



23 December 2013

BT's response to Ofcom Call for Input

Location information for emergency calls from mobile phones



Executive Summary

Scope: BT agrees that the focus of Ofcom's review should be mobile location data.

General Condition 4: Our view is that GC4 does not require any amendment as it already makes provision for accurate and reliable location data, where it is technically feasible. We do believe, however, that there is not enough clarity on roles and responsibilities, and that Ofcom needs to provide clear guidance. Each party involved in the provision and use of enhanced location data should know precisely how far their obligations extend, including where they begin, where they end and how they fit into the overall chain.

Solutions: Whilst network-based approaches could potentially offer solutions to address the availability of reliable and accurate mobile data, this would probably be at a far higher cost/complexity when compared with device based solutions. Hand-based solutions appear the more reasonable way forward rather than Apps. We would be interested to learn the views of the MNOs and Emergency Authority's before further impact assessments were undertaken.

Introduction and summary of views

1. BT agrees that accurate emergency caller location information (ECLI) is important in making sure the Emergency Authorities (EAs), where possible, can avoid further questioning and attend an incident without delay. Where enhanced data is available, its use should be encouraged as should other solutions from manufacturers and MNOs.
2. We are pleased that Ofcom is open to suggestions on how additional location data can be made available and that viable alternatives to amending GC4 are being considered.
3. With two thirds of emergency calls being made from mobiles, we support Ofcom's view that the scope of this call for inputs should be on improving mobile location data. However, this leaves a third of calls (approximately 12 million) a year from fixed and VoIP lines. Whilst fixed data is likely to be more accurate and reliable than mobile, the increasing use of VoIP and lack of postal addresses for some fixed line locations suggests that it would be prudent to keep the clarity of fixed and VoIP location data under review.
4. Providing accurate and reliable mobile data to the EA's should be encouraged. We agree with Ofcom that, before any steps are taken to develop and implement changes to networks, systems and processes etc., it is key to understand what data the EAs would benefit from and how it would be used. Only then can all parties fully assess what is involved, including costs, to accommodate additional data.
5. Depending on new technologies deployed, BT as a Communications Provider (CP) and a Call Handling Agent (CHA) would rely on the capabilities and approach taken by the MNOs and/ or the handset manufactures. For instance, if a handset/Apps solution were deployed, the provision of mobile location data would sit with the customer, and not with the CP. In that scenario, Ofcom would also have no power to regulate the location data's provision.
6. As most of the future requirements rely on the MNO's capabilities and the approach they decide to follow, the roles and responsibilities of all parties involved in the chain to provide location data, especially the MNOs and MVNOs, need to be clearly defined. The extent that the GC4 obligation sits



with the CP and the reasonable steps a CP should take to make sure accurate location data is obtained will also need to be clarified. This is the case for all CPs – fixed, mobile and VoIP data.

7. We agree that where additional data is available it should be used to inform the EAs and as data improves, where 'technically feasible', it should be forwarded. The wording in GC4 already makes provision for different technologies and provides minimum criteria for fixed and mobile location data. Any additional data, as mentioned above, may fall outside Ofcom's remit and the CP's control. GC4 should therefore retain the cell and zone ID data in GC4.3 (b) as a minimum requirement. If the new proposed solutions failed to provide the additional data, the cell and zone ID captured as a minimum could then be used. Enhanced information, where it is available, should consequently be provided as an overlay and not included as an additional obligation in GC4. This is primarily because the enhanced data available may vary from operator to operator or with the handset a customer uses, and it would therefore clearly be outside of the CP's and Ofcom's control.
8. We support the publication of non-statutory industry guidance. This guidance should include industry best practice – agreed with industry – to cover the different technologies /solutions and clearly set out the roles and responsibilities of all parties involved. The extent of the CP's obligations, and the reasonable endeavours required to satisfy those obligations, should also be included. For instance, even with fixed line data, whilst CPs generally make every effort to have the customer's accurate location information on record, occasionally the only person who can realistically provide the true location information is the customer (e.g. where changes have been made to a customer's postal address following installation). Contacting customers and requesting them to notify any change may still not guarantee an accurate response, if any at all. Clarity on whether such situations satisfy a CP's GC4 obligations would therefore be very helpful.
9. It is also essential that clarity is given on CP, MNO and MVNO responsibilities and how far each of their obligations extends. There is a chain between the caller and the EA, comprised of the handset, service provider, network, CHA and EA and all of those links need to be capable of delivering an enhanced service. Any solution will need to be capable of being deployed throughout the information-chain and with cost-recovery by each participant.
10. Due to the many options that could be deployed to provide enhanced mobile data, mobile customers need to be made aware of the benefits of improved data and what they need to do, especially in terms of any data privacy aspects, loading of Apps and limitations of any enhanced location data provided. Our initial view is that this should be a shared responsibility between the MNO/device manufacturers and the customer.
11. We would be happy to discuss our response in more detail with Ofcom.



BT's answers to the questions in the call for input:

Question 1:

1.1: Is Ofcom correct in focusing its attention on ECLI for mobile emergency calls (as opposed, for example, to fixed-line or VoIP calls) at this time?

Answer: Yes. This is a priority area in terms of volume of 999 calls affected and the potential it offers to improve the existing service for consumers and the emergency services. Improving precision of location information would make a significant and quantifiable (from Emergency Service information) impact to improve service for consumers, primarily in quicker identification of despatch location.

Fixed-line and VoIP also have issues and limitations that need to be addressed (e.g. where VoIP services currently provide location information to 999, it is currently only accurate when the terminal is attached to the registered end-point and fixed-line locations are determined using a tool (PAF), the sole purpose of which is to aid the delivery of postal items and not that of a geo-location system. BT would urge Ofcom to consider these technologies from a 999 location data perspective.

