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**What additional details do you want to keep confidential?:**

No

**If you want part of your response kept confidential, which parts?:****Ofcom may publish a response summary:**

Yes

**I confirm that I have read the declaration:**

Yes

**Additional comments:**

Laurasia Associates is pleased to submit its response to the OFCOM porting charge consultation. Laurasia Associates commends OFCOM on its ongoing commitment to enhancing and optimising the UK number portability service. Laurasia Associates is responding to the consultation on the basis that Laurasia Associates are considered to be experts in the field of global number portability best practices.

Laurasia Associates - Number Portability Credentials

Laurasia Associates is a UK-based regulatory and operational consultancy practice advising telecommunications regulators and CPs across the world on a variety of different regulatory, technical and operational matters.

Laurasia Associates are acknowledged to be leading experts on the subject of global number portability best practices and our consultants have worked extensively on successful number portability implementations for both regulators and CPs across the world.

Laurasia Associates have been directly involved in a wide range of mobile and fixed number portability implementations in a wide range of different markets, with many of these implementations considered to be examples of best practice in terms of efficiency, customer experience and porting performance.

Our reference number portability projects include the Channel Islands, Isle of Man, Gibraltar, Ghana, Kenya, Nigeria, Russia, Kazakhstan etc.

Laurasia Associates was the lead consultants which supported the Nigerian Communication Commission design the legal, regulatory and operational framework for Mobile Number Portability and we supported the implementation and launch programme with the Nigerian CPs and stakeholders.

Laurasia Associates advised the Russian Ministry of Communications on the design of the Russian MNP framework and was engaged in the selection and set-up of the central Russian Number Portability Clearinghouse service.

In Ghana, working closely with a CP client and the National Communications Authority, Laurasia Associates actively assisted in the streamlining and optimisation of the Ghanaian MNP service which is seen to be a world class MNP service. In Ghana, since the launch of the MNP service in 2011, more than 1.4 million porting transactions have been successfully completed with more than 90% of porting requests now being completed securely within 5 minutes! A significant improvement on the EU 1 day porting regulations.

The number portability services we actively developed in both the Channel Islands and the Isle of Man, enable subscribers to port their mobile services in less than 20 minutes.

Closer to home, in the UK, Laurasia Associates has been engaging with the British Government and key regulatory and industry stakeholders (such as OFGEM, the Payments Council) in sharing and advising on the application of global telecommunications number portability service best practice to the UK Seven Day Bank Account Switching and UK Utility (Gas/ Electricity) Switching Programmes.

Laurasia Associates and our consultants are regularly invited to present at international telecommunications and specialist number portability conferences about all aspects of number portability service implementation and operation, as well as running regional and national workshops/ masterclasses sharing global number portability best practices.

#### Number Portability - Best Practices

From our experience of being directly involved in the implementation of high profile and complex number portability programmes, as well as actively monitoring ALL existing and

new number portability services across the world over the past seven years, it is clear that is a consistent and clear evolutionary trend to operate number portability services around the common key principles and techniques outlined below :-

1. Recipient Led Porting

- Global Best Practice - Yes
- UK Number Portability - No - Donor Led

2. Centralised Porting

- Global Best Practice - Yes - Porting Process Managed by Number Portability Clearinghouse
- UK Number Portability
  - o Mobile NP - Yes
  - o Fixed NP - No - de-centralised approach porting approach

3. Fast Porting Times

- Global Best Practice - Yes - Less than 1 day
- UK Number Portability - No - UK purports to meet the EU 1 day porting requirements but only part of the NP process is completed within one day. The end-to-end porting process takes at least 2 days

4. No Customer Service Disruption during the porting process

- Global Best Practice - Yes - zero service disruption due to "Make Before Break" porting process design
- UK Number Portability - No - subscribers lose service for upto 4 hours due to obsolete "Break Before Make" based process

5. ACQ Direct Routing

- Global Best Practice - Yes
- UK Number Portability - No - Obsolete and antiquated inefficient Indirect Onward Routing used

6. Customer Validation by SMS or IVR

- Global Best Practice - Yes
- UK Number Portability - No

7. Centralised Communication with the Subscriber

- Global Best Practice - Yes - Communication by SMS/ Email managed by Number Portability Clearinghouse at key stages of the porting process
- UK Number Portability - No - Each CP responsible for updating/ advising the subscriber on the status of their porting transaction

These features are clearly seen across existing, new and planned number portability service operations as common critical best practices and foundations to optimise the quality, performance and efficient of both national fixed and mobile number portability services across the world, irrespective of market size/ scale, geographic location or whether the market is emerging or developed.

