RESPONSE

TO

CONSULTATION on
POLICY RECOMMENDATIONS FOR THE ADOPTION OF
NUMBER PORTABILITY IN ECTEL STATES

LIME

Landline | Internet | Mobile | Entertainment

By E-mail to: consultation@ectel.int

03 August 2011

I.   INTRODUCTION

1.   CWI Caribbean Limited, on behalf of its affiliates Cable & Wireless Dominica Limited, Cable & Wireless (St. Lucia) Limited, Cable & Wireless Grenada Limited, Cable & Wireless St. Kitts and Nevis Limited and Cable & Wireless St. Vincent and the Grenadines Limited, all trading as LIME ("**LIME**"), is pleased to provide the following response to the Commission's consultation in the matter of '*Policy Recommendations for the Adoption of Number Portability in ECTEL States'* (the Consultation Document) published June 22, 2011.

2.   LIME will answer the questions asked by ECTEL in the order that they appear, using the heading in the in the Consultation Document. In some cases, LIME will respond to a group of questions where those questions are interlocking.

3.   LIME expressly states that failure to address any issue raised in this consultative document does not necessarily signify its agreement in whole or in part with the Commission's position. LIME reserves the right to comment on any issue raised in the consultation at a later date.

II.   OVERVIEW OF THE CONSULTATION DOCUMENT AND LIME'S RESPONSE

4.   LIME agrees that ECTEL should focus on service provider portability. Accordingly LIME agrees with ECTEL that '*..the inability to keep one's number when moving to a new telecommunications provider is a major disincentive to switch providers*" and that number portability facilitates choice. LIME however does not

believe that this hurdle is greater for fixed line customers than mobile customers. This is because the intrinsic value of a number to a person cannot be lessened or increased by comparison to any other person, although it is recognized that it is likely to be more expensive and inconvenient for business customers, in general, to change their telephone numbers.

5.   ECTEL proposes that it will focus on service provider portability, specifically for Fixed Number Portability (FNP) and Mobile Number Portability (MNP) for postpaid customers only. While LIME agrees with the focus on service provider portability it is adamant that not to extend MNP to the majority of mobile customers, who are prepaid customers, is to discriminate against prepaid customers and deprive those customers of the choice available to the rest of the voice market, simply based on a payment method.

6.   Given that the mobile networks are more technically advanced, ECTEL should implement MNP first because. For ECTEL to focus on FNP as a priority is misguided because for the most part, the fixed network in the ECTEL countries will need significant upgrades to facilitate FNP as those switches are several generations behind the mobile switches. The best situation would be to run MNP and FNP concurrently bearing in mind the caveat for FNP.

7.   LIME agrees with ECTEL that Number Portability (NP) in small jurisdictions, such as the ECTEL countries, is viable, provided an appropriate solution is selected. LIME disagrees with ECTEL that customers should not bear a proportionate cost of NP, given that customers, both those who actually port and may port, will benefit form NP.

While ultimately the industry will decide on the most appropriate technical solution, LIME is supportive of a Central Database.

8.   While LIME believes that active engagement by ECTEL/NTRCs is necessary for the management of NP process to implementation, LIME encourages ECTEL to provide the industry with the opportunity, through an industry working group, to further define the conditions for NP. These conditions would include the timeframes for porting, cost recovery and the basis on which a porting request can be denied.

9.   LIME's experience of NP so far is that it is quite complex. However, LIME believes that active participation by the regulator could result in NP being launched in the ECTEL countries by September 2012. This timeframe however does seem very challenging and LIME recommends that it be reviewed after the technical solution has been agreed and a contract signed. This would be fundamental milestone and on the critical path for implementation of NP.

III.   COMPETITION IN ECTEL MARKETS

10.   In support of its plan to introduce Number Portability (NP), the Commission states, in the section titled 'Number Portability – An Overview', that '*despite the introduction of formal competition however, a reasonable assessment of either market would not compel a conclusion that such competition has been or is dynamic*'.

11.   LIME neither affirms nor disputes the Commission's assertion. LIME however is keen for ECTEL / NTRCs to identify what dynamic competition might look like. This

is an important public policy issue. In so doing the Commission must consider the following:

      a.   Together, the ECTEL countries have a population of approximately 500,000. The size of a population, both geographic and for a specific service or category of service, is a crucial indicator of the number of providers who are likely to enter the market. Therefore the number of telecommunication service providers that a small market can support is germane to the conclusion of presence or absence of dynamism.

      b.   With regards to fixed line competition, the ease of rolling out a mobile network and typically lower cost of rollout compared to the fixed network, combined with asymmetry in the regulation of fixed and mobile services has resulted in more persons connected to the mobile network than the fixed network.

      c.   Mobile voice substitutes for fixed line voice and the mobility element makes mobile service that much more compelling. With the absence of a recurring monthly charge and buckets of minutes at an affordable rate, most mobile customers, who are mostly prepaid customers in the Caribbean, have a service that compares favourably with fixed line service.

12.   While recognizing the trend of mobile service substituting for fixed line service, ECTEL and the NTRCs have not formally acknowledged that mobile call origination is

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in the same market as fixed line voice origination. At the same time ECTEL espouses a technology neutral approach which means that services will be treated the same irrespective of the technology used to deliver the service.

13.   Voice service is provided using both mobile and fixed technology and ECTEL has failed to effectively apply a technology neutral approach to the voice market, in contravention of its own stated approach on technology neutrality.

14.   By applying its own approach as well as not just recognition but acknowledgement that there is one voice market, ECTEL might be led to regard the markets in the Caribbean as more robust than originally thought. LIME also encourages ECTEL to acknowledge that where a service can be provided using several technologies, a rational investor would opt for the most cost effective technology that has the greatest market reach and that where provision of the same service is more heavily regulated using one technology than another that yet again a rational investors will choose the least regulated option.

