MOBILE NUMBER PORTABILITY

Public consultation on the Proposed Business Rule for Mobile Number Portability

Issued on 20th October 2023

Contents

1 Background and Purpose

The National Information & Communications Technology Authority ("NICTA") was formed following the enactment of the NICTA Act in 2009.

Under Section 2 of the Act, the defined objectives include:-

(b) ensuring that ICT services of social importance are supplied as efficiently and economically as practicable;

(c) promoting the development of an ICT industry in Papua New Guinea that is efficient, competitive and responsive to the needs of Papua New Guinea and its people;

(d) promoting and maintaining fair and efficient market conduct and effective competition between persons engaged in commercial activities with the ICT industry in Papua New Guinea;

(h) encouraging, facilitating and promoting sustainable investment in, and the establishment, development and expansion of, the ICT industry in Papua New Guinea.

Section 189 of the NICTA Act outlines the provisions and process NICTA should consider to assess the feasibility of introducing Mobile Number Portability ("MNP") into the Papua New Guinea ("PNG") market, including holding a public inquiry and publishing a discussion paper.

NICTA consulted the PNG market stakeholders in 2016-17 on the proposed introduction of MNP into the PNG telecommunications market but decided not to proceed since NICTA and the Minister for ICT (the "Minister") concluded that MNP should be implemented in PNG but not before a 'triggering event' has occurred. A triggering event could be either:

a) The issue of a licence to a new entrant mobile operator with resources that enable that operator to compete effectively with current market operators; or
b) The financial strengthening of Kumul (Telikom/bmobile) to enable it to compete effectively and sustainably in the PNG mobile services market.

NICTA is of the view that the issue of a mobile licence to Digitec Communications Ltd in 2018 and the subsequent network build and service launch in April 2022 (trading as Vodafone PNG) has resulted in a new operator effectively competing with the existing market operators which constitutes a triggering event (item a) above). NICTA therefore believes that the PNG telecommunications market could benefit from the introduction of MNP since the freedom provided to PNG consumers to move their service to the service provider which best meets their needs could act as a positive catalyst to change competitive dynamics and enhance value to PNG consumers.

In addition, since the 2016-17 consultation, Telikom's Citifon CDMA operation has migrated to 4G LTE and merged with bmobile so there is now a single Telikom bmobile mobile network within the Kumul organisation.

Despite the issuance of the additional network operator licence and the subsequent establishment of increased competition, the inability for consumers to retain their number

when moving to a new telecommunications provider is seen as a disincentive to switch providers and thus a constraint to progressing further competition in the PNG telecommunications market.

NICTA now wishes to consult with interested parties again on the technical feasibility and functional MNP features which are appropriate for the specific context of the PNG telecommunications market with a view to proceed with the implementation and introduction of MNP services into the PNG telecommunications market.

The purpose of this consultation is to set out the broad parameters, functional requirements and proposed timeframe that NICTA believes could guide the potential development, implementation and launch of the MNP service into the PNG telecommunications market.

1.1 Consultation

Pursuant to Section 189 of the NICTA Act, NICTA is initiating the present consultation process to assess the appropriateness and feasibility of introducing MNP into the PNG market.

NICTA's proposal is to introduce MNP into the PNG telecommunications market to enable consumers to retain their mobile telephone number when they change to a new service provider, (the "Proposal"), the details of which are set out in Chapter 3.

In line with the provisions of Section 189 of the NICTA Act, this Consultation Document identifies the issues and aspects to assess the appropriateness and feasibility of introducing MNP into the PNG market, as outlined below:

> *(1) NICTA shall hold a public inquiry under Section 230 and publish a discussion paper identifying the costs and benefits of the implementation of mobile number portability in Papua New Guinea.*
>
> *(2) NICTA may determine the timing for that public inquiry having regard to the objective of this Act and the regulatory principles.*
>
> *(3) As part of the public inquiry, NICTA may consult with any person (whether or not in Papua New Guinea) in the preparation of the discussion paper with a view to determining:*
>
> > *(a) the form of mobile number portability (if any) that would be most appropriate for implementation in Papua New Guinea; and*
> >
> > *(b) the costs and benefits of implementing that form of mobile number portability.*
>
> *(4) Following receipt of submissions on the discussion paper under Section 233 and any hearings under Section 234, NICTA shall prepare a final report for the Minister under Section 235.*

NICTA notes that it has engaged the services of Consultants to assist with the consultation process and the design and formulation of the Proposal.

