



3 December 2004

David Archbold
The Managing Director
Information and Communications Technology Authority
P.O. Box 2502GT
Grand Cayman
Cayman Islands

Dear Mr. Archbold,

Re: - Consultation on Local Number Portability

Thank you for the opportunity to respond to the above.

The Need First for a National Numbering Strategy for the Cayman Islands

Number portability is clearly an important issue. That is why it is necessary for the Authority to follow best practice approaches when considering its introduction. In line with such an approach and to the best of Digicel's knowledge, regulators always first draw up a national numbering plan which involves determining a strategy for the use of all numbers in the numbering space as well as the policies for administration before considering number portability. The numbering plan strategy and the policies drawn up to govern the use of numbers will have implications for number porting in the near, medium and long term.

If the Authority were to determine for example that price should govern which numbers should be portable, that would lead to one set of conclusions about how number portability could be implemented. If the Authority were to determine that the type of service provision should be the determinant, that would lead to a different outcome. Moreover it may be that there are numbers other than "common" fixed and mobile numbers which in due course the Authority might deem should be portable. It might have implications for implementation at this stage if the Authority were later to want to introduce portability for other sorts of numbers. The Authority should therefore take a holistic and long term strategic view of the numbering space before considering portability for selected ranges of numbers.

We believe therefore that Authority's first step should be to draw up and to consult on the numbering strategy and policies that are best for the Cayman Islands ("CI"). This will create a framework on which to base other decisions about numbering. It may also

reveal other issues that need to be addressed which are of a higher priority than portability. After a numbering strategy and numbering policies have been determined and published in the form of a comprehensive numbering plan the issue of number portability can be considered more effectively and with a greater chance of optimising any regulatory intervention that takes place.

Number Portability

As with any possible regulatory intervention with potentially significant policy and/or cost implications, we agree that the starting point for the Authority should be to attempt to assess empirically the case for LNP. Assessing the costs of the implementation of LNP by network operators is one measure. Another measure is the likely level of demand for LNP. The likely level of demand could be assessed via a market survey of CI residents and businesses. Carrying out both these exercises would be prudent and more analogous to the thorough approach taken by those constructing a business plan to determine whether investment would be wise. An assessment of likely demand will also help the Authority to cross reference its calculations with respect to the possible benefits.

We would therefore encourage the Authority to carry out a market survey in addition to a cost-benefit exercise before deciding whether there is a case for LNP in the Cayman Islands (CI). Digicel Cayman Ltd ("Digicel") and, we are sure, other market participants would be pleased to comment on the methodology and draft questionnaires for such a market survey to make the exercise as meaningful as possible. Notwithstanding that number portability has been introduced in a variety of forms in a number of countries, it would be easy to overlook important issues specific to CI if potential customers of number portability are not asked their views on LNP.

While number portability of several forms has been introduced in other much larger territories, we are unaware of any territory with a population equivalent to that of CI where portability has been introduced. It remains to be seen whether the necessary cost benefit test will be passed for a territory the size of CI. This test needs to take account of the very high costs of introduction and implementation, which may be at least several hundred thousand dollars, and the significantly fewer customers from which to recover this cost. Moreover, other regulatory actions with respect to indirect access might undermine the case for number portability, or make the issue redundant. For example, if IA is mandated over C&W's fixed network for international calls, customers will be able to change provider in respect of those calls without the expense for network operators of introducing number portability. IA would in those circumstances have diminished the case for introducing number portability over fixed line networks as more choice would already have been made available to the consumer. Alternatively, if the chilling effect of the introduction of indirect access over fixed networks were sufficiently severe, there might be insufficient case for investment in alternative fixed line infrastructure. In this case the issue of number portability over fixed networks would be rendered redundant.



The interaction of number portability and indirect access as described above is an illustration of the complexities of the outcomes that can arise as different regulatory interventions interweave, with results that can be very difficult if not impossible to foresee. It would therefore not be sensible in our view to attempt to introduce indirect access and number portability at the same time or in close succession.

We understand from the consultation that the Authority is not suggesting that there should be portability between fixed and mobile networks. If this were to be contemplated, further significant issues might arise but we have not attempted to address those issues here.

1/ Although it is likely that the issue of costs and benefits will need to be assessed in more detail once a particular form of LNP is determined, the Authority would appreciate parties' discussion of some of the more significant costs and benefits of implementing LNP in the Cayman Islands, separately for fixed line networks and mobile networks and whether such benefits would outweigh the costs of implementing LNP in each case.