15.   In keeping with this development, ECTEL reports that '*..73% of businesses now report reliance on a mobile phone to conduct their affairs …*"

16.   Indeed ECTEL states that '*In a reversal of technological developments, actual competition for fixed-line service lagged considerably behind the mobile sector, with new*

entrants providing alternative service to the incumbent fixed-line provider only recently in some cases'.

IV.   RESPONSES TO RECOMMENDATIONS IN THE CONSULTATIVE DOCUMENT

What Type of NP Should be Implemented?

1) ECTEL Invites Comments On Its Recommendation To Adopt A Framework Focused On Provider Portability In The Short Term.

LIME's Comments on ECTEL's Recommendation No. 1

17.   LIME agrees that ECTEL should focus on service provider portability. ECTEL considers that NP should commence with fixed to fixed portability. LIME notes, however, that apart from St. Vincent and the Grenadines, LIME's fixed switches in the ECTEL countries would need significant upgrades in order to provide NP.

18.   On the other hand, mobile switches of all operators are very modern which means that the mobile network is in a state of relative readiness for NP.[1] As ECTEL has recognized '*In terms of pure technical feasibility, most modern switches come preconfigured by switch vendors to accommodate NP. In such cases, software licences may be required to unlock existing capability or enable upgrades. However, older networks or technology may not have that capacity and may require some upgrading*'.

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[1]   This is not to say that there is no work that is necessary to enable portability on the mobile network.

19.   The mobile network has the more modern switches. A quicker launch of Mobile

Number Portability (MNP) will build consumer confidence in NP overall. The best

outcome is to run Fixed Number Portability and Mobile Number Portability concurrently.

For Which Services Should NP Be Required?

2) ECTEL invites comments on its recommendation to implement NP for fixed-to-fixed and post-paid mobile-to-mobile services.

3) ECTEL invites comments on its recommendation to defer the implementation of pre-paid NP pending further investigation and study.

LIME's Comments on ECTEL's Recommendations Nos. 2 and 3

20.   ECTEL recommends that Number portability be introduced only for fixed to

fixed and postpaid mobile to mobile calls at this time. ECTEL states that it regards fixed

to fixed portability as the natural starting point for Number Portability.

21.   In defending Number Portability for postpaid mobile customers only, ECTEL

expresses the concern that to include prepaid mobile customers could result in significant

costs for providers. Further ECTEL characterizes prepaid subscribers as casual users

because they do not enter into long term contracts, volatile, owners of multiple SIM

cards, and finally that maintaining a relationship with a specific provider is not a

requirement. LIME does not know how ECTEL arrived at this profile of prepaid

customers but this negative stereotype does not represent LIME's prepaid customer.

22.   Prepaid customers represent over 90% of the mobile subscriber base in ECTEL countries. Prepaid service is more a statement about a payment mechanism than a customer type. Prepaid service is inherently less risky to provide because a customer would have already paid for a service before receiving it. While the Average Revenue Per User (ARPU) is higher for postpaid customers, such customers represent less than 10% of the subscriber base. The mobile businesses in the Caribbean are overwhelmingly prepaid and the mobile business is built on these customer. That these customers do not have a contract does not make them '*not regular, or firmly established*' as is one definition of casual. In general Prepaid customers are not volatile and do top-up at established intervals and our records do suggest a consistency in behaviour.

23.   Both postpaid and prepaid customer use multiple SIMs. ECTEL's survey suggests that 39% of businesses use multiple SIMs. The objective of multiple SIM ownership is to enjoy lower, on-net rates, by calling a network using the instrument that is attached to that network. In both cases however there is a primary provider and a secondary provider. While customers use different SIM cards to make outgoing calls, depending on which domestic network is being called, for receiving calls and making overseas calls, customers have a primary number. Keeping this primary number, when choosing another service provider, is just as important for prepaid mobile customers as it is for postpaid mobile customers and fixed line customers. So it is not true that prepaid mobile customers do not value the retention of their number.

24.   Further, it is simply not factual that prepaid customers do not value maintaining a relationship with any particular provider. Every mobile customer, irrespective of their mode of payment, chooses a network for specific reasons involving network coverage, cost and customer service. A customer chooses the network which stacks up most favourably in their own estimation. So having chosen the network, a customer is invested in maintaining a relationship with that provider and if that relationship is no longer working then Number Portability provides an avenue for the customer to part with that provider, painlessly, and invest in a relationship with another provider. This is important to every customer – fixed line, postpaid mobile and prepaid mobile.

25.   In fact prior to LIME allowing customers to move from prepaid to postpaid with the same number, it was very difficult to upsell prepaid customers to a postpaid plan for fear of losing their contact numbers. Now that this feature is available from LIME we have been able to migrate customers from our prepaid plans to postpaid plans and vice versa.

26.   A significant portion of our prepaid customers utilize their handsets to conduct business transactions this is evident from business cards, letterheads and marketing collateral. More and more business customers are also opting to provide their staff with prepaid plans for manageability and containing expense under their corporate accounts.

27.   The decision of choosing a Prepaid Plan vis-à-vis a Postpaid plan in most cases is determined by the customers' ability to manage their plans and the flexibility that our

prepaid service offers and is not an indication of the customers commitment or attachment or lack thereof to their numbers.