NICTA invites interested parties ("Respondents") to provide their input and comments (the "Responses") with respect to the issues raised in this Consultation Document, including the Proposal and/or any other issues of relevance to the introduction of MNP into the PNG market. As part of the public consultation process, NICTA and/or its Consultants may meet with Respondents that have submitted Responses to review and discuss their Responses in greater detail.

At the conclusion of this consultation process, NICTA will draft its report for the Minister outlining its assessment of the technical and market feasibility of the proposed MNP service and where appropriate detailing the framework, functional requirements and timeframe for the implementation and operation of a potential PNG MNP service. In reaching its decision, NICTA shall take Respondents' input and comments into account.

1.2 Consultation Process

This Consultation Document, along with all referenced Government and NICTA documents, is available on NICTA's website at https://www.nicta.gov.pg

Respondents who wish to express opinions on this Consultation Document are invited to submit their Responses in electronic form to NICTA to facilitate further distribution and posting on NICTA's website.

The Consultation Process is structured in two phases. In the first phase, Respondents may submit Initial Responses to comment on this Consultation Document. In the second phase, Respondents may submit Reply Responses to comment on the Initial Responses of other Respondents in whole or part.

The filing deadlines for Initial Responses and Reply Responses are as follows:

- Initial Responses must be received by NICTA no later than COB local time on **November 24, 2023**.
- Reply Responses must be received by NICTA no later than COB local time on **December 29, 2023**.

Responses filed in relation to this Consultation Document may be submitted to the following E-mail address: consultationsubmission@nicta.gov.pg.

NICTA welcomes all Responses on the Consultation Document. NICTA invites Respondents to provide responses to the specific numbered questions set out in this Consultation Document (the "Consultation Questions") and any other issues Respondents consider relevant.

NICTA encourages Respondents to support all Responses with relevant data, analysis, benchmarking studies and information based on the national situation or on the experience of other countries to support their comments. NICTA may give greater weight to Responses supported by appropriate evidence. In providing their comments, Respondents are requested to indicate the number of the Consultation Question(s) to which each comment relates.

Respondents are not required to comment on all Consultation Questions. NICTA is under no obligation to adopt the comments of any Respondent.

Copies of all comments submitted by Respondents in relation to this Consultation Document will be published on NICTA's Public Register consistent with the requirements on NICTA under subsection 229(3) of the NICTA Act. Additional procedural information is set out in the *Guidelines on the submission of written comments to public consultations and public inquiries*, which are available on NICTA's Public Register. With a view to having as open a public consultation process as practical, NICTA encourages Respondents to structure their Responses not to include any confidential information.

If necessary, Respondents may submit Responses that include claimed confidential information
in the form of two Responses:

- Redacted Response - In this document any claimed confidential information would be excluded. The other comments and information, not claimed as confidential, would be included in this version. This is the public version document that would be posted on NICTA's website;
- Confidential Response – This document would be identical to the Redacted Response, except that this version would also include the claimed confidential information for the use of NICTA. This document would not be posted on NICTA's website.

Claims of confidentiality will be determined by NICTA on a case-by-case basis, and in compliance with the requirements set out in Section 44 of the Act and the Determination regarding the Disclosure of Confidentiality Information (No 1 of 2011).

1.3 Overall Timeline

The table below summarizes the timeline for this consultation process and the subsequent decision-making and implementation process.

Event	Date
NICTA issues Consultation Document	**October 20, 2023**
Deadline for Respondent Questions on the Consultation	**October 30, 2023**
Initial Responses from Respondents	**November 24, 2023**
NICTA Assessment of Responses	**December 01, 2023**
Reply Responses from Respondents	**December 29, 2023**
NICTA Report to the Minister	**January 19, 2024 (estimated)**

2. Overview of Number Portability

2.1 Number Portability

Mobile Number Portability (MNP) is a service that enables consumers of telecommunication products to retain their mobile telephone number whenever they decide to change operators or service providers. It is considered to be a key factor in enhancing competition in a multi-operator environment. MNP enables customers who wish to take advantage of benefits offered by other mobile network operators in the market to migrate their service and number without the inconvenience of having to notify business associates, friends, family, etc.

