behind Ofcom's thinking, as we note above, we do not believe that the signature approach will necessarily result in more customers reading and understanding their terms and conditions. Making the message simple but strong is the important thing. If Ofcom insist on this approach (rather than Cable & Wireless' traffic lights option) then we suggest that Ofcom ensure that the warnings are made visibly prominent – to ensure that they are not buried deep in a long list of terms and conditions.

Question 12: Do you agree with the proposed approach to location information providers where the service does provide access to emergency calls? In particular, do you believe that subscribers should be required to register their main location prior to activation of the service?

Cable & Wireless agree that subscribers should be required to provide this information prior to their voice service being activated.

However, we believe that the provisions related to extra locations will prove unsuccessful. These provisions would require providers to ask customers to register all locations where they will access these services, and then update their location information whenever they access the service from one of these locations. We believe that most customers will view these

requirements as excessive and burdensome and will not voluntarily abide by them. It is also worth considering that to enforce the registration of the location of subscribers Ofcom would need to ensure that the communications provider validated the addresses, otherwise incorrect addresses could be input leading to the emergency services being sent to an incorrect address.

We believe that it would be more sensible to allow customers to register these extra premises if they wish and to ensure that the service provider alerts the 999 agents that location may not be reliable.

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

Agree – though with the caveats raised in previous answers.

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

Cable & Wireless agree that customers need to be informed clearly if they will not have number portability rights if they take a particular voice service. We have some doubts about whether this can be achieved by relying on Ofcom's approach to communication during the sales process and via product literature. The message needs to be simple and strong.

We believe that this message could be part of the traffic light approach we outline in the introductory part of this response.

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?

Cable & Wireless agree that these facts should be communicated to customers. We believe that the traffic light approach we have already advocated would do this in a simple but clear manner.

Question 16: Do you agree with Ofcom's view that all aspects of the code of practice should be mandatory?

Cable & Wireless agree that the code should be mandatory and that all providers of voice public electronic communications services to small businesses and residential consumers should be required to abide by it (whether VoIP or non-VoIP). We have already explained why we believe that it would be overly burdensome for such regulation to apply to large business customers.

Question 17: Do you consider that the overall programme of activities is appropriate?

The overall programme of activities includes consumer education activities; proactive enforcement programme; further research to assess consumer understanding and attitudes to VOIP services and research and analysis to understand the level of availability of 999 access and whether this is sufficient to meet society's needs

Cable & Wireless believe that this is an appropriate programme though Ofcom should also consider undertaking research to assess the vulnerabilities that VOIP may have and the impacts that fraudulent activity may have on both consumers and carriers.

Question 18: In light of Ofcom's Consumer Policy Review, are there other consumer education measures that Ofcom should consider?

Cable & Wireless agree with Ofcom that the market itself will usually ensure that there are information flows between customers and providers. However, we also agree that failure to

provide the correct levels or type of information is a classic market failure and may require intervention from the regulator. Certainly Cable & Wireless believe that intervention to improve information flows is justified in relation to the provision of voice services to small business customers and residential consumers. Without intervention there is likely to be a time lag before suppliers recognise that it is necessary to provide better information to customers – in the case of VOIP services, there is a serious risk that in the interim the lack of information and knowledge could result in a tragedy.

Ofcom suggest that this intervention could take the form of requiring providers to provide certain information and for Ofcom itself to provide some form of consumer education.

Ofcom goes on to suggest this consumer education piece will involve them continuing to develop the Consumer Advice section of Ofcom's website. This would include addressing the needs of those who are potential or actual users of VoIP services.

Whilst supporting the rationale behind Ofcom's consumer education proposals, Cable & Wireless doubt that they will have much practical impact on consumers. Most customers will only access the regulator's website if they have a problem with their provider.

As such we believe that some extra more pro-active approach may be required to ensure that customers become more educated about:

- The 999 issues
- How they can protect themselves from fraud, identity theft and report fraudulent providers.
- Specifically the security of VOIP, the risk of unauthorised interception of calls, VOIP packages being replayed or hijacked.

We believe that if Ofcom supported the traffic light approach, it would be logical for them to engage in pro-active PR to educate customers on the above in a cost effective manner.