28.   Because ECTEL's negative stereotyping of prepaid custromers is so astonishing and contrary to actual behavior by LIME's customers, LIME requests a copy of the survey questions and the sample size from ECTEL. LIME notes that ECTEL has not stated what it has relied on to inform its assessment of prepaid customers. In any event the source is misleading or the data has been misinterpreted. In its overview of NP ECTEL explains that NP is particularly relevant where '*A mobile customer unable to get adequate coverage near his or her home or simply dissatisfied with the level of dropped calls by one provider, can move to another offering better call quality, or perhaps even new and different mobile services. In both cases, each customer can keep his or her number, reducing the potential inconvenience and disruption to their personal lives previously caused by having to inform others of his or her new contact details, every time they switch providers'*. Why should prepaid customers be denied this choice ? Prepaid mobile customers the overwhelming majority of the mobile base, are first class customers just like other customer and need to be provisioned with choice through Number Portability.

29.   ECTEL foresees that NP would force operators to improve customer experience or go out of business. This is true. But this discipline is realistic only if the majority of customers, prepaid customers have the option of NP.

30.   ECTEL should note the response to the ODTR, the telecommunications regulator in Ireland, on the said matter of excluding prepaid customers from Mobile Number Portability (MNP):

> [2]*Q4.1 Do you agree that the porting process for FMNP must support pre-pay as well as post-pay customers, and ought to be no more complex for the user than the current SMNP solution?*
>
> *Response*
>
> *Six out of the eight respondents acknowledged the importance of allowing both pre-pay and post-pay subscribers to port their numbers. One respondent pointed out that any other solution would be to unreasonably discriminate on the basis of the customer's method of payment. However one respondent considered that there was no proven requirement for pre-pay mobile number portability, and no justification for an expensive FMNP solution to be introduced.*
>
> *ODTR Conclusions*
>
> *The ODTR remains of the view that number portability should apply to pre-pay and has received verbal confirmation from the European Commission that the draft European requirements include pre-pay. ODTR considers that this is a reasonable position from the perspective of the user since users may wish in future to change their charging arrangements whilst keeping the same number, and therefore a distinction based on the method of payment would be inappropriate.*

31.   ECTEL's profile of prepaid customers does not appear to have been informed by any study or investigation. LIME has provided the correct profile of prepaid customers and these customers must also be provisioned with NP. NP for prepaid customers should not be deferred but should be made available at the same time that porting is made available to other customers. There is no technical, cost, or moral reason not to do so.

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[2] Pg.7, Implementing Full Mobile Number Portability in Ireland, published by ODTR, July 2001

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32.   ECTEL has claimed that the introduction of portability for all mobile services has the potential to destabilise the mobile market where '...*proper conditions are not specified*'. LIME request that ECTEL expand some more on what it mean by this and why the same would only apply to prepaid customers. As far as LIME is aware all the rules governing NP would have been agreed prior to the introduction of the service. Churn is a natural outcome of NP, which already exists in the industry. LIME is therefore keen to understand the potential of NP to destabilize to which ECTEL refers.

33.   In short, LIME strongly supports the position taken by regulators around the world that prepaid mobile voice users have as strong an interest in and right to their choice of service provider as fixed and postpaid mobile voice users, and urges ECTEL to reconsider its recommendation not to extend NP to prepaid mobile users.

What Type of Technical Arrangements should be Adopted?

4) ECTEL invites comments on centralized databases versus peer-to-peer options for NP.
5) ECTEL invites comments on the most appropriate technical solution and related costs for implementing NP in ECTEL states.
6) ECTEL invites comments on participating in regional NP solutions for providers in ECTEL states.
7) ECTEL invites comments on the issue of technology neutral options for implementing NP in ECTEL states;
8) ECTEL invites comments on the need to provide NP solutions capable of facilitating the transmission of SMS and other non-call related signaling.
9) ECTEL invites comments on the proposal to undertake a further consultation focused solely on the technical solutions proposed by providers responding to the current consultation.

LIME's Comments on ECTEL's Recommendations Nos. 4, 5, 6, 7, 8, and 9

34.   LIME is of the view that the discussion on the appropriate technical solution can be accommodated in this consultation. At this time it is unnecessary to introduce a separate consultation on the solutions.

35.   ECTEL has stated that the selected technical solution must meet the following criteria:

> *(a) Be flexible enough to accommodate the different types of networks that currently exist as well as foreseeable upgrades of existing networks and technology;*
> *(b) Take account of emerging issues likely to impact on NP in the future;*
> *(c) Facilitate true portability, including voice and non-call related information; and*
> *(d) Be cost effective, efficient and provide maximum value to subscribers, bearing in mind the broad policy objectives outlined in this consultation.*

