



## ICT Decision 2005-1

Grand Cayman, 29<sup>th</sup> March 2005

### **Interim Decision and Further Process for Local Number Portability Public Consultation (CD (2004) 3)**

#### **Introduction**

1. On 30 August 2004 the Information and Communications Technology Authority (“the Authority”) launched a public consultation to determine the costs and benefits of implementing local number portability (“LNP”) in the Cayman Islands, separately for fixed networks and mobile networks, and whether such benefits would outweigh the costs of implementing local number portability in each case. In addition, the Authority noted the legislative requirement that local number portability should not impose an unfair financial burden on any Licensee.
2. At its very simplest, local number portability is a process whereby a customer can keep his telephone number when changing service provider.
3. The underlying process, which is transparent to a customer, is far more complex. In the Cayman Islands, fixed line, fixed wireless and mobile Licensees are allocated number ranges by the Authority. The Licensees then allocate numbers to individual customers. The information in the number is typically used for two purposes: customer identification and call routing. The customer identification function allows billing and administration to be carried out by the customer’s service provider. The call routing function permits the call to be directed to a the switch of the called party’s service provider (host switch) which in turn connects the call to the called party’s telephone.
4. If the called number has been ‘ported’ then although it continues to identify the customer being called, it no longer correctly identifies the network and exchange where the customer is located. In order to effect local number portability, additional information is required to ensure that the call is routed correctly. This additional information should identify that the customer’s number is no longer the same as the network routing number and therefore, some form of “number translation” needs to take place to identify the network of the new service provider chosen by the customer and to which the call should be directed. In this way a call to a ported number gets completed to the customer. It is this general process which is referred to as local number portability.
5. In its consultative document, the Authority suggested three alternative ways of potentially achieving some form of local number portability in the Cayman Islands. Firstly, in the United States and Canada, a database system is used for local number portability. NeuStar Inc. is under contract to an industry consortium to develop and

maintain the Number Portability Administration Centre (NPAC) which supports the implementation of local number portability in seven regions in the United States and in Canada. The NPAC Service Management System (SMS) is the database system that manages the porting of telephone numbers from one local service provider to another. It contains information about ported numbers, the service provider and switches that serve ported numbers. Service providers input ported numbers into the database (upload) and receive information from the database (download) for the routing of calls.

6. A second option is the creation of a local database, scaled for the Cayman Islands' market, that may lack some functionality or support available with the NPAC SMS.
7. Thirdly, remote call forwarding and direct inward dialling (DID) are alternatives for an LNP-like function. This latter alternative is not in wide use and is generally considered inferior to the database approach.
8. In inviting comments generally on the subject of local number portability, the Authority raised specific questions, namely:
  - 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.
  - Is the existing North American NPAC SMS LNP system feasible for use in the Cayman Islands?
  - What LNP systems, other than those identified above, should be considered?
  - If the North American NPAC SMS LNP system is not feasible for use in the Cayman Islands, what LNP system should be implemented?
  - Should each Licensee be responsible for its internal LNP costs?
  - What LNP costs should be treated as common?
  - 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?
  - Should LNP be available throughout the Cayman Islands and, if not, what locations should mandated LNP be required first?
  - What should be the pace for LNP rollout and should rollout be conditional on a trigger (e.g., request for interconnection or LNP)?
  - 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)?
  - Should LNP be optional for Licensees, other than Cable & Wireless (CI)?
  - Is the U.S. form of mobile number portability technically and economically acceptable for adoption by mobile Licensees and, if not, are 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?

- What issues, if any, should the Authority address in advance of industry meetings to discuss the implementation of LNP?
  - What matters, if any, should the Authority address in advance of the introduction of LNP to protect Licensees and consumers from unreasonable practices?
9. The determination contemplated in this proceeding pertains to whether the Authority is satisfied, on reasonable grounds, that the benefits from local number portability outweigh the likely costs of implementing it and ensuring that the requirement will not impose an unfair burden on any Licensee. As is discussed in this Decision, the decision to mandate local number portability must be based on quality information, sound analysis, and a finding, based on this analysis, that the economic benefits of mandating local number portability outweigh the economic costs of complying with the mandate.

## **Process**

10. The Authority initiated this consultative proceeding 30 August 2004 and initially invited interested parties to file comments in this proceeding no later than 30 September 2004. As a result of Hurricane Ivan, which struck the Cayman Islands on 11 September 2004, the date for filing comments was extended to 3 December 2004.
11. On or before 3 December 2004, the Authority received comments from the general public, namely: A.L. Thompson's Home Depot, IVC Group Ltd, Cayman Data Systems Ltd, Tony Walsh, Melanie McLaughlin, Acorn Publishing Ltd, Androgroun Ltd and the Chamber of Commerce. Comments were also received from Licensees, namely, Cable & Wireless (Cayman Islands) Ltd (C&W), TeleCayman Limited (TeleCayman), WestStar TV Ltd (WestStar), WestTel, Limited (WestTel), Digicel Cayman Limited (Digicel) and Wireless Ventures (Cayman Islands) Limited (Cingular).

## **Comments by Interested Parties**

12. Collectively, the parties offer both support for and opposition to Local Number Portability. The following summarises the salient points made by each party in its comments.

### ***General Public***

13. Overall, submissions from the general public were in support of the Authority mandating local number portability. Representative comments are as follows:

- “We are considering alternative telecommunications providers that we anticipate will be better in many ways than the current sole provider, Cable & Wireless. Unfortunately for all concerned, however, is the inability to transfer our main telephone number... We understand that the ICTA is looking into the matter, and thus write to you in support of the issue.”
- “...it is very important to our company that we keep our current number. It would be very difficult in our line of business to switch to another number after we have been established at this one for years. At this time I find it impossible to subscribe to [other] telephone service with these constraints.”
- “I am totally in favour of an approach that would allow phone number portability. This would allow us to change carrier without the financial impact of changing all our advertising, customer contact information, business cards, etc... We would pay a nominal fee for this capability.”
- “This is a feature widely available in other jurisdictions around the world and ought to be offered to Cayman. There are also significant savings to companies who market and advertise telephone numbers or who have adopted special designated numbers (e.g. 949-FOOD) for customer convenience and ease of reference.”
- “My business spends a significant amount of our budget in advertising dollars to promote our business to the public as well as our suppliers and partners. We have worked hard to create a brand name and as such have an associated telephone number that is well known not only on the Cayman Islands but worldwide. Although I cannot specifically address any of the technical or financial queries set forth in your Public Consultation, I can voice my support for the Authority to mandate Local Number Portability. Without Local Number Portability it would be difficult as well as costly for my business to change our telecommunications provider due solely to the issue of changing our telephone number. The availability of Local Number Portability will help remove a significant barrier for a fair competitive telecommunications market in the Cayman Islands. I appreciate the ICTA taking the time to give this significant issue the attention it deserves.”
- “As a businessman operating a company with many telephone numbers, both land line and cell, I can say that changing telephone numbers in order to take advantage of better rates / service has a major indirect cost effect on a business. A company obliged to change its phone numbers is also then obliged to “re-brand” itself in order that its clients learn its new numbers. In many cases the cost of re-branding, together with lost opportunities due to the changed numbers, would far exceed any short to medium term cost benefits that might be gained from changing telecom service providers and therefore it acts as an impediment to a truly competitive telecom marketplace. Speaking for my own business, I would very much like to see local number portability to become a requirement of telecom providers by the ICTA.”