Over the past five years or so, most of the original European and far eastern number portability services have been radically overhauled to align with the accepted global best practices, for instance adopting All Call Query Direct routing or migrating from Donor Led to Recipient Led processes.

It is evident that the UK Mobile and Fixed number portability services are still constrained by legacy and obsolete porting process design features and there is a serious lack of alignment to the accepted global best practices we have outlined.

From our review of the OFCOM consultation, it is evident that the consultation is restricted to reassessing the nature, calculation and allocation of traffic conveyancing costs and subsequent routing approach to ported-out numbers.

We would like to point out that the delivery of number portability services includes other allocated costs between different stakeholders which should not be overlooked in this consultation and a potential wider review of both the UK fixed and number portability services in the future. For instance, the assessment, calculation and allocation of porting specific costs involved in the movement of a ported number from a donor CP to a recipient CP should also be based around the OFCOM six costing principles, be restricted to directly incremental activities involved in supporting the porting service and determined/limited by the efficient CP principle.

From our extensive experience of researching and implementing leading-edge best practice number portability services across the world we are extremely disappointed and concerned that the UK as one of the "founding fathers" of number portability in world is still constrained by the apparent dogged reluctance and resistance of the UK telecoms industry to modernise and streamline both the fixed and mobile number portability services to further enhance market competition, deliver efficiency and quality, but most importantly meet the demanding needs of UK consumers.

We remain astounded that a complex, inconsistent and apparently illogical operational and commercial framework has evolved around the antiquated and obsolete onward routing that prevails and constrains the flexibility and operational efficiency of the UK fixed and mobile Telecom sectors.

For instance, based on global best practice, it seems incongruous that :-

- there are different cost recovery mechanisms for traffic conveyancing to both fixed and mobile ported out numbers i.e. in the mobile sector, conveyancing charges are split 50:50 between the donor CP and recipient CP whereas in the fixed sector, conveyancing charges are allocated 100% to the recipient CP;
- the traffic conveyancing fees are set using totally different economic and commercial approaches, for instance in the mobile sector the DCC is a centralised common and regulated charge whereas in the fixed sector the APCC are calculated and managed on a decentralised basis between different CPs;
- the cost of conveying traffic to ported out numbers between fixed and mobile networks and for processing incoming international traffic are ignored in the overall cost recovery framework;
- the principle of cost minimization is seen to be less important and specifically in the fixed sector, donor CPs and originating CPs appear to be rewarded for maintaining inefficient routing practices;
- obsolete and inefficient routing methodologies are permitted for CPs using legacy TDM networks, yet there is an apparent fundamental difference in the capability of such TDM network CPs to be able to route traffic to ported out geographic and non-geographic numbers; and
- the UK mobile and fixed telecom sector is prepared to waste over £17 million per annum on inefficient conveyancing/routing costs which probably do not fully account for the additional operational and technical complexities resulting from the antiquated and obsolete onward routing approach.

We conclude that this OFCOM consultation would not be required at all if the UK fixed and mobile telecoms stakeholders were encouraged to migrate traffic routing to the far more efficient best practice direct routing approach such as centralised All Call Query (ACQ) direct routing. We firmly believe that the implementation and operation of ACQ routing will address all of the issues raised in this consultation and would greatly simplify and optimise the efficiency of the routing of traffic between all types of CP in the UK.

Laurasia Associates will be pleased to meet with OFCOM and the UK number portability stakeholders to share our global experiences of implementing and researching number portability best practice across the world and to discuss our concerns and comments in relation to this consultation.