The introduction of competition in the telecommunications market is accompanied by the ability of consumers of telecommunications services to access new and/or existing services or to change the operator from whom they obtain services, which is intended to result in operators providing more and better services at cost reflective prices as they compete to attract customers. NICTA recognises that the need to change telephone numbers when changing provider (and losing the identification and any goodwill invested in their existing number) presents a potential inconvenience and barrier to enabling persons to take advantage of the benefits of growing competition in electronic communication services. Those issues may be addressed by the introduction of MNP.

MNP can deliver the following benefits for markets and consumers, since MNP:

- eliminates the cost and inconvenience of informing others of a number change;
- eliminates the need for callers to consult directory enquiries and/or change entries in their address books;
- lowers the cost of switching operator or service provider;
- encourages service providers to invest in enhancing network and service quality, product innovation and consumer value to retain and attract customers;
- results in more efficient allocation of limited numbering resources; and,
- results in a more level competitive environment with lowered barriers to entry and competition.

2.2 Papua New Guinea Market Readiness for MNP

The PNG mobile market has evolved significantly since the first MNP consultation in 2016-17, as can be seen by the number of active subscribers for each mobile network operator:

2017 Consultation Report

Operator	Active Subs	Market Share
Digicel	2,670,000	92.8%
Kumul (bmobile & Citifon)	205,961	7.2%
Total	2,875,961	100.0%

2023 Market Update

Operator	Active Subs	Market Share
Digicel	2,850,000	73.9%
Kumul (bmobile Telikom)	315,000	8.2%
Vodafone	690,000	17.9%
Total	3,855,000	100.0%

In summary, there are now roughly one million more active mobile users which equates to 34% growth. A material part of the increase is the result of Vodafone PNG's entry into the market in early 2022 and the increased level of competition in the PNG market. Furthermore, over the period mobile penetration has risen from 33.4% (population of 8.6m) to 39.3% (population of 9.8m); whilst this is low by international benchmarks, only approximately one third of the PNG population is economically active and therefore can be considered potential mobile subscribers.

Not only has the size of the mobile communications market grown since 2016-17 but the network operator market shares have materially changed, Digicel has dropped from 92.8% to 73.9%, which indicates a more balanced and competitive landscape. That being said, both Kumul (bmobile Telikom) and Vodafone still have small market shares and introducing MNP would likely help them better compete in future.

In the circumstances, the fact that existing and future mobile customers will have to change telephone number on moving to a different service provider can act as a significant disincentive to switching operators. For business use in particular, the administrative inconvenience and costs of changing telephone numbers to gain this price or service advantage would be a major disincentive and work in favour of the dominant operators. Thus, to attract the different segments of users in such markets MNP becomes even more important.

NICTA regards telephone numbers as a national public resource, notwithstanding their assignment to operators for commercial use. Consequently, NICTA regards numbers as being allocated to subscribers for their benefit and use.

Fundamentally, the growth in the reliance by a broad range of social media, financial and associated services to validate a specific customer's identity, use and ownership by SMS or other mobile number based authentication protocols has reinforced the importance of a customer's mobile number as a key identification resource.

Benchmark evidence from across the world suggests that for developing markets such as PNG, with medium levels of telecommunications service penetration and established competition within the telecommunications sector, the demand for MNP services could be between 2% and 4% of the subscriber base per annum. Establishing demand for MNP depends on several different factors, including consumer porting costs, porting timeframes, availability of porting services and simplicity and reliability of the porting process.

2.3 MNP and Pacific Markets

Except for Australia and New Zealand, no country in the Pacific Region has yet implemented MNP; therefore, PNG has the opportunity to take the regional lead and show neighbouring markets how to implement the service well and the subsequent benefits to the industry and consumers.

Across the globe, the Caribbean region, which also comprises numerous small island states, has been more proactive in launching MNP and to date it has been implemented in the Bahamas, Cayman Islands, Dominica, Dominican Republic, Grenada, Jamaica, St. Kitts, St. Lucia, St. Vincent and Trinidad & Tobago. In addition, MNP is now being actively considered in most remaining Caribbean territories. We believe this trend will start spreading across the Pacific region in the short to medium terms, as governments and regulatory authorities recognise the consumer and economic benefits from MNP.