1.2 Are there, in your view, any concerns associated with the current provision of mobile ECLI in terms of a) accuracy and b) reliability? If so, what are these concerns?

Answer: The EAs, as users of the information, are best placed to comment on whether the accuracy of the currently provided ECLI is adequate. The current arrangements normally provide enough accuracy to allow the forwarding of the mobile-999 call to the correct EA – an issue of valid concern to the CHA. However the existing cell coverage location information provided by mobile network operators, while useful to emergency services to assist questioning of callers and despatch, has a number of shortcomings:-

a) It still leaves the emergency services unable to quickly find callers who cannot describe their precise location, requiring extended questioning and deployment of resources to search what can be large areas. Such delays can be life critical.

b) There are gaps in the current service for some roaming customers from overseas and for Limited Service State callers: although relatively small numbers of calls are affected, this would help as some overseas roamers may also have a language barrier to overcome.

Question 2:

Do you agree that network-based approaches could offer a solution to tackle the potential issues regarding reliability and accuracy of mobile ECLI?

Answer: Yes potentially but at a far higher cost/complexity when compared with device based solutions.

This is primarily a question for the MNOs. If a network-based approach was used, the interface used by the CHA to extract the location from the mobile network's Location Centre and then supply it to the emergency services would need some modifications. This would be at a cost and implementation timescales would need to be considered. It would be prudent to continue to receive the cell coverage information for cases where any new network based approach was unable to be supported.



Question 3:

To what extent would the provision of such solutions be reliant on the deployment of LTE networks and what would be the likely timescales for implementing such solutions?

Answer: This is a question for the MNOs.

Question 4:

Could these solutions offer the same benefits to Limited Service State ('LSS') callers and internationally registered callers as for domestic end-users using their 'home' network?

Answer: This is a question for the MNOs.

Question 5:

5.1 Do you think that handset based approaches (e.g. Apps) could offer a cost-effective and dependable means to tackle potential problems linked to accuracy and/or reliability in mobile location information? If so, what are the likely costs to all parties involved in the end to end support of handset-based approaches?

Answer: Yes, we believe a handset based approach could be helpful and would be able to be deployed quickly to take advantage of the location capabilities that are increasingly provided with modern mobile phones (smartphones and feature phones). Such an approach would be best built into the handset's Operating System rather than as a downloadable App, to make sure it remains compatible with OS upgrades and new model introduction. As Ofcom highlighted in the request for input, a "proof of concept" trial using handset provided location information delivered over SMS that BT conducted two years ago showed that this approach could deliver major improvements in precision from either GPS or Wi-Fi sourced location information in a wide range of scenarios (about 67% of those tested). A further trial is currently underway with a handset provider and mobile network.

If this solution were to be adopted, the CHA costs, involving integration of the handset-provided location into existing location services provided to the EAs (supplementing the cell coverage information where possible), could be recovered by a modest supplement to the CHA's 999 call handling charges.

Any device based solution would need the co-operation of the handset manufacturers and smaller virtual mobile operators would not have the bargaining power to make these changes happen.

5.2 Do you see solutions such as Apps as a long-term alternative to network-based approaches?

Answer: BT views handset – based solutions as a more cost effective and easy to implement solution as mentioned in 5.1. Apps solutions come with a number of challenges, particularly where the solution relies on mobile customers downloading and upgrading the relevant App.



Question 6:

What are the changes that EAs would suggest in order to address potential issues regarding accuracy and reliability of mobile ECLI?

Answer: This is a question for the EAs – our understanding from working with EAs in the UK and from international contacts (e.g. EENA, NENA) is that the EAs do want to see a much improved precision for mobile ECLI.

Question 7:

What would be the potential cost implications for EAs if such changes were to be implemented?

Answer: EAs would expect to continue to receive mobile ECLI from the CHA's EISEC location hub. That interface can already support location information supplied by MNOs in a format that need not change if an enhanced solution is adopted (e.g. from an AGPS or WiFi source). There may be a need for EAs to access the CHA's location hub twice, initially for immediately available cell coverage information (network supplied) and then for AGPS/WiFi location which typically takes longer to establish (whether from a handset or network based method). The CHA location hub specification already covers this but EAs would need to check conformance with their suppliers.

Question 8:

Are there ways in which tackling potential issues regarding the accuracy and/or reliability of mobile call ECLI could adversely affect consumers, and could these be mitigated?

Answer: It's difficult to see an adverse impact on consumers making genuine emergency calls as this is aimed at helping save lives. There would be a need to manage consumer expectations as improved mobile ECLI would not be available in all circumstances (handset or network based methods) and MNOs would need to let their customers know that normal privacy restrictions on release of location information would be lifted for emergency use. Clear guidance is required on where responsibility to the consumer sits. As mentioned above, CPs (who have the end user relationship) would be reliant on the options the network /handset manufacturers deploy. They would also be reliant on consumers installing and maintaining any App based solution.

Question 9:

If Ofcom was to consider setting further criteria for the accuracy and reliability of ECLI, should these be independent of the technology used by a CP?

Answer: No, Ofcom needs to take account of technical feasibility in producing a more precise location. Methods for fixed, mobile and VoIP are all at different stages of feasibility/availability and, for example, the ECLI for nomadic VoIP users is not supplied (sometimes they provide a default location such as the registered address as a main point of use). Locations able to be provided by CPs for fixed line callers using private networks are also limited as the CP may not be aware of which site in a private network is making the emergency call.

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