**Question 1: Do you agree with our assessment of the choice of cost standard? If not, please explain why.:**

Laurasia Associates agrees with the OFCOM recommendation that the cost standard should be changed from the LRIC+ to LRIC approach.

Since number portability cost allocation assessment should be based on pure incremental costs resulting from dedicated number portability/routing activities then it is assumed that the common costs referred to in the consultation are restricted to each CP's own general traffic routing common costs which would apply to the routing of traffic to ported and non-ported numbers. In addition, it is assumed that other inter-CP common costs such as points of interconnection etc are also excluded from the cost analysis.

Laurasia Associates is concerned about the different approaches adopted to the allocation of fixed and mobile traffic conveyance costs between CPs. Laurasia Associates believes there should be a common approach between fixed and mobile traffic conveyance cost allocation and such approach should share the costs between CPs based on causation and to encourage operational efficiency. Thus, on the assumption that the legacy onward routing function will be maintained, Laurasia Associates would recommend that traffic conveyancing charges are allocated 50:50 between the originating CP and the recipient CP. Such an approach would encourage the originating CP to use direct routing where possible but would also recognise that the recipient CP is ultimately the beneficiary of the porting transaction.

**Question 2: Do you agree with our assessment of the choice of technology? If not, please explain why.:**

Whilst Laurasia Associates appreciate the current differences in routing technology between TDM and NGN networks, Laurasia Associates does not agree with the proposal for the current approach to allow fixed CPs to continue to set their own conveyance charges which would be benchmarked against BT's CPL.

Laurasia Associates does agree with the principle of benchmarking of conveyancing costs and would recommend that such benchmarking is driven around the efficient CP principle, similar to the approach used for assessing and setting the conveyancing charges for mobile calls to ported numbers. Laurasia Associates does not concur with the assumption that BT's CPL is a representative efficient benchmark for fixed conveyancing charges since BT's core network is still largely TDM-based (ref page 37 of the consultation document) and such a

benchmark would merely propagate the current inefficient and complex conveyance charging framework.

Ref page 37 of the consultation document, Laurasia Associates is concerned and somewhat confused by the statement "where a TDM network supports non-geographic number portability, the routing of the call (including whether it is portable not) can be determined through querying a database in the DCP network". This statement suggests that TDM-based CPs have the capability to operate a central database to support direct routing of traffic to non-geographic ported numbers. Consequently, Laurasia Associates would seek to challenge why such a centralised database driven routing approach cannot be utilised by TDM CPs to route traffic to geographic ported numbers. On this assumption, Laurasia Associates believes that it could be economically and operationally feasible to migrate the routing of fixed traffic between CPs from the current inefficient indirect approach to the best practice ACQ direct routing approach.

From our experience of successfully developing and implementing ACQ direct routing solutions across the world, a key feature of such solutions is the simplification of the routing between the originating CP and the recipient CP. In such cases, the originating CP is only required to route and hand over the traffic to the point of interconnect of current hosting recipient CP and it then the sole responsibility of the recipient CP to correctly route and terminate the traffic to the ported out number on its network. This approach radically simplifies the technical/operational routing of traffic to ported-out numbers and removes the need to consider different routing approaches for different CPs, since the originating CP is only required to hand the traffic over at the agreed point of interconnect. In addition, this approach will allow a common routing approach between fixed to fixed and mobile to mobile traffic conveyancing as well as enabling efficient routing of fixed to mobile traffic for both ported and non-ported numbers.

A further key feature of ACQ direct routing is the routing of traffic to ported and non-ported numbers is treated in the same manner without any need for differentiation. Whilst it is true that the cost of implementing ACQ direct routing of the structure into each CP is quite high. However, we believe that some stakeholders have overstated the core network/ business system investments required to support ACQ direct routing. Following significant technological advances in this field, our experiences from across the world, show that the core network and business system infrastructure investments required to support ACQ routing have dropped significantly.