36.   As LIME understands it, there are essentially two basic approaches to NP – a call-forwarding approach and a database query solution. The latter can be implemented in various ways, depending upon whether a central or distributed databases are established, and depending upon the specific call routing scenario chosen. The Peer-to-Peer solution mentioned by ECTEL, in the Consultation Document, is an example of a distributed database solution.
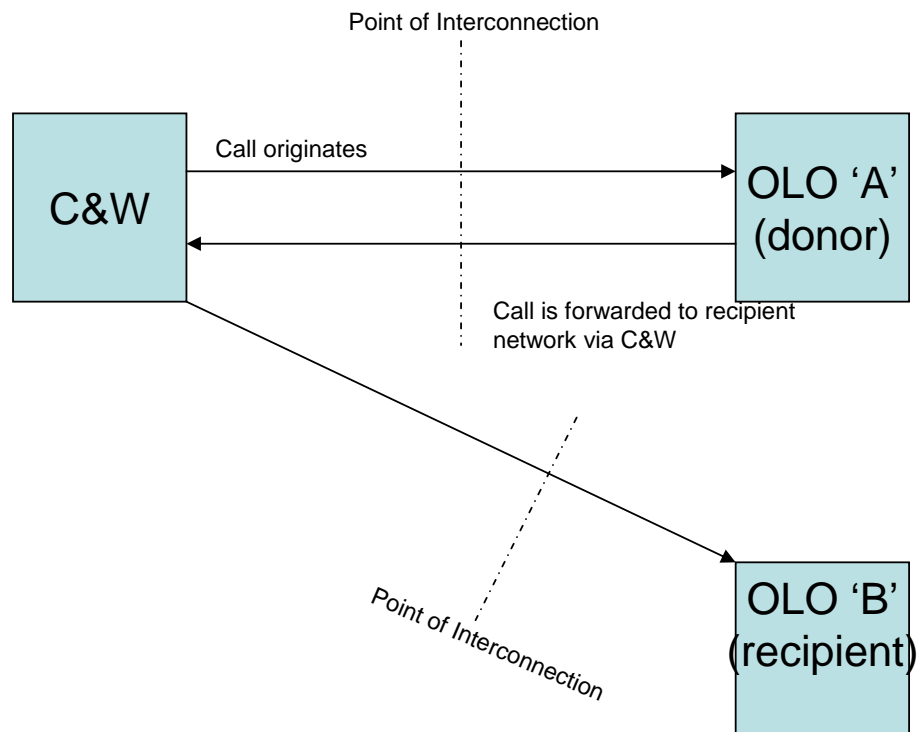
Call-Forwarding Approach

37.   Under the call-forwarding approach, calls from the Originating Network are routed and completed to the Donor Network, which forwards and terminates the call to

the Recipient Network, via the points of interconnection between the networks. Please refer to Figure 1 below.

38.   From a technical perspective, this solution is relatively simple to implement.

Figure 1

Point of Interconnection

C&W

Call originates

OLO 'A' (donor)

Call is forwarded to recipient network via C&W

Point of Interconnection

OLO 'B' (recipient)

39.   However, this solution ties up voice channels into and out of the Donor Network for the duration of the call to a ported number. Transmission and signaling resources are consumed as the call is forwarded between switches. This problem of consumption of resources, not to mention the added interconnection charging complexities, would become more pronounced over time as more and more numbers are

ported over time. If any of these networks have chosen to interconnect indirectly through a transit services provider, even more of the call processing resources in the domestic network would be tied up because of this solution.

40.   Further, onward porting of the same number would also exacerbate the problem. Unlike the problems described in the previous paragraph, though, this one could be mitigated to some extent by imposing upon the "old" Recipient Network the obligation to advise the Donor Network of the existence of the "new" Recipient Network, and thereby take itself out of the call flow.

41.   In addition, this call-forwarding solution might not necessarily be transparent to value-added service delivery like SMS.

42.   Finally, international calls terminating at a mobile telephone that has been ported within an ECTEL country will not be able to be traced by the Recipient Network's billing system, as it would have been effectively re-originated by the Donor Network. Because it would appear to be a locally-originated call in the CDRs, due to these considerations, LIME believes that in no circumstances should the call-forwarding solution be introduced to the ECTEL States

Database Solutions

43.   The second approach would be based on an operator querying a database to determine whether a call has been ported, and routing the call directly to the relevant

Recipient Network, instead of having the call "chase" the telephone number across various networks in the respective ECTEL States . This approach can vary according to whether one central database or several, distributed databases are implemented.

Distributed Database Solution

44.   Under the first of these database solutions, all network operators who participate in NP would manage individual call routing databases. These various databases must be synchronized on a regular basis, if the process is to be seamless, and database queries would be facilitated by the C7 network.

45.   Assuming that direct trunks and signaling links have been put in place between all participating operators, optimal routing of ported calls can be achieved.

46.   Under this approach, each operator would bear its own direct costs of network hardware required to implement the call routing databases and of appropriate software triggers on their own switches. These costs could be substantial, as network operators would be required to make major capital expenditures to procure routing databases. In addition, major upgrades would be required to the operational support systems (service order processing and billing) of all participating operators in order to support this approach.

Central Database Solution

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47.   Under the second of these two database solutions, NP would be facilitated by a central routing database managed by single organization. An accurate central copy of the national database would be maintained for reference by all operators

48.   Funding for setting up and maintaining the central database must be agreed between operators, and processes must be established to ensure payments are made.

Call Routing Scenarios

49.   The introduction of NP into a market would introduce significant changes into how calls are routed between networks, and how calls would be routed is in part affected by the choice of NP solution adopted (and described above). LIME is aware of four major different call routing scenarios: "All Call Query", "Query on Release"; "Call Dropback", and "Onward Routing". Each of these call routing scenarios lends itself more to one or the other of the two database solutions. However, they presumably do not preclude the use of the other database solution.
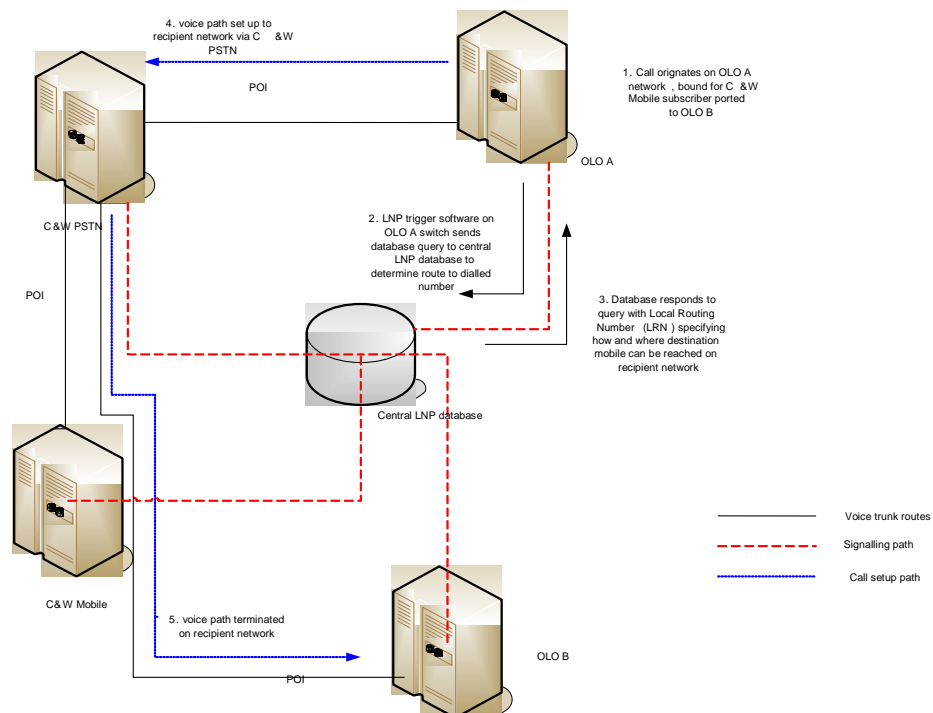
All Call Query