Fixed and Mobile LNP	
Benefits	Costs
Enabling customers to retain numbers cuts out the cost of informing all contact persons/organisations of number changes. Therefore, saves the cost: <ul style="list-style-type: none"> • for businesses of changing all internal number directories and systems, business cards, stationery and advertising material; • of communicating number change details to contact persons/organizations; • for external organizations of changing their records. 	System set up including switch upgrade and depreciation.
Because above costs avoided, makes it easier for customers to move between providers based on quality of service and price.	Establishment of a central management system or organisation to oversee porting. Establishment of a back-up database as full redundancy. Associated depreciation.
Option value – the benefit in having the possibility of moving a number to another network.	Operational costs of central management system
	Administrative cost per port



	Additional conveyance costs including call set-up depending on solution adopted
	Internal costs of solution for number look up if an IN all calls query system is adopted
	Resources of an industry technical group to establish feasibility
	Testing
	If handsets are unlocked in the mobile market to permit porting, high churn levels will ultimately lead to elimination of handset subsidies resulting in higher retail prices of handsets for new customers and for upgrades. This will lead to a lower level of access and there may be a "social cost" in terms of limiting access to telecommunications services by the least privileged. However if handset locking remains in place these concerns will be lessened.
	Cost of providing a facility for handset unlocking
	Cost of unlocking each handset
	Cost of changing contracts to permit handset unlocking
	Opportunity costs

2/ Is the existing North American NPAC SMS LNP system feasible for use in the Cayman Islands?

The NPAC SMS LNP system is over complex for a territory the size of CI for example. There would be no need for local copies of a central database in addition to the central database itself.

3/ What LNP systems, other than those identified above, should be considered?

Digicel wishes to comment only on what would be appropriate in the case of its own network. Digicel is not privy to information about how other networks are configured. Given the technology in our network, we believe that, should mobile number portability be implemented, it would be best for Digicel to use an all calls query system. Using this approach, all phone calls originating on Digicel's mobile network would trigger an IN query of a central number database for routing purposes. This structure is simpler than the NPAC SMS LNP system in that there is no need to first download it to one point (the local service management system) and then download it from the LSMS to an LNP call-routing database.

As we are not clear about the technological capabilities of other mobile networks or of C&W's fixed network, it is difficult for us to comment on suitable alternative technologies. These could include call forwarding – where the called network forwards calls to the ported number to the network to which the subscriber has transferred; or query on release – where the central database only contains data with respect to ported numbers and is only queried if a signaling enquiry is bounced from the network which is interrogated initially.

4/ If the North American NPAC SMS LNP system is not feasible for use in the Cayman Islands, what LNP system should be implemented?

See above.

5/ Should each Licensee be responsible for its internal LNP costs?

We think it is necessary first to look at the number portability methodology to be employed to establish the internal LNP costs. We have assumed that a local number portability system for CI would have the following components and cost drivers:

- a. Centrally administered central number database – anticipate that two people at most would be required to run this. Because of the limited size of this part of the operation it would have to be administered by the Authority to minimise costs. There would be a need for redundancy (a back-up database) in case of failure of the primary database;
- b. Link from each operator to the central number database;
- c. Interfaces – possibly PC based using a GUI (Graphical User Interface), or an automated standard interface;
- d. Updates to the central database;
- e. Queries of central database to enable the state of a port to be determined if a customer demands this or for operational reasons;
- f. Intelligent network queries by each operator to the central database in respect of every call made;
- g. Processing port requests – retail store and head office administrative costs.

There are of course also the capital costs of providing the above.

Cost components b, c, f and g, including any relevant capital costs, would be classified as internal costs and be paid for by the licensee. This would encourage each licensee to provide these capabilities and to run these operations as efficiently as possible. Cost components d and e are both internal and external costs. Those elements which generated external costs could be recovered in accordance with the method we suggest in answer 7. Those elements that constituted internal costs would be recovered by the licensee.

6/ What LNP costs should be treated as common?

The common LNP costs relate mainly to the master and back-up central databases and are the:

1. capital costs;
2. costs of depreciation – we suggest that the information technology equipment should be depreciated over a period of 3 years;
3. operating costs, including staffing;
4. costs of upgrades and modifications.

7/ How should the common costs of a) an LNP database solution and b) the LNP system identified in response to question 4, be recovered from Licensees?

There are clearly a range of possible approaches for recovering the costs of the implementation of LNP.

As already indicated the NPAC system appears over-complicated and unnecessary for the CI and it seems therefore likely to be significantly more expensive to implement than alternative and better technical solutions.

Our preferred option, and one which we believe has a better chance of being agreed by all the parties than most or all other options, would involve the following:

- The total number of (im)ports per quarter for each licensee would be calculated at the end of each quarter. This would represent the proportion of the total costs of the central database that the licensee would be responsible for paying each quarter;
- The total cost of the database per quarter would then be split in proportion to the exports per licensee;
- Licensees would recover their proportion of the database costs from retail revenues. If indirect access providers were operating then they would be responsible for recovering that cost also. This would spread the costs of recovery more equitably.

Agreement may have to be reached in respect of the number of queries about the state of a customer porting request that would be permitted from each licensee within a given period. For example, automated interfaces could generate large numbers of queries of the central database during the porting process which would reduce the available bandwidth and potentially hamper the porting process or at least slow down the system.

The accounts of the central management system would have to be published every 6 months to promote accountability.

8/ Should LNP be available throughout the Cayman Islands and, if not, what locations should be mandated LNP be required first?