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

Cable & Wireless believe that the approach outlined is the standard approach used for breach of one of the general conditions of entitlement. We have no comment on this.

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

As already mentioned in question 17, Ofcom has made no mention of undertaking any research to assess the security and fraud vulnerabilities that VOIP may have and the impacts that fraudulent activity may have on both consumers and carriers.

Cable and Wireless are aware that NISCC (National Infrastructure Security Co-ordination Centre) have conducted research into the security vulnerabilities of VOIP, therefore we suggest that OFCOM approach NISCC for regulation relevant data. In addition other security vulnerability research has been conducted by Information Security Forum (ISF) and fraud related vulnerabilities are being assessed by TUFF (Telecommunications UK Fraud Forum). TUFF have created a special interest group (SIG) on fraud and revenue assurance risks arising out of convergence of new technologies. It is our suggestion that Ofcom should approach this group and others to gain an understanding of the research in progress.

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

Cable & Wireless believes that Ofcom should ensure that the regulatory environment incentivises the delivery of high availability of 999 access. We refer Ofcom to our earlier comments in relation to withdrawing the Network Integrity Guidelines. In our view it would be better to establish widespread high quality services, whatever the technology, rather than

having to re-visit this issue in a few years time. Changes at a later date may cost more than if providers had been properly incentivised to provide such high quality services from the start.

It is also worth considering the impact of a more relaxed regulatory regime on the providers who currently do provide resilient high quality 999 services. It is possible that in the face of price pressure from new entrants (who do not provide such services to the same level of resilience), some of these providers will downgrade the level of service provided if this is an extra cost and there is little commercial dis-benefit from doing so.

However, we welcome Ofcom's recognition that the provision of these services should be monitored and that the research suggested seems comprehensive.

Question 22: Do you agree with Ofcom's approach to naked DSL?

As Ofcom observes, currently customers can only purchase DSL broadband from BT (either at wholesale or retail level) if there is also a rented BT PSTN line into those premises. Naked DSL would be a service which did not require the PSTN functionality on the line – i.e. the copper is just used for DSL technology. Cable & Wireless agree that Ofcom should not mandate provision of this product at this stage. The correct process would be for a provider to request the service from BT via an SOR and if BT refused to provide it, then the option remains for a dispute to go to Ofcom.

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?

Cable & Wireless have no comments to make on this question.

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

Cable & Wireless consider that more research needs to be done to understand this area and would suggest that this topic goes beyond the detection of malicious calls and extends to the tracing of all potentially criminal activity.

Cable & Wireless is particularly concerned about the tracing of calls for fraud purposes. Some investigations have been carried out in this area by the ACPO Training Centre based within West Mercia, which have identified that GSM gateways create a significant issue for the tracing of the true origins of calls. These findings have been fed into the ACPO Data Communications group (ACPO DCG) which meets jointly with the Communications Industry Law Enforcement Liaison Group (CILLG) so Ofcom may be able to enquire about these findings.

In a VoIP world there are various techniques that can be used to trace calls but the success of these traces will greatly depend on both the source and destination of the call. If both caller and called parties are from fixed locations and with the same single supplier, the call trace should be relatively easy. However, if the caller is from a nomadic location, not located on the service provider's VoIP network or from another communications provider, then tracing the call beyond the entry point of our VoIP network would be problematic if not impossible. Similar problems can also exist if the called party is utilising multiple locations.

VOIP services could require authentication by the user before allowing the placement of a call – there would then be a link back to the originator when tracing malicious and nuisance calls. We are concerned that some VOIP providers appear to be allowing customers to enter an outbound CLI without any authentication. Another possible solution would be to provide GPS enabled hardware for call tracing such as some 3G Vendor phones. This would obviously add cost but would provide some assurance to the consumer.

For the handling of nuisance calls the Telephone Preference Service (TPS) should, in our opinion, cover VoIP calls for originating and terminating of calls. It should be possible to make available to communications providers a blacklist of numbers, or SIP ID, to allow the provider's network to block calls from these identities to subscribers who register for TPS. However, this would need further study to ensure legitimate calls are not incorrectly blocked.