50.   Under the first call routing scenario, the Originating Network would query a central database for all calls originated on its network, in order to determine where to route the call, i.e., the Recipient Network. The database would return the routing information to the Originating Network, who would proceed to route and complete the call to the Recipient Network.

51.   It is LIME's understanding that this model is, or at least is quite similar to, the model applied in North America under the NPAC SMS system. The database needs to be queried, or "dipped" as it is commonly termed, for all calls, because, as soon as one number is ported from a central office code, the switch can no longer know how to route any call simply on the basis of an analysis of the first six digits (NPA-NXX) of the dialed telephone number.

52.   An advantage of this call routing scenario is that the Donor Network is not involved in any way in the routing of calls to telephone numbers ported to the Recipient Network.
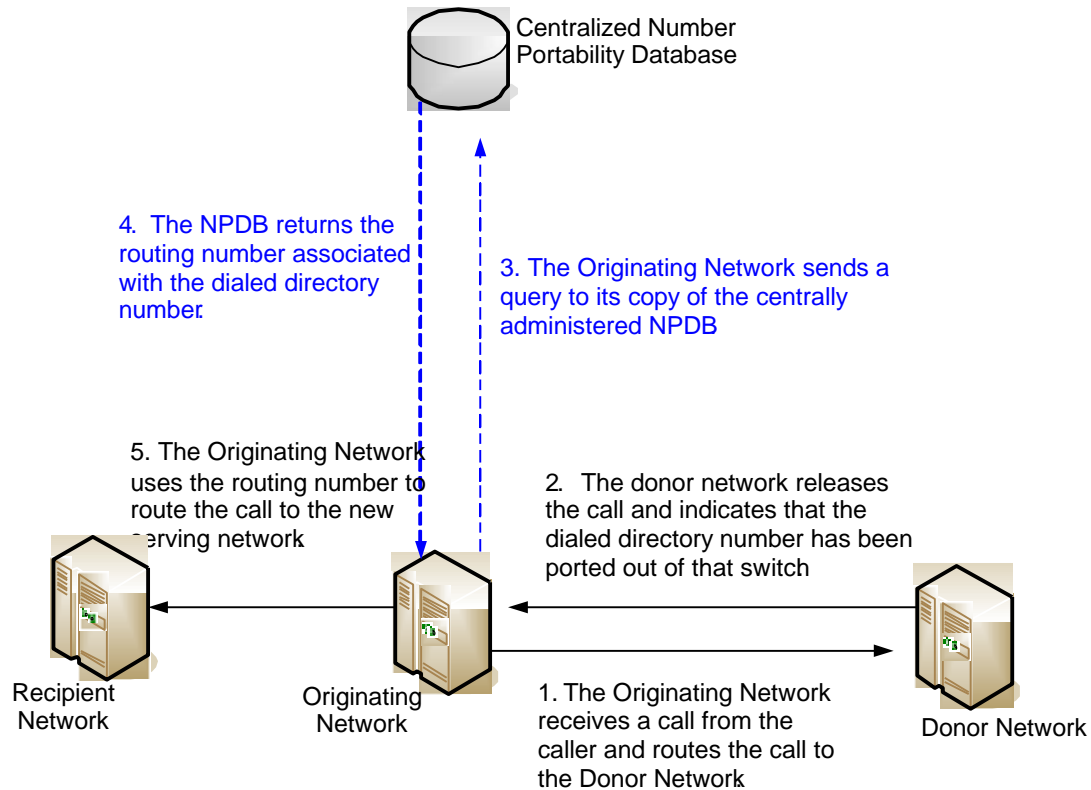
53.   This call routing scenario also lends itself to the implementation of a central routing database.

<u>Query on Release</u>

54.   Under this call routing scenario, the Originating Network routes the call to the

Donor Network, on the basis of the NPA-NXX of the dialed number. When the Donor

Network receives the call, it determines whether or not the called number has been

ported. If it has, the Donor Network releases the call back to the Originating Network.

This triggers a query by the Originating Network to the central database. The database

returns the routing information, and the Originating network routes and completes the

call to the Recipient Network.