For instance, in the large African mobile markets such as Ghana and Nigeria, our experience shows that the CP investments to implement and operate ACQ direct routing have dropped to between £5 million and £10 million per network.

A criticism often levelled at ACQ direct routing is the investment burden on smaller CPs. Our experiences from successfully implementing number portability services in small jurisdictions, such as the Channel Islands, Isle of Man, Gibraltar and the Bahamas, shows that the incremental investment for small-scale ACQ direct routing can be as little as £400,000 per network. Furthermore, a number of countries allow transit routing services by large CPs on behalf of smaller CPs to minimise the investment burden on smaller CPs and to provide low cost commercially viable ACQ routing services, for instance Nigeria, Russia, Cayman Islands.

Laurasia Associates would recommend that OFCOM revisits the debate about migrating UK

traffic routing from the current archaic and inefficient indirect onward routing approach to the best practice direct ACQ, in light of the reduced infrastructure investment costs and to mitigate the inefficient and wasteful conveyance charges which are currently burdening the UK telecoms sector by more than £17 million per annum.

**Question 3: Do you agree with our assessment of the recovery of porting costs? If not, please explain why.:**

Laurasia Associates agrees with the OFCOM conclusion that there should be a common approach to the recovery of porting conveyancing costs between fixed and mobile traffic routing.

Laurasia Associates does not agree with the OFCOM statement on page 43 of the consultation "we consider the cost minimisation principal is less important in this case". We believe that cost minimisation is the critical principle that should drive the efficient and fair recovery of porting related conveyancing costs between CPs. Without such a focus on cost minimisation there is no incentive for donor CPs or incumbent/regulated originating CPs to implement and invest in efficient traffic routing since their inherent inefficiency will be paid for by their competitors.

Laurasia Associates agrees that where onward routing is the method of traffic conveyance between CPs that it is not unreasonable for the recipient CP to be responsible for some of the additional traffic conveyance costs. Laurasia Associates believes that a 50:50 split between the originating CP and the recipient CP is the fairest cost allocation approach in the circumstances, since this approach addresses the cost causation principle but also encourages originating CPs to proactively route their traffic directly to minimise onward routing activity and costs.

Ref page 37 of the consultation document, Laurasia Associates is concerned and somewhat confused by the statement "where a TDM network supports non-geographic number portability, the routing of the call (including whether it is portable not) can be determined through querying a database in the DCP network". Laurasia Associates does not understand the rationale for certain fixed CP's being allowed to differently treat the conveyancing/routing of traffic to ported-out non-geographic and geographic numbers. We believe that if a TDM fixed CP has the capability to use a central routing database to directly route/convey traffic to ported-out non-geographic numbers then there is a regulatory imperative to ensure that this efficient approach is also mandated for the routing of traffic to geographic ported out numbers.

**Question 4: Do you agree with our assessment of the likely impact of our proposals? If not, please explain why.:**

Laurasia Associates concurs that based on the OFCOM conveyancing charge data provided on page 50 of the consultation document, the relative magnitude of conveyancing charges when considered against the overall revenue scale of the fixed and mobile market segments is very low.

However, based on the OFCOM data, the UK fixed and mobile Telecom CPs are still incurring over £17 million per annum in conveyancing charges, which reflect the cost of the inefficiency of the current archaic onward routing approach used in the UK. It is likely that

the current conveyancing charges do not portray the full end to end impact of onward routing on the different CP network operations since these charges may not reflect the actual operational and technical challenges and issues posed by the continual use of onward routing, for instance network capacity, quality of service issues.

Based on the 2013 UK market report published by OFCOM, Laurasia Associates notes that in 2012, fixed CPs originated 103 billion minutes compared to 122 billion minutes originated by mobile CPs. However, in a similar period, the mobile CP conveyancing charges were only £2.9 million compared to £14.2 million for the equivalent fixed CP convention charges. This massive discrepancy in the level of conveyancing revenue can only be explained by either significant difference in the level of fixed traffic conveyed to fixed ported out numbers compared to traffic conveyed to ported out mobile numbers or the excessive level of APCC fixed traffic conveyancing charges. Whilst Laurasia Associates acknowledges that the fixed CP's have not raised complaints about the level of the APCC charges, we believe it is incumbent on OFCOM to investigate this apparent disparity further.

