



BT's response to Ofcom's consultation on battery back-up for superfast broadband services which use fibre optic technology

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Executive Summary

BT¹ welcomes this consultation on the length of time that fixed line voice services over Fibre To The Premises (FTTP) should be power backed-up to enable customers to be able to make an emergency call in the event of local power failure.

We believe that power back-up should be provided to allow a customer a minimum of one hour during which to make such a call, and believe that this strikes a sensible balance between the need to provide "lifeline" protection for customers for a period that minimises risk of harm, and other factors such as technical constraints, customer experience, cost and environmental impacts.

Ofcom will be aware that Openreach has been in dialogue with industry regarding battery back-up for some time, and feedback from industry has been key to the development of Openreach's current position on battery back-up. Openreach presented proposals to industry in December 2010 for battery back-up units that match Ofcom's new proposals for a one hour back-up period. Further detail of this dialogue and technical aspects of battery unit design is given in Annex 1.

We believe that retail CPs should be prepared to offer solutions to customers who need a longer period of protection, but we believe that Ofcom should not impose explicit obligations to do so, nor constrain the technology choices or commercial aspects of these additional back-up options.

Overall we welcome Ofcom's consultation and believe the proposals are helpful to the efficient deployment of FTTP. It is vital that the guidelines apply to all deployments of FTTP services in the UK (e.g. in new build sites), and to all CPs providing retail voice services over FTTP. End users must be protected in a consistent way wherever they reside in the UK.

We are, however, concerned that Ofcom's proposals may leave end users that rely solely on VoIP (Voice over Internet Protocol) over superfast FTTP broadband as their primary fixed voice service at risk, and effectively allow VoIP providers to avoid having to ensure their services are as resilient as customers expect. These customers would not have a separate dedicated voice connection, in comparison with a similar situation on copper lines where the customer will always be able to rely on a standard fixed line service that is highly resilient because of line powering. Ofcom's proposed revised back-up guidelines would mean that VoIP service providers would not be expected to ensure that there is power back-up such that end-users can make a call to emergency services if there was a local power failure. Our concerns are further addressed in our response to question 3 below.

¹ This response reflects the position of BT Group as a whole. Openreach has been instrumental in developing appropriate battery back-up units for voice services over its Fibre To The Premises (FTTP) access services, and has discussed options in industry forums, in which BT Retail has participated. The positions in our response relating to responsibilities of retail CPs reflect the views of BT Retail.

Question 1: Do you agree that Ofcom's guidance on battery back-up lifetime needs to be reviewed at this time?

Yes, we believe that Ofcom's review of the guidance on battery back-up lifetime is timely; it is vital to ensure appropriate protection for customers receiving services over FTTP, and giving clarity for industry in good time for scale deployment is essential to avoid uncertainty and to ensure efficient investment in back-up solutions. As described above, Openreach has discussed battery back-up options with CPs involved in FTTP trials, and it is important to be able to move forward with development and deployment of FTTP services without regulatory uncertainty.

We welcome the research and analysis that Ofcom has undertaken and reported in the consultation document, which should ensure that debate about the appropriate length of time for power back-up takes appropriate account of potential impacts on real customers.

Question 2: Do you agree with the scope of this consultation as set out in Section 4?

Yes. The scope of the consultation is appropriate at this time, since it focuses on the current development of FTTP services. As Ofcom points out, Fibre To The Cabinet (FTTC) deployment will, in the first instance, leave copper lines in place for voice services, and thus line powering for copper-based primary voice services will remain in place.

Ofcom indicates in paragraph 4.10 that the proposals for battery backup would apply to both FTTP 'overlay' (where there is also a copper access network) and in 'new build' (where there is no copper network). It is not strictly necessary to provide backup for FTTP if a customer is using a copper-based service for voice, since their telephone service will get line power from the exchange and the situation is little different from a standard all-copper set-up (as discussed by Ofcom in paragraphs 2.6 - 2.8). However, it makes good financial and operational sense to ensure that all FTTP installations are provided with battery back-up units from the start, so that when there is cutover (i.e. the copper line is removed or the customer decides to cease the copper service) the customer is properly protected.

It should be noted that the current proposals from Openreach would provide battery back-up only for active Fibre Voice Access (FVA) ports on the Optical Network Termination (ONT) box, to enable CPs to provide voice services over FTTP that comply with General Condition 3. An active FVA port (i.e. where a CP is buying FVA from Openreach, and providing a voice service via the FVA socket) allows the end user to connect a standard wired telephone to the socket and make/receive telephone calls. The FVA service uses Analogue Telephone Adapter (ATA) circuitry in the ONT, and it is this functionality that will be backed-up by the Openreach battery unit. Thus protection in the event of a power cut is afforded to customers taking an FVA-based service from a CP.

Question 3: Do you agree that a battery backup facility should always be provided?