14. The one submission from the general public not directly in favour of local number portability stated as follows:

*“Number portability will offer yet another permutation to billing. I believe in many cases people will not argue their billing if they do not understand it, and the only winner is the telecommunication company. It is my understanding that there will be a connection charge to another providers handset. At this time it is easy to distinguish with the present numbering system that a call is to another provider and hence is more expensive. I am against number portability for this reason unless the ICTA rule that a pre-recorded announcement is made that the precise cost of the connection is made known to the caller and he has an opportunity to hang up without being charged. This I believe would be fair.”*

15. On 3 December 2004 the Chamber of Commerce submitted correspondence requesting an extension to 31 March 2005 or later which was denied by the Authority.

### ***TeleCayman***

16. TeleCayman contends that the absence of number portability constitutes a significant impediment to the creation of a competitive market in fixed local exchange services. It states that most subscribers will not change carriers if they cannot keep their original seven digit number, also stating that its switch will feature number portability from the outset. TeleCayman is of the view that based on its understanding of C&W's switch technology there exists no impediment to the immediate availability of number portability. TeleCayman requests that an order be issued requiring all local wireline exchange carriers to provide number portability.

### ***WestStar***

17. WestStar states that it is in the best interests of all Licensees to share phone numbers across the board and indicates that number portability is practised in many areas of the world and is working well. It recognizes that although number portability does create some additional costs, these can be decreased by spreading them across all Licensees.

### ***WestTel***

18. WestTel submits a number of comments on the issue of costs and benefits associated with local number portability. WestTel submits that local number portability constitutes a fundamental requirement to ensure a level competitive playing field between an incumbent and new service providers. It states that under no circumstances should a telephone service subscriber have to abandon an existing telephone number assignment as a precondition to establishing a new service arrangement with a different carrier. It views local number portability as eliminating a competitive handicap that would occur if market entrants cannot provide services to consumers using their pre-existing telephone number assignments. Further, WestTel submits that local number portability provides substantial consumer benefits

by making competition feasible without forcing consumers to accept a different telephone number as a precondition to changing carriers.

19. WestTel believes that only extraordinary costs should foreclose the Authority from mandating the timely implementation of local number portability among all carriers. WestTel states it knows of no such extraordinary costs particularly in light of the equipment currently in use by C&W and other carriers serving the Cayman Islands. WestTel maintains that current vintage switches readily have the capability of providing local number portability which means that the only major costs carriers would incur in offering local number portability lie in activating embedded local number portability features and integrating “off-the-shelf” software rather than having to install new switches and other equipment.
20. WestTel states that it does not want to dismiss the expense it and other carriers would incur in providing local number portability. However, it maintains that, for the most part, the creation of a database and procedures for interrogating that database on a real time basis to secure switching and routing instructions should not present an onerous financial burden on any carrier.
21. With respect to implementing the North American local number portability model, WestTel states that such a system provides a suitable template for adoption in the Cayman Islands. WestTel maintains that the cost to replicate the North American model would not present a financial burden in light of the fact that much of the infrastructure to provide local number portability already exists. It submits that C&W and other carriers will need to coordinate the installation of a single local number portability database and reconfigure their switches to make packet-switched interrogations of that database. WestTel endorses the decision made by the United States Federal Communications Commission (“FCC”) to create an unaffiliated administrator of the local number portability database, a decision which would help remove any ability of a carrier, particularly an incumbent, to delay porting or otherwise make local number portability an inconvenient exercise.
22. As to local number cost recovery, WestTel believes that implementation of a local number portability requirement should not present a major financial burden. Should any party disagree with this statement, WestTel challenges them to file documentation identifying estimated costs.
23. WestTel believes that local number portability costs will fall into two categories: 1) individual carrier costs, such as the expense in switch reprogramming and possible upgrades; and 2) joint and common costs, such as the expense in setting up, maintaining and administering the local number portability database. WestTel believes that individual carriers should bear their individual costs with the option of passing through such costs on a proportionate basis to subscribers through a new line item on monthly bills. As to joint and common costs, WestTel suggests that carriers should use a new line item on monthly bills to impose a pass through to subscribers on a proportionate basis. Since consumers collectively benefit from a competitive

environment promoted by local number portability, WestTel believes they should bear the cost of such functionality on a proportionate basis. WestTel believes that such a pass through, based on the total number of telephone lines divided by the total joint and common costs, would result in a nominal monthly charge to consumers. WestTel points out that in the United States, where the FCC has mandated local number portability between both wireline and wireless carriers, wireline carriers have imposed a monthly charge of approximately \$0.35 running for a five year period.

24. With respect to the scope and pace of local number portability, WestTel states it would like all Cayman telephone subscribers to have access to local number portability on an expedited basis. However, it states that local number portability implementation outside of Grand Cayman probably will require a backhaul in the likely event that the database is physically situated on Grand Cayman Island. In the event such a backhaul present additional challenges and complexities, WestTel is of the view that a phased implementation would make sense. WestTel goes on to state that as carriers already have billing and call management capabilities spanning multiple islands, the back haul for local number portability database interrogation does not appear onerous.
25. WestTel submits that local number portability implementation between wireline and wireless carriers presents additional complexity in addition to that for wireline local number portability. WestTel submits that local number portability implementation between wireline and wireless carriers should commence after successful testing, debugging and rollout of wireline local number portability.
26. With respect to the selection, implementation and maintenance of a local number portability system, WestTel endorses the issuance of a Request For Proposal, by the Authority or through an industry consortium comprised of all carriers implementing local number portability, soliciting bids for the creation of a local number portability database and its real time availability to all carriers. WestTel urges the Authority to require all Licensees to participate in local number portability, maintaining that the full competitive benefits of local number portability can accrue only if all carriers participate.
27. With respect to the role of the Authority in implementing local number portability, WestTel states that the Authority must establish a realistic timetable for local number portability implementation and hold carriers responsible for meeting deadlines. WestTel goes on to state that the Authority should use its power to impose financial penalties and fine a tardy and uncooperative Licensee. WestTel is of the view that there are many incremental steps in local number portability implementation which requires inter-carrier coordination and cooperation. WestTel submits the Authority needs to ensure that no carrier or group of carriers deliberately thwarts progress and, similarly, ensure that local number portability implementation occurs on the most cost effective and expedited basis.

## *Cable & Wireless*

28. Generally, C&W believes local number portability is not necessary in the Cayman Islands in order to foster a competitive market. However, it states that if local number portability is determined to be in the public interest, then all fixed and mobile carriers must be subject to local number portability obligations, and benefit from local number portability rights. C&W is of the view that if local number portability is in the public interest, then exceptions clearly would not be.
29. Given its experience in the mobile market, C&W states it does not believe local number portability is necessary. The Cayman Islands experienced a strong and rapid growth of competition and of competitors' market share, a significant reduction of prices, and the rapid introduction of new services, in the mobile market, even in the absence of local number portability. C&W submits there is no evidence that the same benefits of competition would not also flow to the Cayman Islands as new service providers enter the fixed services market, even without local number portability.
30. C&W considers, though, that if local number portability were to be mandated in the Cayman Islands, it could only be on the basis of the incremental benefit that it would bring to the market. It would be inappropriate to incur the costs of local number portability on the basis of benefits that would have occurred in any event in the absence of local number portability.
31. C&W states that the benefit of local number portability, if it exists, must be found to exist in both fixed and mobile markets, and apply to all consumers equally. It is of the view that it would be grossly unfair to one class of subscribers to tell them local number portability would bring them benefits, and then explicitly deny them those benefits. C&W is of the view that if the cost/benefit analysis determines that local number portability should be implemented, then it should be implemented in all fixed and mobile networks.
32. Prior to addressing the substantive issues raised by the Authority, C&W expresses the view that the Authority appears to have prejudged the issue of local number portability and suggests it does not have a sufficiently open mind on the issue. C&W goes on to state that although it is submitting a response to the Authority's queries it does so without prejudice to its position that local number portability is unnecessary.
33. On the issue of potential alternative ways of effecting local number portability, C&W states that in no circumstances should the call forwarding solution be introduced. Amongst the reasons given are that this solution ties up voice channels into and out of the Donor Network for the duration of the call to a ported number.<sup>1</sup>
34. Transmission and signalling resources are consumed as the call is forwarded between switches. C&W is of the view that this problem of consumption of resources, not to

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<sup>1</sup> The Donor Network is the operator that gives up a customer (i.e., ports out a number) to another operator called the Recipient Network.

mention the added interconnection charging complexities, would become more pronounced over time as more and more numbers are ported. Further, 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. Additionally, onward porting of the same number would also exacerbate the problem.