55.   This call routing scenario eliminates the need to "dip" each and every call.

However, it does consume network resources as each call to a ported number is routed

twice, once to the Donor Network and once to the Recipient Network. It also uses a

central database containing the porting information from multiple networks.
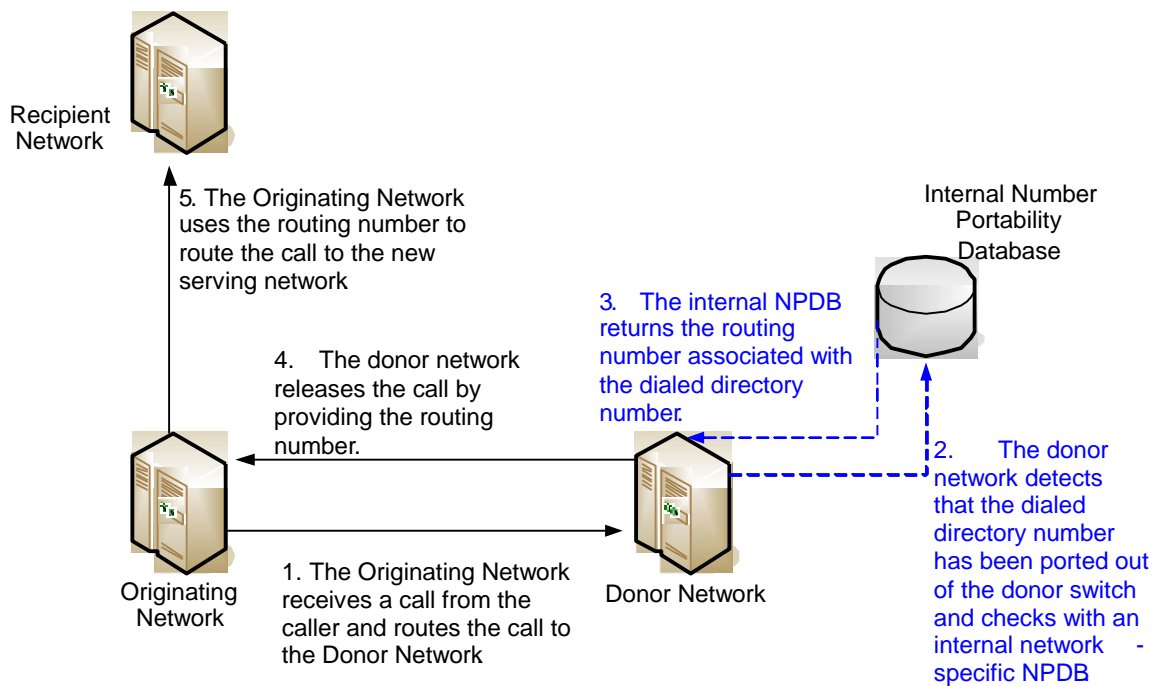
Centralized Number
Portability Database

4. The NPDB returns the routing number associated with the dialed directory number.

3. The Originating Network sends a query to its copy of the centrally administered NPDB

5. The Originating Network uses the routing number to route the call to the new serving network

2. The donor network releases the call and indicates that the dialed directory number has been ported out of that switch

Recipient Network

Originating Network

1. The Originating Network receives a call from the caller and routes the call to the Donor Network

Donor Network

LNP Scenario – Query on Release (for simplicity, transit network not shown)

Call Dropback

56.   Under this call routing scenario, the Originating Network routes the call to the Donor Network, as in the previous example. However, once the Donor Network determines that the called number has been ported, it queries an internal database, which contains information about numbers ported out of the Donor Network only. At that point, the Donor Network releases the call and forwards the routing information to the Originating Network, who proceeds to complete the call to the Recipient Network.

57.   The significant difference between this scenario and the previous is the use of distributed databases by the networks. It should be noted that, in this scenario, the Donor

Network would only have information about the first porting of the telephone number out of its network. The Donor Network would have no way of determining whether that number were ported onwards to a second Recipient Network, barring an obligation on either or both Recipient Networks to keep the Donor Network updated.
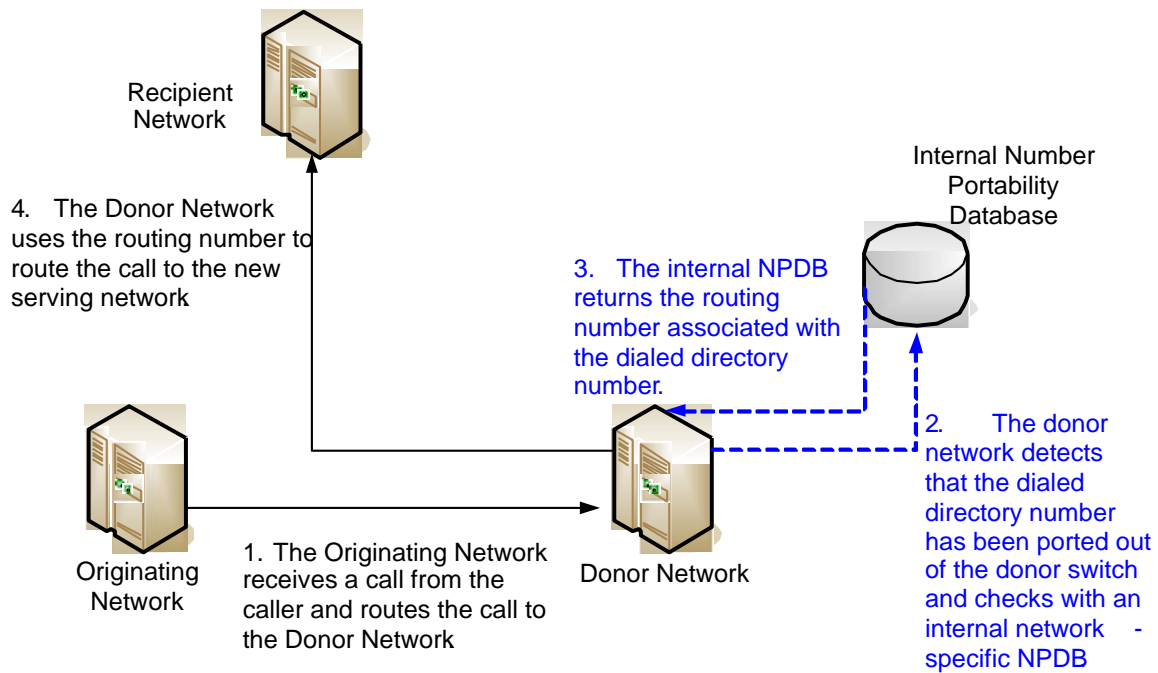
Recipient
Network