2.4 MNP and Costs / Benefits

Implementing and launching MNP can be expensive and resource intensive. Traditionally, the journey to introduce MNP has been prolonged and complex, often requiring detailed assessment of the costs involved versus the benefits to be realised within the market.

Cost benefit analysis of MNP is now widely regarded as no longer appropriate for determining feasibility of introducing MNP into specific markets, especially for small jurisdictions. Regulators consider the ability for customers to be able to move their number from one operator to another as being a fundamental consumer right. In addition, since numbering resources are considered to be national assets, national regulators view the effective management and efficient allocation of numbering resources within their markets as being critical to driving competition, value and innovation benefits the economy and consumers. Thus, supporting MNP is widely viewed as being a key licensing and operational obligation for operators to be able to operate their businesses within a particular jurisdiction.

Over the past few years, the developing world has successfully streamlined porting processes and timeframes to deliver porting services that are cheap and reliable. In addition, the cost for operators of implementing MNP financially and in terms of resourcing is still significant, but the costs of MNP elements and technologies have been reducing.

Consequently, cost is no longer seen as a barrier for the introduction of MNP, especially into small jurisdictions. MNP has been successfully introduced and managed in a number of small jurisdictions across the world, with market profiles significantly smaller to that of PNG, including, Cape Verde (population 500,000), the Maldives (population 350,000), the Bahamas (population – 300,000), Channel Islands (population – 150,000), Isle of Man (population – 80,000), Cayman Islands (population – 60,000) ECTEL jurisdictions (ranging from 53,000 to 183,000) and Gibraltar (population – 30,000). Evidence suggests that the introduction of MNP into small jurisdictions has had a positive impact in furthering competition and delivering greater value to consumers.

3. Assessment of the suitability and feasibility of MNP for the PNG Market – the Proposal

In compliance with the assessment requirements of the NICTA Act, NICTA is inviting interested parties and stakeholders to provide comments and views on a range of drivers, approaches and issues related to the introduction of MNP into the PNG market, including :-

- The most appropriate technical and service arrangements for providing MNP;
- Cost drivers and approaches associated with introducing and maintaining MNP, and cost recovery approaches and options;
- Timeframes for introducing and launching MNP;
- Functional requirements and features that are appropriate for the PNG market;
- Anticipated market impact of MNP in PNG, in terms of competitive opportunity, customer choice, pricing, and other considerations;
- Potential changes to National Numbering Plan and/or to existing PNG telecommunications regulations and licensing to support the introduction of MNP; and
- Other issues that NICTA or interested parties consider appropriate in developing a national policy and regulations for MNP.

3.1 Recipient Led versus Donor Led MNP

The early implementations of MNP were designed around a donor process where the customer was required to contact the current, or donor, operator to request permission to port and then the customer coordinated the porting transaction between the donor and recipient operators. However, the donor led approach is viewed as not delivering a positive customer porting experience since the customer is required to drive the porting transactions, porting timeframes are often extended and donor operators try to dissuade customers from porting or just frustrate the porting process.

Most recent MNP implementations globally have adopted the recipient led porting approach in which the customer agrees a limited power of attorney with the new, or recipient, operator authorising the recipient operator to close the customer's account with the donor operator and arrange the porting or transfer of their number to the new recipient network. Recipient led porting is viewed as being much more customer friendly and efficient, since the recipient, as beneficiary in the porting process, is responsible for driving the smooth transfer of number to their network. Consequently, recipient led porting is seen to offer faster porting timeframes, much lower porting rejection rates and simpler porting processes. Recipient led porting is now the preferred approach for all new MNP implementations and many countries with established donor led porting processes are migrating to the more efficient and positive recipient led approach.

Question 1

The MNP process of moving a customer's number from one provider to another can be achieved by either recipient led (the customer requests porting through the new recipient operator) or donor led (the customer porting approaches their current operator to seek permission to leave). Please state your preference and outline your reasoning?

3.2 MNP Administration - Centralised or De-Centralised Porting?

A key element in the operation of MNP services is the efficient and reliable administration and processing of porting requests between recipient and donor operators.