35. In addition, this call-forwarding solution might not necessarily be transparent to value-added services. C&W also notes that international calls terminating at a mobile telephone that has been ported within the Cayman Islands will not be able to be traced by the Recipient Network<sup>2</sup>'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 call detail records, C&W states the Recipient Network would be billed at the higher domestic mobile termination rate ("MTR"), when the lower Incoming International MTR would have been appropriate.
36. C&W goes on to examine the database solution distinguishing between distributed database and central database solutions and thereafter examines call routing options which may be applicable to either solution. C&W examines advantages and disadvantages without specific endorsement of any solution.
37. With respect to the cost/benefit analysis, C&W states local number portability implementation for the Cayman Islands can be expected to be expensive, even given the relatively small size of the networks involved. The standard network components needed to support local number portability which are available on the market are, in general, sized to support network demands of a much larger (e.g. North American) scale. Total costs and costs-per-subscriber will, therefore, be quite high. C&W further states that the fact that operators in the Cayman Islands have deployed state-of-the-art switching or signalling equipment does not mean that they can implement local number portability at little or no cost, or by simply switching on unused functionality in their switches or signalling networks. C&W maintains it would have been financially imprudent to purchase functionality that was not required. C&W states that it should be clear to all concerned that incremental costs will have to be incurred for local number portability and that these costs will be onerous.
38. C&W submits the major cost components for local number portability based on a centralized database using the All Call Query routing scenario. These costs are identified as set up and operational and are as follows: LNP database hardware/software calculated at \$800,000 for a redundant STP; PSTN and Mobile switch software at \$150,000 for each switch; Support System upgrades are stated to likely be in excess of \$1,000,000; additional software licence fees calculated at \$100 per line per switch; administration costs of the central database estimated to be 7-10% of

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<sup>2</sup> The Recipient Network is the operator that wins a customer (i.e., ports in a number) from another operator known as the Donor Network.

capital cost per annum; costs of a similar magnitude for porting operations; the cost of two 64K domestic private leased circuits for adding additional signalling facilities and the cost of maintenance procedures to prevent customer slamming.

39. C&W identifies some of the benefits of local number portability as switching costs saved by those who would have switched provider even without LNP being in place; incremental efficiency improvements and any associated price reductions which result from increased competitive pressure in the market that would not have been achieved in the absence of LNP; and other resource savings that arise from fewer number changes which is viewed as only important in large markets with numbering systems close to exhaustion.
40. C&W also notes there are other solutions to local number portability which are less costly. For example, C&W points out that one carrier in the Cayman Islands has requested central office codes that differ from C&W's by only one digit, specifically to allow customers to change service provider and retain the six other digits of their telephone number. Another example cited by C&W would be provision of a "Changed Number Intercept" service, which would notify the calling party that the called party has changed service provider. C&W submits the Authority should seriously consider these less costly, and therefore more proportionate, solutions.
41. C&W also expresses concern that the introduction of number portability might have non-monetary costs, by impairing the operation or development of value-added services, for example its mobile short messaging service, and mobile mail service.
42. In conclusion, on the issue of the cost/benefit analysis, C&W states the Authority must estimate the incremental benefits of local number portability, not the total benefits, in order to satisfy the requirements of section 71 of the Law.
43. As to whether the North American NPAC SMS LNP system is feasible for use in the Cayman Islands, C&W states that it is not known if the NPAC would be willing to extend these services to the Caribbean or at what cost. C&W is of the view that to make use of the NPAC system, carriers would have to establish signalling links to the NPAC Local Number Database (LNDB) which would add cost to the solution. The carriers in Cayman would have to procure network equipment to translate between their European Telecommunications Standards Institute (ETSI) signalling system and the American National Standards Institute (ANSI) signalling expected by NPAC, as well as establish interfaces between their billing and support systems to the NPAC service order administration (SOA) system, to effect porting service orders between carriers.
44. As to what other local number portability systems, other than that suggested by the Authority, should be considered, C&W indicates that the only other system it would advocate would be those using LNDB databases.

45. C&W concludes that more study is required prior to determining which local number portability system would be most appropriate for the Cayman Islands.
46. On the issue as to whether each Licensee should be responsible for its internal local number portability costs, C&W states the burden of recovering costs must be shared to some extent between those who are porting and the broader subscriber base. C&W, on the assumption a centralized database solution were to be mandated, proposes a three part recovery regime. Firstly, common system setup and recurring costs should be shared by all subscribers of all carriers. C&W is of the view the Authority should 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 and would be itemized on each customer's monthly bill. C&W suggests the Authority could revise the charge on an annual basis, given changes in expectations of total subscriber base or costs. Secondly, C&W states that internal system set-up and one-off porting-specific costs should 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. C&W states the Authority should vet the calculations of these charges on an annual basis to ensure that they are reasonable. Thirdly, C&W states internal recurring maintenance costs should be recovered by the Donor Network as it sees fit, just as it would for any recurring overhead cost.
47. As to what costs should be treated as common cost, C&W identifies set-up and administration/maintenance of database hardware and software as well as any database licence fees and the cost of signalling facilities between the operator and the database. Internal costs, C&W maintains, would include one-off PSTN and mobile switch upgrades and support system upgrades; one-off and recurring costs of adding signalling facilities between network operators and the LN database; one-off costs specific to porting a customer as well as recurring systems' maintenance costs.
48. On the issue of availability throughout the Cayman Islands, C&W states that its switches serve the country as a whole and that it is best to implement local number portability throughout the country.
49. As to the pace for local number portability, C&W states that, if local number portability is to be mandated, it should be mandated for all networks, both fixed and mobile. Further, C&W views that there is only one appropriate trigger for the implementation of local number portability: an Authority determination that the costs do not outweigh the benefits of local number portability.
50. As to the decision on how to implement local number portability, C&W is of the view that Licensees should have a critical and deciding role in such a decision. C&W states that certain principles should apply and be established by the Authority to

guide Licensees. As an example C&W notes that the local number portability provider must not be a Licensee or affiliated with a Licensee in any way.