5. The Originating Network
uses the routing number to
route the call to the new
serving network

Internal Number
Portability
Database

3. The internal NPDB
returns the routing
number associated with
the dialed directory
number.

4. The donor network
releases the call by
providing the routing
number.

2. The donor
network detects
that the dialed
directory number
has been ported out
of the donor switch
and checks with an
internal network -
specific NPDB

Originating
Network

Donor Network

1. The Originating Network
receives a call from the
caller and routes the call to
the Donor Network

LNP Scenario– Call Dropback (for simplicity, transit network not shown)

Onward Routing

58.   This call scenario is much like the Call Dropback scenario, where the Originating Network routes the call to the Donor Network, which queries an internal database to determine where to route the call. As before, this internal database contains information about numbers ported out of the Donor Network only.

59.   The key difference is that, instead of releasing the call and forwarding the routing information, the Donor Network uses the routing information to route the call onward to the Recipient Network.

60.   A disadvantage of this approach is that it requires the set-up of two physical call segments, one between the Originating Network and the Donor Network, and the other between the Donor Network and the Recipient Network. Both of these segments must be maintained for the duration of the call. It is, therefore, inefficient with respect to the use of inter-network transmission facilities. However, it does not require the Originating Network to do anything beyond originating the call and routing it to the Donor Network.

Recipient
Network

Internal Number
Portability
Database

4.   The Donor Network uses the routing number to route the call to the new serving network

3.   The internal NPDB returns the routing number associated with the dialed directory number.

2.   The donor network detects that the dialed directory number has been ported out of the donor switch and checks with an internal network - specific NPDB

Originating
Network

1. The Originating Network receives a call from the caller and routes the call to the Donor Network

Donor Network

LNP Scenario – Onward Routing (for simplicity, transit network not shown)

61.   While the industry should choose the most appropriate technical solution, LIME is of the view that, based on ECTEL's specifications for the technical solution, a centralized database (CDB) solution is most suitable. The cost of implementing this technical solution will be based on the bids received in response to any RFP (Request for Proposal) published by the industry.

62.   A CDB solution is technology neutral, and with the appropriate interconnection agreements in place, will be able to handle all voice calls , SMS and other non-call related signaling. In LIME's view a regional CDB for ECTEL countries would be more cost effective and time efficient. It is acknowledged, however, that this approach is likely, at least initially, to increase complexity because of the number of providers who will be negotiating the solution.

How Long Should it Take to Port a Number

10) ECTEL invites comments on the time period proposed to implement a request to port a number.

LIME's Comments on ECTEL's Recommendations No. 10

63.   Benchmarking **is** good where the benchmark variables closely reflect the conditions in a country. ECTEL suggest that because the timeframe for porting in Ireland is 2hours and the timeframe for porting in the US is 2.5 hours, these best in class benchmarks are the most suitable for the ECTEL countries. Yet, recognising that the

application of these benchmarks may prove contentious, ECTEL proposes a benchmark of 24 hours for both fixed and mobile porting, since no distinction has been made between the services.

64.   The ECTEL establishes a vey important principle, that:

(7) Providers must provide non-discriminatory conditions for subscribers with ported and non-ported numbers.

65.   LIME equates 24 hours with 3 business days (8 hour workday) and while the industry, as a whole, needs to agree on the timeframe for porting, it is reasonable for mobile porting to occur in three (3) business days. In the Cayman Islands the industry has agreed three (3) business days for porting mobile numbers although LIME proposed two (2) business days, which is doable and more customer-friendly.

66.   Provision of service to a new mobile customer, who has not ported, happens more quickly, but in that case, it is because the provisioning is completely within the power of one operator. With porting, the Donor Operator has to deploy the relevant procedures for release of a customer, which of necessity requires some more time than if a customer was not porting and had requested service directly.

67.   The equation, then, to determine the timeframe required to complete the porting of a number, should be the timeframe for a new customer who did not port plus the time required by the Donor Operator to conduct its checks and release the customer plus the time required for the Recipient Operator to activate the customer on its network

68.   It is the same framework for Fixed Number Portability (FNP). The principle of non-discriminatory treatment of customers is fundamental. ECTEL cannot establish a timeframe for FNP which ignores the current delivery times for fixed service in the ECTEL countries, particularly where there are existing standards for service delivery.

69.   Unlike the mobile network, the fixed network, except for wireless fixed networks, do not have real time connectivity. Ordinarily, a Recipient Operator will have to do a 'Truck Roll' in order to provision FNP to the customer and this is where, unlike the mobile network, additional time is needed. Accordingly the equation remains the same, that is : timeframe for a new customer who did not port plus the time required by the Donor Operator to conduct its checks and release the customer plus the time required by the Recipient Operator to install the service. For the traditional fixed network, this is likely to be more than three (3) working days.

70.   LIME submits that there are several other reasons that could affect a customer's ability to port, which are in addition to those identified by the ECTEL. LIME proposes that consistent with other jurisdictions, that a Working Group of the operators be formed to identify and agree these conditions.

Who Should Bear the Cost of Facilitating NP?