- **Peer-to-Peer/ De-Centralised Solutions -** Bilateral peer-to-peer solutions allow operators to enter into individual arrangements for porting. These arrangements may be standardized across the industry or may be unique to each agreement. Although internationally such peer-to-peer arrangements are fewer given the availability and convenience of centralized solutions, it is nonetheless arguable that the arrangement may be suitable for jurisdictions with small port volumes and a limited number of operators.
- **Centralized Database (CDB) Solutions** – are the most popular approach to delivering MNP services. These solutions are centred around a reference database or number clearing house owned and/or operated by an independent third party or sometimes maintained by a consortium of providers is established for the purposes of facilitating MNP. With these systems, direct routing can be used to determine whether a call is to a ported number and to ensure that the call is then efficiently directed to the correct destination network. Most emerged and developing market MNP implementations have adopted this option, including India, Pakistan, Malaysia, Singapore, Ghana, Nigeria, South Africa, Sudan, Iraq, Iran, Qatar, Saudi Arabia, Argentina, Barbados, ECTEL, Ecuador, Jamaica, Mexico, Peru, Trinidad & Tobago, Channel Islands, Gibraltar, Isle of Man, and the Cayman Islands etc. These CDBs provide several advantages which make them attractive solutions for regulators.
    - The databases can be operated by third parties with specialized infrastructure for providing such services that is already established. This means that costs can usually be shared by providers both within and in some cases, depending on the route pursued, outside the country. If this option is pursued, the initial start-up costs are reduced significantly, making it incredibly attractive. Alternatively, providers may jointly choose to establish such a centralized reference database.
    - The CDB solution is easily adaptable to different types of services, so that both fixed and mobile, or even other types of portability may be facilitated. A single reference database containing all the numbers issued in a jurisdiction is established. This central database is then assimilated as operational databases

in each participating network operator and updated as each porting transaction is completed.

Whilst the set-up costs for peer-to-peer/de-centralised solutions may be lower than those for centralised database solutions, peer-to-peer solutions do not offer a consistent and efficient porting experience for customers and may require increased network capacity investment and long-term maintenance and operating costs for operators.

Question 2

It is proposed that MNP is to be managed and operated in PNG through a centralised MNP system which will track all PNG mobile numbers, manage the porting process between recipient and donor operators and provides some ancillary administration functionality. This approach enables a standardised porting process to be operated across all PNG providers. Please provide your comments and views regarding this proposed approach.

NICTA's research suggests there are several different licencing and contracting approaches used by different countries across the world to manage the operation of centralised MNP systems/ platforms, commonly termed as 'Number Portability Clearinghouse' (NPC).

In some countries the operators jointly create a specific entity to set-up and run the NPC in which the joint venture entity contracts directly with the NPC provider, but this approach is considered unsuitable for smaller jurisdictions, since it can be expensive and complex to establish and manage.

An alternative approach is for the NPC provider to contract with the local regulator to establish and manage the MNP service on behalf of the regulator. NICTA does not believe that this approach is appropriate for PNG since it unnecessarily complicates the engagement between NICTA and the PNG MNP stakeholders.

In many countries, the local regulator licences the NPC provider to establish and manage the MNP service for a fixed licence period. Such licencing frameworks are restricted to the provision of MNP services, but the terms align closely with the licencing regime applied to operators. This approach requires the NPC provider to contract with the local operators either collectively through a multi-party agreement or on an individual operator basis. NICTA favours the licencing approach since it is efficient and simple to administer for the PNG stakeholders and aligns the provision of MNP services with the operator regulatory requirements to support the provision of MNP in PNG.

Question 3

By proposing to adopt the centralised driven MNP approach, it is proposed that the successful provider of the NPC will be licenced by NICTA to provide MNP services and will be required to contract directly with the licenced PNG operators. Please provide your comments and views regarding this proposed approach.

The main function of the NPC is to track and bill for the usage of the centralized database used for storing the routing information for numbers. The NPC provider would also be responsible for the day-to-day running of the centralised database, its operational maintenance and keeping it updated. The NPC provider would also provide a Help Desk facility, responsible for trouble ticketing, problem resolution, logon administration, and training.