51. On the issue of whether local number portability should be optional for Licensees other than C&W, C&W points out that once a number is ported from a Central Office Code assigned to a Donor Network, all other networks will no longer be able to route calls simply by analyzing the first six digits of a telephone number. C&W states that this means all Licensees must bear the additional costs associated with LNP, even if only one number is ported from only one Central Office Code. Secondly, it maintains that C&W and other Licensees would not be competing on an equal basis: other Licensees would be able to compete for C&W's customers on the basis of number portability, while C&W could be denied that same ability. Thirdly, C&W states that no service provider should have the option not to have numbers ported away from its network. Finally, C&W maintains that if the Authority were to determine that local number portability was in the public interest, it would be unfair to customers, unless all customers were able to receive the benefits.
52. With respect to mobile number portability, C&W is adamant that mobile portability is crucial. C&W states that unlike in North America, where the primary means of telecommunication was the fixed line telephone service, in the Caribbean and in the Cayman Islands in particular, mobile telephone service is the primary means of telecommunication. C&W maintains that while limiting local number portability to fixed line services might serve the narrow self-interest of some mobile and fixed line service providers, it would not achieve what could be the only basis upon which the Authority could have determined that LNP is desirable, i.e., the promotion of competition in ICT services to the benefit of all consumers.
53. On the question of issues to be addressed by the Authority prior to introducing local number portability, C&W submits the Authority must have determined, without limitation:
  - that the benefits and disadvantages of LNP have been clearly identified, and the balance of benefits over disadvantages ascertained to outweigh the forecast cost to implement it;
  - that LNP is to be mandated pursuant to section 71 of the Law;
  - the specific LNP solution and call routing scenario that is best suited for the Cayman Islands;
  - the manner in which the LNP solution provider is to be selected;
  - the manner in which regulatory and industry oversight of the LNP solution provider is to be achieved; and
  - the mechanisms through which operators and the LNP service providers are to compensate each other for the functions they perform.
54. Further C&W strongly suggests that before taking a decision to implement local number portability, the ICTA should first take steps to fully inform the general public about the issue, clearly set out the pros and cons, and poll telecommunication

users to determine whether the majority want local number portability to be introduced.

55. As to the matters to be addressed to protect Licensees and consumers prior to the introduction of local number portability, C&W submits that it be inappropriate for the Authority to allow “slamming” to take a foothold here in the Cayman Islands, especially as the emergence of such practices will cast a cloud on all service providers, including those who do not engage in such practices, on the Authority and on the liberalization process in general. Additionally, all service providers should be required to establish separate divisions to handle porting requests to separate competitively sensitive information. Finally, C&W submits the Authority must define all inter-carrier business processes and procedures for porting numbers prior to introducing local number portability.

### *Cingular*

56. At the outset, Cingular makes a number of statements to explain its fundamental view on the question of why it is important for local number portability to be adopted in the wireless market in the Cayman Islands. [The reader should note that the term “wireless” referenced by Cingular is normally referenced to by the Authority as “mobile”]. It states that when the FCC recently faced the same questions as are being addressed in the present consultation, it described its concern as follows:

*“Unless LNP is available, increasing numbers of wireless service consumers - especially those who routinely provide their wireless number to others - will find themselves forced to stay with carriers with whom they may be dissatisfied because the cost of giving up their wireless phone number in order to move to another carrier is too high. . . . Similarly, as more consumers choose to use wireless instead of wireline services, the inability to transfer their wireline number to a wireless service provider may slow the adoption of wireless by those consumers that wish to keep the same telephone number they had with their wireline service provider.”<sup>3</sup>*

57. Cingular submits that this concern raised by the FCC is particularly important in a newly competitive market such as the Cayman Islands, where new entrants are trying to gain a foothold against a long-entrenched incumbent. Cingular maintains the introduction of wireless local number portability in such a market will allow customers to feel free to change carriers without undergoing the difficulties or confusion of having to change their number. Such freedom of consumer choice is essential to allowing new entrants to gain a foothold with the entrenched customer base of the incumbent. Conversely, Cingular states that without local number portability, customers of the monopolist will not be able to change their wireless service to one of the new competitors without experiencing unnecessary cost and inconvenience. Thus, Cingular submits, the consumer choice issue raised by the

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<sup>3</sup> *Verizon Wireless LNP Petition Order* (FCC 02-215, WT Docket No.01-184) (2002), ¶ 18.

FCC is the proper underlying basis for the Authority to use in considering how and when to adopt local number portability for the wireless industry in the Cayman Islands.

58. Cingular submits that the introduction of wireless local number portability will allow customers of the incumbent monopoly provider to move to services offered by the new entrants without having to give up their wireless telephone numbers. They will not have to change their stationery or other phone listings, nor will they have to advise friends or business associates of a new telephone number. The new entrants will also be able to market their services to customers of C&W, knowing that those customers will not feel restricted from changing their provider due to the need to change their number. In response, C&W will be forced to serve its existing customers more effectively lest it lose those customers to the new entrants. It is for these stated reasons that Cingular also favours the introduction of wireline and intermodal local number portability at the same time as wireless local number portability.
59. On the issue of the cost/benefit analysis Cingular submits that the costs of wireless local number portability can be kept to a minimum if the Cayman Islands adopt the standards used in the United States. Cingular states it would be beneficial, from a cost-saving standpoint, for the Authority to consider those U.S. standards as a guideline for the adoption of wireless local number portability in Cayman. Cingular recognizes that adoption of the US standards would not eliminate all of the costs that would have to be incurred as part of the development and implementation of local number portability. Service providers would still be required to spend capital to upgrade their network elements and operational systems that support the Cayman Island telecom industry. Cingular recognizes that each carrier would have internal expenses in these areas, allowing them to develop and install the necessary underlying facilities in order for porting to occur. However, Cingular maintains that the use of the U.S. standards, would minimize these costs.
60. Cingular submits that with respect to the costs associated with developing the total solution for the Cayman Islands, it would be necessary for all of the carriers, along with the Authority, to reach a consensus on the solution to be adopted. Cingular is of the view that the parties would have to work together to select a vendor for the necessary local number portability database.
61. Cingular maintains that the costs of local number portability are substantially outweighed by the benefits that accrue. The following statement by the FCC is referenced:

*“The ability of end users to retain their telephone numbers when changing service providers gives customers flexibility in the quality, price, and variety of telecommunications services they can choose to purchase. Number portability promotes competition between telecommunications service providers by, among other things, allowing customers to respond*

*to price and service changes without changing their telephone numbers. The resulting competition will benefit all users of telecommunications services. Indeed, competition should foster lower local telephone prices and, consequently, stimulate demand for telecommunications services and increase economic growth.*<sup>4</sup>

62. As to the feasibility of utilizing the North American NPAC SMS LNP system in the Cayman Islands, Cingular acknowledges that there are numerous hurdles and challenges presented by the use of the U.S. local number portability model in the Cayman Islands. Nevertheless, it submits these hurdles should be addressed and the challenges met, as the existing local number portability system is working in the U.S. and offers advantages that could be leveraged in the Cayman Islands as well.
63. Cingular states that unless a party to this consultation can provide compelling reasons why the Authority should require carriers to incur the costs and complexities in creating a stand-alone solution for the Cayman Islands, there is no need to do so. Cingular is of the view that if the Cayman Islands were to implement wireless local number portability, other Caribbean nations within the North American Numbering Plan likely will follow the Cayman lead. As a result, this process could be a model for the other countries to follow. Furthermore, Cingular maintains the costs incurred to develop and implement the Cayman NPAC system could be spread across a wider region, thereby reducing the burden on Cayman carriers.
64. On the issue of whether each Licensee should be responsible for its own internal costs, Cingular states this is an essential element of implementing local number portability. Cingular suggests that an optional end-user surcharge would be the most appropriate local number portability cost recovery methodology. Cingular submits that under such a regime, carriers could decide, based upon their overall business strategy, if they wished to implement local number portability at their own expense, thus offering more competitive rates, or whether they would ask their customers to share in the burden of the implementation. Cingular is of the view the former solution may well be the preferable choice, since carriers recognize that the gains from increased numbers of customers due to local number portability implementation can partially or completely offset the network costs associated with introducing local number portability. Carriers may well decide that the long-term benefits from implementing wireless local number portability outweigh the short-term costs and therefore may choose not to impose any of these costs on their customers. On the other hand, Cingular submits even if a carrier were to choose to impose a local number portability cost recovery surcharge on its customers, the visibility and competitive impact of that charge would create a strong incentive for the carrier to implement it in the most cost-efficient manner.
65. In response to the question as to how common costs should be recovered, Cingular views the cost of the centralized database and a portability administrator as being the