Yes. We believe that providing protection for end users so that they can make an emergency call in a power cut is essential. This must apply whether the service is provided over Openreach FTTP circuits or over any other FTTP network deployed in the UK (e.g. in new build sites). Customers expect that they will be able to make a call on their traditional telephone if their local power fails, notwithstanding the widespread use of DECT (Digital Enhanced Cordless Telecommunications) phones, which cannot be used to make a call if there's a power cut unless the DECT base station is also battery backed-up. We recognise that some customers may be willing to rely on mobile phones, but many customers do not have mobile phones and a significant number of customers currently rely on the "lifeline" functionality of fixed telephone lines.

We believe that Ofcom needs to take care that customers who use VoIP² over superfast FTTP broadband as their primary voice service are adequately protected. As Ofcom explains in the consultation document, if a customer is using a broadband service based on SMPF (Shared Metallic Path Facility) they will always have a traditional line-powered voice service, since the customer also has to have a WLR-based telephone service. Thus if such a customer decides to rely on a VoIP over broadband service as their primary voice service, they are still able to use the WLR-based service if there is a power cut.

However, such a broadband/voice parallel situation is not inevitable in a fibre-only FTTP situation, since it will be possible for the customer to opt to buy *just* a superfast broadband service based on the GEA product from Openreach. Neither the customer nor the Communications Provider (CP) has to buy an FVA-based voice service, and if such a customer decides to rely on VoIP over superfast broadband as their primary fixed line voice service they will not be able to use a battery backed-up FVA service in the event of a power cut.

We believe that customers using VoIP services as their primary fixed line voice service should be protected as much as possible, whether on copper (where they are able to use their standard WLR-based service - the same also applies if the fibre is FTTC) or on FTTP fibre. While VoIP retail service providers may not know whether their customer is using an FTTP connection, or whether the customer is treating the VoIP service as their primary voice service, at the very least there should be a requirement that VoIP providers make it clear to their customers that it will not be possible to make an emergency call over such FTTP-based VoIP services if there is a power cut. We believe that Ofcom should review its guidance on VoIP services and consider whether specific obligations should be imposed on VoIP service providers to ensure that end users fully understand the implications of relying on a voice service provided over FTTP broadband that does not have power backup. As it stands there is a real risk to customers who rely solely on a VoIP service over superfast FTTP broadband for fixed voice.

Question 4: Do you agree that the proposed minimum battery longevity of 1 hour is appropriate?

Yes, we agree that one hour is an appropriate length of time for a battery unit (or other technology) to provide backup to allow an emergency call, and that failure to provide a back-up unit (whether battery or other technology) that is not capable of providing at least one hour of back-up should be considered a failure to comply with obligations under General Condition 3. While battery-powered units are currently the most appropriate technology it is important that guidelines do not effectively enforce a particular approach, and should allow alternative technologies as long as they meet the same basic characteristics as far as customer protection is concerned.

It is important to strike a pragmatic balance between the various key factors, including customer protection, ease of maintenance of battery units, environmental impacts from power consumption and disposal, cost, visual impact of the units and so on.

The initial designs for battery units to provide four hour backup were relatively large, and had a number of significant practical drawbacks for end users, including the fact that the batteries

² In this context we define VoIP as including any voice service that relies on the end user's superfast broadband data connection (rather than the voice-specific FVA connection), and that otherwise meets the definition of PATS services, in particular the ability to make/receive calls to/from any number in the standard national and international schemes, and the ability to contact the emergency services. We do not include VoIP services that are essentially private networks (e.g. that only work between end users using the same or compatible client software) and have no ability to make an outgoing call to a standard telephone number.

were not readily available in UK high street stores, were difficult to replace and there are limited public disposal facilities for such specialised batteries.

After dialogue with retail CPs involved in trials and with vendors Openreach believes that smaller back-up units that use four standard rechargeable AA batteries strike an appropriate balance. End users will be able to buy replacement batteries locally, and as disposal facilities for standard batteries are widely available the environmental impact can be minimised.

The evidence that Ofcom present in section 5 of the consultation supports the view that one hour back-up is likely in most cases to be sufficient, though we also recognise that some end users may want longer back-up. See our response to Question 5 below for more on this topic.

We believe that ensuring back-up units are easy for end users to maintain is vital to ensure that back-up is genuinely effective if there is a power cut. We therefore believe that it is not sufficient for Ofcom merely to indicate that power back-up for a minimum of an hour should be provided, but guidelines should also specify that if batteries are used such units should have user-replaceable batteries that are readily available.

It may be appropriate to formally require retail CPs to provide such information to customers, as part of more general Code of Practice requirements.

Thus we also believe that it should also be regarded as a failure to comply with GC3 if a retail CP does not take every reasonable step to ensure their customer understands the importance of maintaining the unit so that the back-up capacity is maximised.