NICTA believes there are three options which exist for establishing and operating an NPC for the PNG market:

- Locally based in PNG;
- Externally hosted solution (outsourced to a MNP service provider located abroad); and
- Regional (a hosted solution that provided in partnership with other regulated jurisdictions in the Pacific).

Locally based NPC – NICTA believes this is a feasible solution for PNG, with the following advantages and disadvantages:-

Advantages:-

- Reduces the demand for foreign exchange as it eliminates the need to remit NPC charges overseas in a foreign currency;
- Eliminates possible political and economic influence that a foreign entity might exert upon the NPC provider; and
- No need to increase the capacity of international overseas signalling routes to allow for traffic between the clearinghouse and the local operators.

Disadvantages:-

- Requires increases up front for set up investment;
- Could involve prolonged set-up timeframes whilst local hosting facilities are established and equipment procured and installed; and
- Involves the recruitment and training of local support and operational resources to manage the NPC.

Externally hosted NPC – This approach is already used successfully by several smaller jurisdictions which have introduced MNP, including the Channel Islands, Isle of Man, Gibraltar and the Cayman Islands. NICTA believes this is a viable solution for PNG, with the following advantages and disadvantages:-

Advantages:-

- Offers lower up-front set-up costs;
- Faster to implement and launch the MNP service since the hosting facilities and infrastructure/ equipment are already in place;
- May be more cost effective since operating costs are shared with the NPC provider's other clients; and

- Offers quicker and better set-up for local PNG operators, since the core infrastructure is already in-place and working and configuration is restricted to links between the operators and the hosted NPC facilities.

Disadvantages:-

- Requires increased capacity of the international signalling routes to accommodate PNG porting transaction traffic;
- MNP service availability is reliant on the quality and stability of the international signalling links between PNG operators and the NPC provider;
- Increased outflow of foreign exchange to remit NPC transaction and service charge payments; and
- Potential privacy and security concerns since subscriber and PNG numbering information is managed and held in an overseas location.

Regional NPC – NICTA is aware that several regulators in the Caribbean region are seeking to implement MNP, and many are presented with challenges related to the small size of their jurisdictions. NICTA further believes this could present an opportunity for regional cooperation between those regulators and operators to devise and implement a regional NPC; however, this would involve significant pan-region regulator dialogue and is not likely to be a viable option for the short to medium term.

If implemented, a regional NPC may provide a template for the Pacific region and would offer many of the advantages of the external solution while still retaining the control and flexibility of a local solution. However, such a Pacific regional solution would also present many of the disadvantages of an external solution (unless it was housed in PNG).

Question 4
It is proposed that the NPC may be either operated from PNG or hosted overseas. Please provide your comments and views regarding your preferred approach.

3.3 PNG Traffic Routing – Direct or Indirect?

Establishing and operating an efficient and robust mechanism for managing the transfer or porting of numbers between donor and recipient operators is an important requirement for an MNP service, the ability to efficiently and securely deliver or route fixed and mobile traffic to ported and non-ported mobile numbers is of vital importance to ensure MNP is successfully provided in PNG.

MNP implementations across the world use either direct or indirect routing. Direct routing requires the originating network to route the traffic directly to the terminating network on which the number (ported or non-ported) currently resides, whereas, indirect routing involves the originating network routing the traffic to the block operator to whom the number was originally allocated; if the number has subsequently ported out, then the block operator routes the traffic to the network to which the number was ported.

Routing solutions can be further categorised as being either using bi-lateral or centralised approaches depending on the method of administering ported number data, for instance:-

- Bilateral routing approach - the administration of ported numbers is the responsibility of the operators, each of whom maintains its own database of ported numbers and routing information. The ported number information is shared among the databases; or
- Centralized routing approach - the administration of the database of ported numbers is performed by a single party, typically a third/ independent party, with operators themselves responsible only for the routing of the calls.

Routing approaches can be defined as follows:-

- Indirect Routing
    - Onward Routing/ Call Forwarding
    - Query on Release/ Call Drop Back
- Direct Routing
    - All Call Query

Onward Routing is an indirect, bilateral, routing approach in which:

- The traffic is routed to the network on which the number originally resided (the block or donor network) since this is the only network the originating network is able to identify;
- The block/ donor networks identifies the dialled number as no longer being in its inventory because it has been ported to another network and checks with an internal network-specific number portability database (NPDB) to identify the network to which the number was ported;
- The block/ donor network's NPDB provides the routing number associated with the dialled number and the block/ donor network uses the routing number to route the traffic to the recipient network to which it ported the number.