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<sup>4</sup> *Matter of Telephone Number Portability*, FCC 96-286, CC Docket No. 95-116, First Report and Order and Further Notice of Proposed Rulemaking (1996), ¶ 30.

common cost factor. Cingular states that since the database and administrator are necessary elements central to the process, and since they are not carrier-specific, the costs associated with that database and with the administrator should be shared among all carriers. Other than these costs, Cingular maintains there are no other common costs that would be incurred in implementing or operating a wireless LNP system. Cingular also points out that as part of the U.S. LNP implementation, the FCC ordered regional NPAC administrators to allocate shared costs “among carriers in proportion to each carrier's intrastate, interstate and international end user telecommunications revenues attributable to that region.” The FCC reasoned that payments based on proportional end-user revenues would not give any one carrier an advantage over another. Of course, once shared costs are apportioned, they become part of each carrier's specific costs. Cingular submits this same methodology would work for common costs in the Cayman Islands. Shared costs of the NPAC database and administration should be apportioned among all carriers who use the system for LNP based on their revenues. Such revenues would be reported to the Authority on a quarterly basis and the Authority or the LNP administrator would allocate shared costs to each carrier as appropriate.

66. As to the pace for roll out of local number portability, Cingular submits implementation will work most efficiently if all service providers implemented on an Authority-mandated date. With a mandated date, each carrier can advertise with certainty the availability of local number portability. In addition, Cingular notes a mandated date drives all of the implementation planning and decisions to the period prior to implementation, encouraging each carrier to work cooperatively within the same timetable. In is the view of Cingular that this prevents any one carrier from gaining an advantage over another merely as a result of the requirement for implementation of local number portability. Cingular further submits implementation should not be based on any type of trigger and that each carrier that is providing wireless service in the Cayman Islands should be required to provide the same level of local number portability as all other carriers.
67. As to the role to be played by Licensees in the selection of a local number portability system, Cingular is of the view that all Licensees be involved and that an industry group be created to address all of the issues.
68. Cingular submits that local number portability should not be optional for any Licensee but that rather all carriers be required to participate. Cingular is adamant that participation be mandatory for all mobile carriers.
69. With respect to matters which should be addressed in advance of the introduction of local number portability, Cingular submits that it is not clear that the Authority needs to address any specific matters as industry scheduled meetings should identify and address implementation issues. Nonetheless, Cingular notes two issues to be addressed, namely:

- Feasibility of the LNP administration using the Local Exchange Routing Guide (“LERG”) to maintain NXX code data. The use of the LERG feed is critical to U.S. LNP functionality.
  - How to address slamming. If carriers implement the customer data validation practice used in the U.S., slamming can be controlled. Under this process, wireline service providers use “local service request and firm order confirmation,” while wireless providers use “wireless port request and wireless port request response.”
70. Cingular concludes by offering local number portability subject matter experts from its corporate parent to participate in industry meetings.

*Digicel*

71. At the outset Digicel expresses its view that the 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. It states that 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. Digicel’s view is that 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 optimizing any regulatory intervention that takes place.
72. Digicel also encourages the Authority to carry out a market survey in addition to a cost-benefit exercise before deciding whether there is a case for local number portability in the Cayman Islands. Additionally, Digicel submits that other regulatory actions such as Indirect Access might undermine the case for number portability, or make the issue redundant. Digicel is of the view that Indirect Access would diminish the case for introducing number portability over fixed line networks as more choice would already have been made available to the consumer.
73. It is worth noting that Digicel states it has chosen to interpret the consultative document as excluding portability between fixed and mobile networks. The Authority wishes to make it clear that it specifically chose, in drafting the consultative document, not to narrow the consultation in this manner.
74. On the issue of cost/benefit analysis, Digicel notes a number of benefits, namely: enabling customers to retain numbers cuts out the cost of informing all contact persons/organizations of number changes. Therefore, saving the cost:
- 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.

Digicel submits that because the above costs are avoided, it makes it easier for customers to move between providers based on quality of service and price.

75. Digicel identifies the following costs: system set up including switch upgrade and depreciation, establishment of a central management system or organization to oversee porting, establishment of a back-up database for full redundancy, 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 and various costs dependent on whether handsets are to be locked or unlocked, as well as opportunity costs.
76. On the issue of the feasibility of the North American NPAC SMS LNP system Digicel states that this system is overly complex for the size of the Cayman Islands.
77. With respect to alternative local number portability systems, Digicel states it would be best for it 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. Digicel is of the view that this structure is simpler than the NPAC SMS LNP system in that there is no need to first download it to the local service management system ("LSMS") and then download it from the LSMS to an LNP call-routing database.
78. As to whether each Licensee should be responsible for its own internal costs Digicel identifies the link from each operator to the central number database, interfaces, network queries by each operator to the central database and processing port requests, including all capital costs thereto as internal costs which should be paid for by the Licensee. Updates to the central database and queries of the central database the state of a port are viewed by Digicel as both internal and external costs to be recovered as follows:
  - 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.
79. Digicel identifies the following as costs to be treated as common costs:
  - capital costs;

- costs of depreciation – Digicel suggests that the information technology equipment should be depreciated over a period of 3 years;
  - operating costs, including staffing;
  - costs of upgrades and modifications.
80. As to whether local number portability should be made available throughout the Cayman Islands, Digicel states that Licensees should be able to implement it across the whole of the Cayman Island at the same time. Digicel goes on to make a number of ancillary submissions stating that it is probably too early in terms of the market liberalization process to seek to introduce either mobile or fixed number portability. Digicel submits number portability must not be prioritized and mandated if there are other services and facilities that customers would value more and which are yet to be implemented. In this regard, Digicel advocates that the Authority conduct market research to determine customer demand. Digicel also states that the introduction of number portability so soon after market liberalization may to some extent create uncertainty around the regulatory regime's investor friendliness and this may have some implications for investment incentives. Digicel concludes by submitting that if mobile portability were mandated, then it may be as easy or easier to introduce it across the Cayman Islands in one go than trying to attempt a staggered approach.
81. On the issue of the pace of rolling out local number portability, Digicel is of the view that a number of exercises need to be carried out first and market research is needed before tentative conclusions can be reached.
82. On the role to be played by Licensees in the selection, implementation and maintenance of a local number portability system Digicel advocates an active role on the part of Licensees. 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 submits the Authority should draw on the negotiating experience of Licensees as well as seeking its own purchasing expert to secure the most competitive price. Digicel also suggest that rates for the use of the local number portability 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 with the Authority making the ultimate decision.
83. Digicel is of the view that local number portability should be mandated for all Licensees and not be limited to C&W.

84. As to potential issues the Authority should address in advance of industry meetings to discuss the implementation of local number portability, Digicel states 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 local number portability in the Cayman Islands.
85. As to the matters to be addressed to protect Licensees and consumers from unreasonable practices prior to introducing local number portability, Digicel recommends that the Authority:
- Agrees on a public code of practice in conjunction with the industry on the terms under which a customer may and may not port;
  - Considers whether a customer should have a two day “cooling off” period during which they may change their mind about porting;
  - Requires companies to make the code of practice available in retail outlets;
  - Agrees on a maximum for recovering carrier specific costs from customers who decide to port away from the company;
  - Agrees with the industry on a Memorandum of Understanding with respect to inter-network operator porting practices.