11) ECTEL invites comments on whether the implementation costs of NP should be placed on providers.

12) ECTEL invites comments on whether providers should be required to contribute to the establishment and maintenance costs of a NP system or whether all providers should be required to bear their own costs.
13) ECTEL invites comments on how costs should be distributed between donor and recipient networks.
14) ECTEL invites comments on whether providers should be permitted to charge subscribers any kind of fee for porting their number.

LIME's Comments on ECTEL's Recommendations Nos. 11 and 12 and 13

71.   LIME agrees with ECTEL's support of cost minimization. This is one of the arguments ECTEL used to support a denial of NP to prepaid customers. From LIME's experience however, and assuming the use of a CDB, operators will still have to pay the capital cost for the Number Portability database irrespective of the quantity of numbers that will be on the database and while there are operational charges for running the database, LIME is not aware of a per number charge per se. In other words it should cost no more to host 500,000 numbers on the database than it costs to host one (1). Moreover a significant element of cost minimization is the ability to recover costs over a larger group of customers as acknowledged by ECTEL.

72.   LIME disagrees with ECTEL that the cost of NP should be borne by the providers only. Just as every cost component in each business has to be recovered so the operators must be allowed to recover costs from customers, both fixed and mobile. Accordingly the cost per customer will be lower with all customers having the option of NP. So the operators will have to advance payment for the CDB, but these costs must be recoverable form customers.

73.   Assuming a centralized database solution were to be implemented, LIME
proposes that, a three-part cost recovery would be appropriate:

- **Common system setup and recurring costs** would be shared by all
  subscribers of all carriers. In particular, after vetting the common costs
  associated with LNP implementation, the NTRCs would instruct each
  operator how much should be billed to each customer to cover the
  amortized set-up and maintenance costs of the database. This fee would
  be the same for each subscriber irrespective of which network he/she
  subscribes to. The NTRCs could revise the charge on an annual basis,
  given changes in expectations of total subscriber base or costs.

- **Internal system set-up and one-off porting-specific costs** would be
  charged to the porting customer directly, or indirectly to the Recipient
  Network, by the Donor Network. As with common set-up costs, internal
  system set-up costs should be amortized over the expected lifetime of the
  system and the volume of number porting transactions. The Commission
  would vet the calculations of these charges on an annual basis to ensure
  that they are reasonable.

- **Internal recurring maintenance costs** would be recovered by the Donor
  Network as it sees fit, just as it would for any recurring overhead cost.

74.   Again, assuming a centralized database solution is implemented in the respective
ECTEL   States,   common   NP   costs   would   include   the   set-up   and
administration/maintenance of NP database hardware and software as well as any

database licence fees and the cost of signaling facilities between the operator and the database. Internal costs would include one-off PSTN and mobile switch upgrades and support system upgrades; one-off and recurring costs of adding signaling facilities between network operators and the CDB; one-off costs specific to porting a customer as well as recurring systems' maintenance costs.

75.   LIME believes that, in general, as the porting customer is receiving the benefit from porting their number, the porting customer should bear the cost of that porting. However, we also understand that the per-unit costs of the implementation of number portability will not be stable over time and may decline if and when more customers port and new operators come onboard. It would be difficult to attribute all costs solely to customers who were porting at any given time. Therefore, the burden of recovering costs must be shared to some extent between those who are porting and those who could potentially port in the future.

What Conditions Should be Attached to Number Portability?

15) ECTEL Invites Comments On The Process Proposed For Implementing NP And The Associated Conditions On Providers.

LIME's Comments on ECTEL's Recommendations No. 15

76.   ECTEL makes reference to 'Back Office Processes' for the facilitation of porting and conditions for porting. Together these can be termed 'Business Process

Rules' (BPRs). These rules govern the minimum commercial processes and database interaction required for porting and are intended to be minimally intrusive to an operator's business but sufficient to efficiently facilitate porting..

77.   Any policy framework determined by ECTEL which affects the porting process is included in these rules. Consistent with other jurisdictions, LIME proposes that a Working Group of the operators be formed to identify and agree the BPRs.

When Should Number Portability Become Mandatory for Providers in ECTEL States?

16) ECTEL invites comments on the proposed deadline for implementing NP in ECTEL states.

LIME's Comments on ECTEL's Recommendations No. 16

78.   LIME's experience of NP so far is that it is quite complex. However, LIME believes that active participation by ECTEL/NTRCs could result in NP being launched in the ECTEL countries by September 2012. Without strong but constructive regulatory involvement it is unlikely that the timeframe will be met.

79.   Even with the involvement of the regulators, the timeframe does seem very challenging and LIME recommends that it be reviewed after the technical solution has been agreed and a contract signed. This is a fundamental milestone and on the critical path for implementation of NP.

Other Considerations – Validation of Requests

17) ECTEL Invites Comments On The Process Of Validation Or Authentication To Be Utilized To Facilitate A Port Request By A Recipient Network.

LIME's Comments on ECTEL's Recommendations No. 17

80.   LIME agrees that a validation / authentication process must be put in place for validating requests to port, and notes that such a process was agreed among operators for implementation in the Cayman Islands. LIME completely supports that these should be no more burdensome or different than required for new customers who did not port.

Tariff Issues

18) ECTEL invites comments on the requirements for informing customers of the circumstances in which ported numbers may attract new or different charges.

LIME's Comments on ECTEL's Recommendations No. 18

81.   LIME agrees that information must be provided to customers on cross network charges. LIME proposes that this matter be further discussed in the industry working group since an industry wide approach is necessary.

V.   Closing Remarks

82.   LIME thanks the Commission for the opportunity to participate in the consultation. Kindly send any communication in relation to this consultation to:

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