We think that it is probably too early in terms of the market liberalization process to seek to introduce either mobile or fixed number portability. In reaching this view we have tried to consider what developments would take place and over what time frames in a hypothetical market where many fixed and mobile telecommunications operators had started operations in a market not previously served with telecommunications services. We believe that operators in such a market would concentrate initially on winning customers by signing them up directly through conventional means, and continue using such approaches until their efforts to gain subscribers had either stalled or gone into reverse. If enough demand for number portability developed subsequently, that would start to place pressure on operators to provide the possibility of porting away from them. If there were enough demand, then customers would refuse to move to operators or refuse to stay with operators which did not offer portability.

Number portability must not be prioritised and mandated if there are other services and facilities that customers would value more and which are yet to be implemented. Investment must follow the path of greatest value creation.

While it is difficult to assess how much customer desire and justification there would be for introducing number portability, the Authority can test the waters by first conducting market research. Our best guess at this juncture is that number portability would not happen naturally even in a theoretically perfectly competitive newly liberalized market until some time after market liberalisation.

Another factor to consider is that LNP represents another factor, and another cost which was not taken into account in business planning as a likely regulatory intervention at the outset of market liberalization. Thus the introduction of number portability so soon after market liberalisation may to some extent create uncertainty around the regulatory regime's investor friendliness and this may have some implications for investment incentives.

If mobile portability were mandated, then it may be as easy or easier to introduce MNP across CI in one go than trying to attempt a staggered approach.

With respect to fixed networks, we would hope that C&W would be able to implement fixed number portability, if mandated, across the whole of CI at the same time.

9/ What should be the pace for LNP roll out and should roll out be conditional on a trigger (e.g. request for interconnection or LNP)?



As indicated above, we are unsure about the justification for the introduction of LNP at this juncture. A number of exercises need to be carried out first and market research is needed before tentative conclusions can be reached.

10/ What role should Licensees play in the selection, implementation and maintenance of an LNP system? Should an industry consortium or association be created to select the appropriate LNP system, the provider of the LNP service, rates for the use of the LNP service and negotiate with the LNP system vendor (s)?

Naturally, licensees will wish to be involved throughout the process should the Authority wish to proceed with the implementation of number portability.

Digicel would want an industry technical group to be formed to discuss the existing routing possibilities given the state of existing networks. In the light of that knowledge the technical group could present a range of implementation options to the Authority for consideration. The Authority could then seek its own expert advice on the most suitable and cost-effective solution and as a result of this process consult the industry on a specific proposal or proposals.

Digicel would also want to be involved in providing advice on the most appropriate vendor of a central database. Digicel would wish to put its own views to the Authority which could then seek expert advice on the vendor to select. The Authority would have to decide which vendor to choose, providing a clear explanation of why the chosen vendor would provide the most cost effective solution. The Authority should draw on the negotiating experience of licensees as well as seeking its own purchasing expert to secure the most competitive price.

Rates for the use of the LNP service in terms of the charges that licensees can levy to customers for porting away from them should be capped. Licensees should put forward proposals in this regard for what a reasonable cap should be. The Authority should then take a decision on the correct figure.

11/ Should LNP be optional for licensees, other than Cable & Wireless (CI)?

If LNP is introduced, we do not think that it can be a one way process, allowing customers to port away from C&W but not to it. In that situation, if a customer were able to get a better deal in terms of price and/or quality of service from C&W he would be prevented from taking his number to C&W. This could undermine competition and therefore would be in conflict with the ICTA Law. If C&W is able to retain customers or win customers on merit, it should be allowed to do so.

12. Is the U.S. form of mobile number portability technically and economically acceptable for adoption by mobile licensees and, if not, is there other forms of mobile number portability that should be considered? Alternatively, should mobile

**number portability be implemented at all, or at a later date in the Cayman Islands?
If the latter, when would it be appropriate to introduce mobile number portability**

See above.

13. What issues, if any, should the authority address in advance of Industry meetings to discuss the implementation of LNP?

The Authority should:-

- Draw up, consult on and decide on a national numbering plan covering both strategy and administration policies for CI;
- Not try to push forward on policies with respect to both indirect access and number portability at the same time;
- Carry out a market research exercise on the demand for number portability;
- Assess the configuration and capabilities of existing networks with respect to call routing;
- Try to establish whether LNP has ever been introduced in or considered for a territory the size of CI to see if any lessons can be learned;
- Assess the costs (including opportunity costs) and benefits of introducing LNP in CI.

14. What matters, if any, should the Authority address in advance of the introduction of LNP to protect licensees and consumers from unreasonable practices?

The Authority should consider:-

- Agreeing on a public code of practice in conjunction with the industry on the terms under which a customer may and may not port;
- Consider whether a customer should have a two day "cooling off" period during which they may change their mind about porting;
- Requiring companies to make the code of practice available in retail outlets;
- Agreeing on a maximum for recovering carrier specific costs from customers who decide to port away from the company;
- Agree with the industry on a Memorandum of Understanding with respect to inter-network operator porting practices.

Yours sincerely,

"SIGNED"

John D Buckley
Chief Executive Officer