## **Legislative & Regulatory Framework**

86. In reaching a determination in this proceeding, the Authority is guided by the ICTA Law.
87. The ICTA Law provides as follows:
- “9. (3) ...the principal functions of the Authority are-
- (a) to promote competition in the provision of ICT services and ICT networks where it is reasonable or necessary to do so;”

and

“71.(3) Subject to this Law, the Authority may make rules imposing on any licensee, the responsibility to offer number portability if the Authority is satisfied on reasonable grounds that-

- (a) the benefits likely to arise from the requirement to provide a particular form of number portability outweigh the likely cost of implementing it; and
- (b) the requirement will not impose an unfair burden on any licensee.

(4) In this section-

“number portability” relates to the ability of customers to change licensee without having to change their telephone numbers.”

## **Authority’s Analysis**

### *Introduction*

88. The Authority wishes to express its appreciation for the comments received from both the public and Licensees. This is the first consultative proceeding in which members of the public have submitted their written views on an issue which will have an impact on the evolution of the telecommunications marketplace in the Cayman Islands. The Authority encourages the public to continue to make its views known on all issues facing the Authority as it exercises its mandate to regulate the ICT marketplace and to promote long-term sustainable competition in the Cayman Islands. The Authority is also appreciative for the considered views and submissions expressed by the Licensees.
89. The Authority’s determination on Local Number Portability should be made in accordance with the provisions of the legislation noted in the previous section. That is, it should take the form of an assessment of whether the benefits likely to arise from a particular form of number portability outweigh the cost of implementing it. In addition, its introduction should not impose an unfair burden on any Licensee. This assessment should be made within the overall context of the Authority’s mandate to promote competition in the ICT sector.
90. In its submission, C&W repeatedly expresses concern that the wording of the Consultative Document (CD (2004) 3) suggests that Authority may have prejudged the outcome of the process in favour of the introduction of LNP. The Authority does not accept this implied criticism. The legislation makes it clear that the determination should be based upon an assessment of the costs and benefits of the introduction of a particular form of LNP, not LNP in general. The consultative document therefore sought to obtain input on what form should be introduced if LNP were to be mandated. Further, in order to stimulate input and to give guidance to respondents, the Authority chose to indicate its tentative views on a number of pertinent issues if LNP were to be mandated.
91. C&W make the point that the Authority should be careful to include only the incremental benefits flowing from the introduction of LNP and not benefits that would have accrued in any event. The Authority agrees. However, the Authority

has some concerns that by repeatedly referring to a “cost/benefit analysis” rather than “a weighing of the likely costs and benefits” (as articulated in the legislation), C&W is implying that the determination should be based upon some form of definitive mathematical or financial calculation. If this is the C&W view, then the Authority disagrees. Whilst it should be possible to make meaningful financial estimates of the direct costs to Licensees (and hence consumers), attempting to do so for indirect (non-monetary) costs<sup>5</sup>, or direct and indirect benefits would be an exercise in futility. The process which the Authority considers to be more appropriate is detailed later in this document.

### *The Benefits of Local Number Portability*

92. The benefits of local number portability have been examined in several other jurisdictions. For example, the FCC in the United States has stated with respect to fixed services:

*“Although some incumbent LECs (Local Exchange Carriers) assert that local exchange market competition will develop without number portability, the record developed in this proceeding confirms the congressional findings that number portability is essential to meaningful competition in the provision of local exchange services. Several state commissions have also recognized the significant role that number portability will play in the development of local exchange competition. We, therefore, affirm our tentative conclusion that number portability provides consumers flexibility in the way they use their telecommunications services and promotes the development of competition among alternative service providers of telephone and other telecommunications services.*

*We note that several studies described in the record demonstrate the reluctance of both business and residential customers to switch carriers if they must change numbers...based on a nationwide Gallup survey, 83 percent of business customers and 80 per cent of residential customers would be unlikely to change local service providers if they had to change their telephone numbers.*

*The ability of end users to retain their telephone numbers when changing service providers gives customers flexibility in the quality, price, and variety of telecommunications services they can choose to purchase. Number portability promotes competition between telecommunications service providers by, among other things, allowing customers to respond to price and service changes without changing their telephone numbers. The resulting competition will benefit all users of telecommunications services. Indeed, competition should foster lower local telephone prices and, consequently, stimulate demand for telecommunication services and increase economic growth.*

*Conversely, the record demonstrates that a lack of number portability likely would deter entry by competitive providers of local service because of the value*

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<sup>5</sup> For example, those suggested in paragraphs 51 to 53 of the C&W submission.

*customers place on retaining their telephone numbers. Business customers, in particular, may be reluctant to incur the administrative, marketing and goodwill costs associated with changing telephone numbers. As indicated above, several studies show that customers are reluctant to switch carriers if they are required to change telephone numbers. To the extent that customers are reluctant to change service providers due to the absence of number portability, demand for services provided by new entrants will be depressed.”<sup>6</sup>*

93. With respect to mobile number portability, the FCC stated:

*“Unless LNP is available, increasing numbers of wireless service consumers - especially those who routinely provide their wireless number to others - will find themselves forced to stay with carriers with whom they may be dissatisfied because the cost of giving up their wireless phone number in order to move to another carrier is too high. . . . Similarly, as more consumers choose to use wireless instead of wireline services, the inability to transfer their wireline number to a wireless service provider may slow the adoption of wireless by those consumers that wish to keep the same telephone number they had with their wireline service provider.”<sup>7</sup>*

94. Contrary to C&W’s assertion at paragraph 78 of its submission, the FCC recognized that many US consumers utilize their mobiles as their primary telephone number. Based on the success of mobile services in the Cayman Islands and the revenues related to mobile services, the Authority does agree with C&W’s later comment in the same referenced paragraph that many business operators in the Cayman Islands also use their mobile phone as their primary telephone number. This then is a similarity between the two markets rather than a difference as suggested by C&W. Accordingly, at this preliminary stage the Authority is minded, should it mandate local number portability, to require all Licensees, including mobile service providers, to permit their customers the ability to port their telephone numbers. This view is supported by C&W, Cingular and WestTel. Digicel considers that it might be too early, and other Licensees make no comment one way or another.

95. In Canada the Canadian Radio-television and Telecommunications Commission (“CRTC”), in its report entitled, *Competition and Culture on Canada’s Information Highway*, 19 May 1995, stated:

*“Many parties contended that effective local competition requires the development of mechanisms that will allow subscribers to retain use of their existing telephone numbers when they choose to switch suppliers in a local serving area (number portability). The Commission considers that number portability would stimulate local telephone competition. It also notes efforts by policy-makers in the United States and United Kingdom to establish number*

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<sup>6</sup> FCC Docket No. 95-116, FCC 96-286 at 17-18.

<sup>7</sup> *Verizon Wireless LNP Petition Order* (FCC 02-215, WT Docket No.01-184) (2002), ¶ 18.

*portability. Number portability must be addressed in proceedings on local competition, and solutions must be sought to facilitate competition.*<sup>8</sup>

The CRTC went on to mandate local number portability in Canada.

96. In 1995 in the United Kingdom, the Director General of Telecommunications asked the Monopolies and Mergers Commission (“MMC”) to examine the issue of local number portability, following a dispute between OFTEL and British Telecom (“BT”). Specifically the MMC were asked, inter alia, if the absence of number portability operated against the public interest. The following is taken from the Director General’s subsequent explanatory statement on the MMC’s enquiry<sup>9</sup>:

*“In making its finding that the absence of portability does operate against the public interest, the MMC has noted that BT retains a strong position in the telecoms market and there are considerable obstacles to the growth of competition. The absence of portability constitutes one of the most important of these obstacles, and its introduction is necessary to promote effective competition between operators, which will benefit customers and promote efficiency. They also noted that the main short-term effect of portability will be to accelerate BT’s loss of customers, and that BT therefore has every incentive to delay agreement with other operators on portability. It has consistently quoted high costs for portability to those operators.”*

Full number portability is now available throughout the United Kingdom.