As not all service providers will use strong authentication, indeed some may hide locations through the use of NAT and proxies, we believe it may be relatively simple for malicious parties to obscure their identities and locations. This is an area that we believe needs further detailed research in line with the work being undertaken for location information in emergency calls.

Without doubt, VOIP providers need to find a way to comply with the law and Ofcom must fully enforce it – to do otherwise would imply that Ofcom were biased towards one type of technology.

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?

SPIT refers to Spam over Internet Telephony or unsolicited voice calls. Ofcom believe that such calls could become a problem over VOIP as the termination rate for delivery of these calls is zero.

Cable & Wireless believe that SPIT represents the same type of problem as SPAM and should be regulated in exactly the same manner. We agree with Ofcom that SPIT could be a potential problem as the numbers of households using VOIP increases. Unless regulation is used to prevent or regulate calls to such customers, or some type of termination charge developed, then there will be an incentive on some members of the population to make such calls.

The TPS should be extended to cover SPIT if it does not cover this at present and is one means of attempting to control SPIT. Potentially extending this to include a blacklist of offenders that can be supplied to communications providers will prevent the spread of SPIT and stop it becoming one of the biggest problems of VoIP.

Cable & Wireless are working with NISCC and our vendors to explore what measures and technologies can be used to prevent SPIT as we see this as potentially one of biggest sources of nuisance calls.

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

Although Cable & Wireless have not to date suffered any malware or DoS attacks on our VoIP services, we are aware of this happening elsewhere and certainly unprotected PCs are routinely hijacked by malware to create IP based zombies (PCs used to generate SPAM or DDOS – see later explanation in this section). It is therefore essential that service providers follow the guidelines that are being drawn up by the NISCC for VoIP services. This includes the use of Border controllers for signalling and media with a range of security techniques and inspections to prevent the spread of Malware and to limit the possibility of DoS attacks.

One of the new emerging threats for VoIP is DDoS, Distributed Denial of Service, where multiple, potentially into the millions, of clients' equipment is remotely controlled to launch an attack against either a subscriber or a network. This threat will increase as we move from "dumb" CPE devices to more intelligent CPE devices like PC, PDA etc. In the current PSTN it is virtually impossible to perform such an attack as telephony equipment is in general used only for voice calls. However, in the future virtually all terminating CPE equipment will be used for multiple services like voice, video, data, mobile and, as such, will be more susceptible to exploitation and remote control, making the possibility of remote control much more readily available and exploitable.

Therefore in the future the security, protection and management of the CPE for VoIP is going to be a big factor in the availability of the service. The consultation document makes no reference to this critical area or any mention of what information should be supplied to customers in the area of protection and management of their CPE. We believe this is a critical area that OFCOM need to investigate further through the NICC and NISCC, as this is the only real way to prevent the spread of Malware which can be used for multiple purposes like DoS, DDoS and fraud, e.g. premium rate diallers.

Question 27: Are there any other considerations that need to be taken into account when a provider does not have a UK entity?

We agree with Ofcom's view that if a service is provided in the UK, then the provider must abide by the general conditions of entitlement – whether or not they have an office or facilities within this country. We welcome the fact that Ofcom will be investigating options for enhancing enforcement in this area.

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

Cable & Wireless believe that this should be a matter for the VOIP service providers to decide.

Question 29: Do you have any other comments on the proposed approach to investigating the application of GCs applicable to providers of PATS in the context of VOIP?

Cable & Wireless believes that these guidelines are technology specific and are therefore contrary to the European Directives. They should be redrafted to be useable by all types of PATS providers.

Question 30: Do you have any comments on Ofcom's views on the meaning of above-mentioned terms and legal concepts?

We have no comments on this section of the guidelines.

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?

We have no comment on the guidelines though suggest Ofcom to refer to the NICC for guidance.

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?

Same answer as 31

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

Same answer as 31

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

See answer to 31

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

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

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

In relation to the above questions, we believe that Ofcom should ensure that all communication and service providers participate in the NICC and that Ofcom attend themselves.

Cable & Wireless

Registered office address
City
Postcode

www.cw.com

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124 Theobalds Road,
London WC1X 8RX.