Retail CPs must be responsible for ensuring that customers with battery back-up understand the level of protection the power back-up arrangements should provide. Retail CPs should provide some basic information to all customers prior to them contracting to take FVA-based voice services, to ensure that all end users are able to make fully informed decisions. Information should include:

- The notional minimum time for an emergency call that the battery (or other technology) back-up unit will provide, and a clear indication of the consequences of not maintaining back-up batteries;
- Customer responsibilities for ensuring the back-up unit is switched on at all times to ensure the batteries are charged and ready for use, for checking the battery state warning light periodically, for replacing batteries as indicated, for ensuring all batteries are replaced at the same time with the right sort of rechargeable batteries, rated at a minimum specified capacity, along with clear plain English instructions as to how to do these things.

We also believe that it may be appropriate to ensure that the emergency services are made aware that a customer is reliant on a battery back-up voice service. This could potentially be done by adding a flag to the location information already provided to emergency services

Question 5: Do you agree with our proposed approach to address the needs of individual customers requiring additional protection?

We believe that retail CPs should, and will, in response to customer demands and the desire to compete for business, develop options to provide longer back-up periods for end users who want longer protection. It should be a matter for each CP to decide what options to make available to end users, and what commercial terms for such options. Retail CPs offering voice services over FTTP should be expected to respond constructively if vulnerable

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customers express a need for longer power back-up, for example because the customer relies on a "lifeline" device that must be able to communicate more than an hour after a local power failure.

We do not, however, believe that Ofcom should indicate what technology approach should be taken by CPs to provide this additional protection for individual customers. Some CPs may offer commercially available Uninterruptable Power Supply (UPS) units, which could also back up customer-owned equipment, whereas some customers' needs could be met by being provided with a battery operated mobile device, which may not allow fixed line calls via the FTTP-based service but could offer a level of protection that the customer themselves judged sufficient.

However, CPs must ensure that all their customers taking voice services over FTTP have a back-up that provides the minimum one hour that Ofcom proposes - any customer-specific offer must not allow the customer to have no protection at all on their fibre voice line.

CPs should be expected to respond positively to customer needs whether the services are provided over Openreach's FTTP fibre network or any other FTTP network in the UK.

Annex 1: Recent Openreach activity relating to battery back-up for FTTP

Initial proposals

In 2009 Openreach presented to industry its initial design for battery units that would satisfy the four hour guidance issued by Ofcom. While Openreach sought to keep the size and user impact to a minimum, these units were relatively bulky because of battery technology limitations. These units also relied on proprietary batteries that could only be obtained from the back-up unit vendor.

Industry reaction, and the reaction from potential end-users of FTTP services, including internal BT trialists, was generally negative:

- The units were seen as too bulky and unattractive, adding further to the required set of boxes, wires and power supplies needed for FTTP services.
- The lack of user-serviceable battery was seen as a major problem, since customers would not be able to buy replacement batteries from high street shops, and the batteries were too large to be delivered through customer letterboxes. The alternative would have been to have the customer's CP or Openreach performing the battery replacement - this would have been very costly and would have required the customer to be at home at the time.

Investigation into smaller units

In response to negative industry and customer reaction to the initial design, and taking account of data about typical power outages, Openreach worked closely with vendors during 2010 to develop smaller units, with user-replaceable standard batteries (NiMH AA batteries - readily available at supermarkets and hardware stores). Balancing the need to reduce the size and deliver a reasonable back-up time results in a design that uses four AA batteries and provides 60 minutes back-up. These units are considerably smaller than the original four hour units, at about 150mm x 80mm x 30mm - see Figure 2 below. Openreach presented the new battery back-up proposals to the Trialist Working Group in early December 2010, explaining the key characteristics of the units. There was a positive reaction to the new back-up unit design.

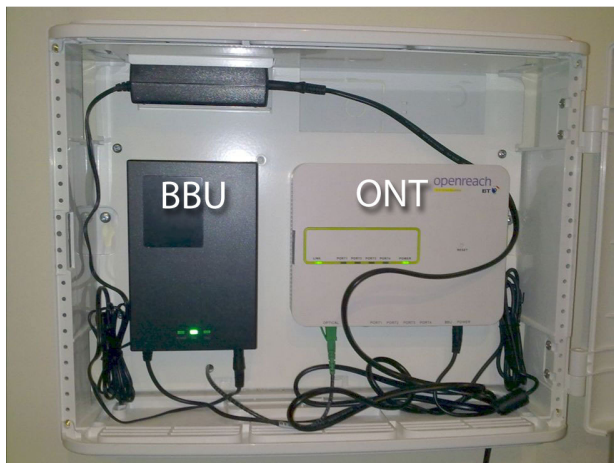


Figure 1:

Illustrative installation showing Openreach ONT (right) and initial four hour battery design (left)



Figure 2:

Illustrative design for smaller one hour battery unit that takes 4 x NiMH AA rechargeable batteries

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