97. Directive 2002/22/EC of the European Parliament and Council dated 7 March 2002 states in the 40<sup>th</sup> WHEREAS clause:

*“Number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment such that end-users who so request should be able to retain their number(s) on the public telephone network independently of the organisation providing service.”*

and Article 30 provides that:

*“1. Member States shall ensure that all subscribers of publicly available telephone services, including mobile services, who so request can retain their number(s) independently of the undertaking providing the service:*  
*(a) in the case of geographic numbers, at a specific location; and*  
*(b) in the case of non-geographic numbers, at any location.”*

This Directive, which mandates the provision of number portability throughout the EU, was issued following a thorough examination of the costs, benefits and technical feasibility of number portability in each of the its Member States

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<sup>8</sup> See also Telecom Order CRTC 97-591.

<sup>9</sup> Available at [www.ofcom.org.uk/static/archive/oftel/publications/1995-98/numbering/mmc95.htm](http://www.ofcom.org.uk/static/archive/oftel/publications/1995-98/numbering/mmc95.htm)

98. Whilst the Authority recognises that all the jurisdictions cited above are larger than the Cayman Islands, the Authority considers if the size differential causes any meaningful distortion to quoted findings, and this has yet to be proven, it will be on the costs side of the equation rather than the benefits. The Authority therefore takes note that:

- A large number of highly competent organisations throughout the world have examined in detail the potential benefits of local number portability.
- Each has found that the introduction of number portability is essential to the development of meaningful competition in the provision of local services.
- Number portability gives consumers flexibility in the quality, price and variety of telecommunication services they can choose to purchase.
- The resulting increases in competition and operator efficiency benefits all users, not just those that choose to port.
- The main short-term effect of portability is to accelerate an incumbent's loss of customers. An incumbent therefore has every incentive to delay its implementation.
- In each jurisdiction cited above and where a study into the cost and benefits has been carried out, the conclusion has been that the benefits outweigh the costs, and number portability has been mandated. The Authority has been unable to identify a single instance where this has not been the case.

99. Turning to our own consultative process, almost all the comments received from the Cayman public indicated strong support for the introduction of local number portability and echoed many of the reasons identified by the overseas jurisdictions. Business customers expressed the view that the cost and inconvenience of changing letterheads, business cards, advertising, web sites and the like to reflect new telephone numbers were significant impediments to changing service providers. Of a least equal importance, many businesses pointed out that they had promoted their current numbers over many years, both at home and overseas. In effect, they had become part of their "brand". Without the introduction of Local Number Portability, the potential for missed calls, lost business, and damage to customer relations was such that changing providers, and hence telephone numbers, was not a realistic option for them. They therefore strongly advocated the introduction of LNP so that they had the freedom of choice they expected following liberalisation.

100. However, the Authority cannot, on the basis of the number of comments submitted, conclude unequivocally that the majority of the public has wholeheartedly endorsed local number portability. Moreover, even the businesses that submitted comments had no meaningful idea of the costs that the introduction of LNP might add to their

telecommunications bills. Once these costs are accurately determined, it is possible support would wane. Nevertheless, the Authority accepts the reasons put forward for endorsing local number portability as representative of the matters of concern of many in the business community.

101. Of the new Licensees, all those with a “Fixed Network” Licence were in favour of the introduction of local number portability. Amongst new mobile operators, Cingular endorsed its introduction whereas Digicel, though not expressly opposed, noted a number of concerns. The incumbent, C&W, considered that mandating Local Number Portability was unnecessary and would be very costly to the consumer and to Licensees.

102. Specific benefits noted by the Licensees included:

*“the absence of number portability constitutes a significant impediment to the creation of a competitive market in fixed local exchange services... most subscribers will not change carriers if they cannot keep their original seven digit number...”-TeleCayman*

*“number portability is practiced in many areas of the world and is working well.”-WestStar*

*“under no circumstances should a telephone service subscriber have to abandon an existing telephone number assignment as a precondition to establishing a new service arrangement with a different carrier. Local number portability eliminates a competitive handicap that would occur if market entrants cannot provide services to consumers using their pre-existing telephone number assignments...local number portability provides substantial consumer benefits by making competition feasible without forcing consumers to accept a different telephone number as a precondition to changing carriers.”-WestTel*

*“the introduction of wireless local number portability ... will allow customers to feel free to change carriers without undergoing the difficulties or confusion of having to change their number. Such freedom of consumer choice is essential to allowing new entrants to gain a foothold with the entrenched customer base of the incumbent. Conversely, without local number portability, customers of the monopolist will not be able to change their wireless service to one of the new competitors without experiencing unnecessary cost and inconvenience”.-Cingular*

103. C&W hardly mentions benefits to consumers or to competition, but instead emphasizes the potential costs. It proposes alternative “lower cost” solutions to consumer inconvenience such as carriers selecting central office codes that are only one digit different from their own codes, and the use of a “Changed Number Intercept” service. In the Authority’s view, these proposals clearly do not begin to address the fundamental concerns of consumers and can be discounted. C&W

chooses not to directly answer the question that was posed in the consultative document, i.e., whether or not the benefits outweigh the costs.

*The Likely Costs of Local Number Portability*

104. The costs associated with local number portability, as identified by Licensees, fall into two main categories, namely individual internal carrier costs and joint/common costs. Licensees agree that they should be responsible for their own individual internal costs. These include upgrades for hardware and software and operational expenses to implement and maintain a local number portability system. The Authority endorses this approach. Further, it is of the view that Licensees should be free to pass these costs on directly to consumers if they so wish, either included in the price of their services or as a separate line item on their bills. Alternatively, Licensees could choose to absorb these costs as an expense to their bottom line results and so gain competitive advantage.
105. In the medium to long term, internal costs will include the cost of system upgrades on the one hand and increased efficiencies in implementation and execution of local number portability on the other. Although accepting that capital costs will need to be incurred, the Authority is of the view that in a competitive environment Licensees can do much to ensure that increased internal efficiencies offset costs to a considerable extent. The Authority also notes that all Licensees in the Cayman Islands have the latest technology and digital networks which should be able to accommodate local number portability much more easily than was the case in jurisdictions that implemented LNP several years ago.
106. Licensees are also of the view that joint/common costs should be shared but disagree as to the methodology to be utilized for determining how they should be shared. The Authority agrees that common costs should be shared. However, it does not view it as necessary to make a determination, at this time, as to the methodology for sharing. However, the Authority does view it as appropriate, if local number portability is mandated, that Licensees introduce a new line item on monthly bills to identify the common costs that each subscriber is paying. In this way consumers will better appreciate the costs associated with the ability to port their telephone numbers.
107. Irrespective of whether costs are internal or joint and common there is serious disagreement amongst Licensees as to the order of magnitude of costs generally. WestTel, on the one hand, contends that costs for local number portability should not present a major financial burden as carriers in the Cayman Islands use digital switching technologies and challenges any party disagreeing to file documentation proving otherwise. C&W, on the other hand, contends that costs would be in the millions of dollars. Although C&W does not provide a specific calculation with a net amount, as best as the Authority can determine, C&W estimates a sum well in excess of five million dollars.

108. The Authority is of the view that C&W's costs are not sufficiently supported by empirical data, and notes the experience of other jurisdictions where incumbents have inflated their costs in an attempt to delay the implementation of number portability. Cingular recognizes that costs will occur but states that local number portability should be introduced as these can be kept to a minimum if the Authority were to adopt standards similar to those introduced in the United States. TeleCayman notes that its switch features number portability from the outset and based on its understanding of the C&W technology there should exist no impediment. Digicel does not address any order of magnitude preferring to list the activities to be undertaken. It is clear to the Authority that the record on the costs involved is conflicting, not sufficiently supported with empirical data and insufficient for a conclusive understanding and determination by the Authority. Further, it is abundantly clear that costs will be impacted by the particular system selected if local number portability were to be mandated.