Laurasia Associates acknowledges that by migrating the cost recovery approach for traffic to ported-out mobile numbers from the current 50:50/ donor CP: recipient CP to the proposed 100% charging to recipient CPs, is unlikely to have a significant impact on retail pricing or competition, we do believe that this proposed change will unfairly penalise challenging mobile CP's who use number portability to grow their market share and will also discourage incumbent/dominant mobile CP's from investing to improve the efficiency and quality of mobile traffic routing between the different networks.

Laurasia Associates agrees with the OFCOM proposal to reduce the APCC through the adoption of LRIC modelling which could drive potential cost savings into the fixed traffic conveyancing framework by eliminating incumbent fixed CP sunk cost network elements. However, it is not clear from the consultation on the approach that OFCOM proposes to adopt to review (ie Ex Ante or ex Post) and revise the APCC costs downwards and we would suggest that OFCOM considers; a) undertaking a global benchmarking exercise to compare the equivalent conveyancing costs in other jurisdictions; and b) further explores the technical and operational feasibility of encouraging fixed CPs to use existing central routing database based facilities to directly route traffic to both fixed non-geographic and geographic ported out numbers.

### **Question 5: Do you agree with our proposals? If not, please explain why.:**

To summarise, Laurasia Associates supports the basic objectives of the OFCOM consultation to review, align and revise the current conveyancing cost recovery approach for the routing traffic to ported-out numbers across both fixed and mobile networks.

However, the analysis within the consultation in our view firmly supports the justification to fundamentally reconsider the suitability of the current archaic legacy onward routing approach used for the conveyancing/routing of traffic to ported-out numbers across both fixed and mobile networks.

Laurasia Associates based on our experience of implementing and researching leading edge best practice number portability implementations across the world firmly believe that the migration to All Call Query direct routing of traffic in the UK market will address ALL of the issues raised in this consultation and would enable OFCOM to radically simplify and

streamline the operational and commercial frameworks used for the routing of all types of traffic to both ported and non-ported numbers across all networks in the UK.

The information provided in the consultation clearly suggests that the current level of the APCC is high and suggests potential scope to encourage or mandate all fixed CPs to utilise or evolve existing central database routing facilities for the routing of traffic to non-geographic and geographic ported out numbers, aligning the approach between the different networks using TDM and NGN technologies.

Laurasia Associates supports the OFCOM proposal to migrate the cost allocation approach for conveyance charges across both fixed and mobile networks from the current LRIC+ approach to the more appropriate LRIC approach.

Laurasia Associates agrees that there should be a common cost allocation approach between originating, donor and recipient CPs for the conveyancing of fixed and mobile traffic to ported out numbers, but Laurasia Associates does not believe that the proposed migration to allocate 100% of the conveyancing charge to the recipient CP is the best solution, since this approach will not encourage originating CPs or dominant/ incumbent recipient CPs to invest to radically improve the efficiency and quality of the UK traffic routing infrastructure.

Laurasia Associates concurs that the relatively small scale of conveyancing charges as reported by OFCOM in the consultation document when compared to the overall scale of UK fixed and mobile voice revenues, would result in minimal impact on retail pricing. However, Laurasia Associates firmly believes that increasing the charge burden on recipient CPs will disadvantage those challenging CP's who use number portability to grow their market share.

Finally and most importantly, Laurasia Associates concludes that combined conveyance charges of over £17 million per annum between the fixed and mobile networks represents an appalling level of inefficiency in the routing of UK telecoms traffic. This frightening figure should be a wake-up call to OFCOM and all fixed and mobile CPs to finally take proactive and decisive action to radically overhaul, streamline and align the routing of traffic to both ported and non-ported numbers through the implementation and operation of ACQ direct routing and align the UK market to global best practice in terms of efficient, cost-effective and consistent traffic routing.