#### *Possible Implementation Methods*

109. Most Licensees favoured the implementation of a local number portability solution based on a single, centralized database. The Authority is in agreement that this is the ideal, medium to long-term solution for the Cayman Islands, but notes that many, much simpler and cheaper, interim solutions were initially implemented successfully in many European countries. These "on-switch" solutions were not ideal and as the number of ports progressively increased, became increasingly inefficient and expensive of network resources. Nevertheless, they allowed an early implementation of number portability whilst comprehensive "off-switch" Intelligent Network solutions were being developed and implemented. Given the small permanent population of the Cayman Islands, as emphasised by C&W, such solutions might be effective for a considerable period of time and should not be totally discounted.

110. Many Licensees expressed support for the local number portability centralized system utilized in Canada and the United States. However, but for Cingular, they were of the view that the introduction of such a system in the Cayman Islands would be cost prohibitive.

111. As most parties are aware, NeuStar Inc. is under contract to an industry consortium to develop and maintain the Number Portability Administration Center that supports local number portability in seven regions of the United States plus Canada. The Authority has had exploratory discussions with NeuStar, and the company has indicated that it is interested in pursuing and facilitating an arrangement whereby the Cayman Islands negotiates with NeuStar, the consortia and one of the seven regions or Canada to utilize part or all of the systems already in place in North America. It is understood that local number portability in Puerto Rico is made available in this way. The Authority is of the view that it would be worthwhile to progress such discussions and at the same time establish more accurately the costs which would result from the implementation of local number portability in the Cayman Islands.

### *Other Issues*

112. Digicel raises the question of number strategy and policy for the Cayman Islands. The Authority agrees that this issue should be addressed in the near future, perhaps concurrently with LNP. However, given the large number pool that is available to the Cayman Islands, it does not consider that this work is a necessary prerequisite to the more detailed work on LNP that is outlined below.

113. It is also noted that, if LNP were to be mandated, there is general consensus that:

- a. Local number portability should be mandated for all Major ICT Network Licensees. For greater certainty this includes mobile service providers.
- b. Local number portability should be introduced throughout the Cayman Islands at the same time.
- c. Each Licensee should be responsible for its own internal LNP costs, with an optional end-user surcharge.
- d. Common LNP costs should be shared amongst Licensees, although there is not any consensus about how these costs should be apportioned.

The Authority currently agrees with these principles but notes that they may be modified as a result of further work on LNP.

114. Finally, the Authority considers that at this juncture it is unnecessary to address the safeguards necessary to protect Licensees and consumers in the event local number portability is mandated.

### *Further Process*

115. The Authority has insufficient information from this public consultation to determine which *particular* LNP system would be appropriate for the Cayman Islands were LNP to be mandated. It follows that the Authority is not in a position to assess the corresponding costs, as they will depend on the particular form of LNP system. Without meaningful costs, the Authority cannot determine whether the benefits outweigh the costs, and so make a ruling on whether LNP should be mandated.

116. The Authority can determine that the benefits accruing from the introduction of LNP are substantial, and that in every other jurisdiction that has studied the issue, they have been sufficient to outweigh the costs of its introduction. In the Authority's view this is more than sufficient justification for the establishment of a process to rapidly identify the most appropriate implementation method for the Cayman Islands and its associated costs. Once these costs have been established, the Authority will conduct a further round of consultation so that the general public in particular can make informed comment.

117. Accordingly, the Authority shall form a Local Number Portability Consortia (“LNPC”) consisting of itself and other Major ICT Network Licensees who wish to participate. This is consistent with the expressed desire of Licensees to be closely involved in the selection and implementation process. The Authority will issue an invitation to Licensees to participate within 30 days of this decision. Any Licensee participating and found to be unnecessarily delaying or frustrating the discussions will be removed by the Authority from the LNPC.
118. The objectives of the LNPC will not be to debate the issue of whether or not LNP should be implemented, but rather to establish and cost the most appropriate implementation system should LNP be mandated. Initially it should embark upon discussions with both NeuStar and the appropriate North American consortia member to establish the feasibility and costs of using part or all of that system. Concurrently, the LNPC should examine alternative implementation methods, including the use of interim on-switch systems, with a view to recommending to the Authority, within 60 days of its initial meeting, its preferred implementation methodology.
119. Within 30 days thereafter, the LNPC should provide to the Authority a breakdown of joint and common costs for the preferred implementation method on a per subscriber basis.
120. Within 90 days of the issuance of this decision, Licensees are to provide the Authority with a specific and itemized breakdown of its estimated internal costs for LNP implementation, including each cost component and supporting documentation. Any Licensee which is of the opinion that its own internal costs are not relevant to the Authority’s decision on LNP may submit to the Authority a statement to this effect rather than the detailed cost breakdown. A copy of the breakdown is to be provided to members of the LNPC. Licensees may claim confidentiality in accordance with the Confidentiality Regulations, in which redacted versions should be submitted. Licensees are advised that such redacted versions must contain sufficient information to permit members of the LNPC to appreciate the order of magnitude of costs. Members of the LNPC may provide written submissions to the Authority within 14 days of receipt of the stipulated cost breakdowns.
121. Depending on the magnitude of the costs estimated by the LNPC, the Authority may well initiate a further round of public consultation, or some other method of assessing the views of the public, prior to making its final determination on Local Number Portability.

### ***Determinations***

122. The Authority does not yet have sufficient information on costs to determine whether a particular form of local number portability should be mandated in the Cayman

Islands. However, the benefits are sufficient to fully justify the expenditure of sufficient resources to obtain the necessary data within a reasonable time frame. The Authority therefore will form a Local Number Portability Consortia consisting of itself and other Major ICT Network Licensees who wish to participate. The objectives of the LNPC will be to establish and cost the most appropriate method for implementing LNP in the Cayman Islands which it will present to the Authority in the form of a series of recommendations. The LNPC should state clearly whether this is an industry consensus or not.

123. Notwithstanding the lack of detailed cost information, the Authority is able to the following statements of principle which should serve as guidelines to the LNPC and the marketplace generally:

- a. The introduction of local number portability brings internationally recognised benefits to all consumers, not just those who choose to make use of the facility. The Authority is therefore minded to mandate its introduction in the Cayman Islands unless the costs prove to be prohibitive.

And, should LNP be mandated:

- b. Licensees should be responsible for their own internal costs. They should be free to pass these costs on directly to consumers if they so wish, either as part of the price of their services or as a separate line item on their bills. Alternatively, Licensees should be able absorb these costs as an expense.
- c. Joint and common costs should be shared. It would be appropriate for Licensees to introduce a new line item on monthly bills to pass through common costs proportionately to their whole subscriber base as this enables consumers to better appreciate the costs associated with the ability to port their telephone numbers. The methodology for sharing joint and common costs remains outstanding pending the work of the LNPC.
- d. The ideal local number portability solution for the Cayman Islands is one based on a single, centralized database, although alternative solutions should be considered if the ideal proves to be too costly.
- e. A single centralized database should be implemented and maintained by an unaffiliated administrator. NeuStar appears to be well suited to undertake this role and discussions should be pursued with this entity.
- f. Local number portability should not be optional for any Licensee but rather applicable to all Major ICT Network Licensees. For greater certainty this includes mobile service providers.
- g. Local number portability, if mandated, should be introduced throughout the Cayman Islands at the same time.