<u>Advantages:-</u>

- The NPDB of the donor/ block network can be small since it contains only the routing numbers of its own numbers that have been ported. It does not have to contain all ported numbers;
- As MNP is established only a small percentage of traffic is required to be onward routed;
- Signalling impact is minimal; and
- No increase in call set-up time for non-ported numbers.

<u>Disadvantages:-</u>

- Routing of traffic to ported numbers is not efficient nor optimised since the traffic uses the block/ donor operator's network before being delivered to the recipient/ terminating operator;
- It may be necessary to develop an additional transit/ interconnect charging framework to recompense the block/ donor operator for the transit use of their network;

- Routing quality of onward routed traffic is dependent on the quality of the block/ donor operator's network and operations. If there is a failure within the donor/ block operator's network, then onward routing of traffic to ported numbers will fail or be compromised;
- Increased call set-up time for traffic routed to ported numbers; and
- Potential for donor/ block operators to differentiate the quality of routing for ported and non-ported traffic.

Call forwarding is similar to Onward Routing and has the advantage of being an existing network feature that operators offer to subscribers who wish to have their incoming calls forwarded to another number. Where the Call Forwarding approach is used, the recipient operator will issue a shadow or dummy number to which the block/ donor operator forwards traffic for the customer's "ported" number. Call forwarding has similar disadvantages to Onward Routing but has the advantage that as an existing network feature, it requires less re-configuration and can be implemented quicker.

Onward Routing is an indirect, bilateral, routing approach in which:-

- The originating network routes traffic to the donor/ block Network for completion. If the dialled number is resident on the donor/ block network, the call is completed;
- However, if the dialled number has been ported, the donor/ block network releases the traffic back to the originating network with a signalling identifier that the number has been ported;
- The originating network queries its own copy of the centrally administered NPDB , which provides the routing information for the dialled number; and
- The originating network completes the call to the recipient/ terminating network, on which the dialled number currently resides.

Advantages:-

- Reduced routing inefficiency for the donor/ block operator;
- Reduced interconnection capacity requirement since traffic to ported numbers are handed back to the originating operator for direct routing;
- Potentially reduced processor capacity requirements for donor/ block operators, who no longer needs to identify the routing number of the recipient/ terminating operator;
- Donor/ block network is no longer in the terminated traffic path and thus the originating operator is not reliant on the operational quality of the donor/ block network; and,
- No increase in call set-up time for non-ported numbers.

Disadvantages:-

- Traffic to ported numbers is required to be routed twice thereby consuming additional originating operator network resources;
- It may be necessary to develop an additional transit/ interconnect charging framework to recompense the block/ donor operator for the query use of their network;
- Originating operators are required to invest in the set-up and maintain separate local NPDB for the storage of routing data for ported numbers;

- Increased call set-up time for traffic routed to ported numbers; and
- Potential for donor/ block operators to differentiate the quality of routing for ported and non-ported traffic.

Call Drop Back is a similar routing approach to Query on Release, except the Call Drop Back approach requires the donor/ block operator to provide the routing data of the terminating/ recipient network that is hosting the ported number, to the originating network. Call Drop Back offers marginal operational advantages but requires additional hardware/ software changes to the donor/ block operator's network.

Direct Routing/All Call Query (ACQ) is a direct centralised, routing approach in which:-

- The originating network queries its own local copy of the NPDB for all traffic originated on its network, irrespective of whether the traffic is destined for a ported or non-ported number. Note – Operators' local NPDBs are typically mirrored against the centralized NPDB, provided by the NPC provider. The centralised NPDB updates routing data held in the operators' local NPDB each time a porting transaction is completed; and
- The originating network's NPDB provides the location routing number of the recipient/ terminating network on which the dialled number resides which enables the originating network to directly route the traffic to the recipient/ terminating network, irrespective of whether the terminating number has been ported or not.

Advantages:-

- Direct routing eliminates the reliance on the donor/ recipient network, thereby providing the ability to maintain traffic routing to ported numbers in the event that the donor/ block network fails;
- Traffic routing and network utilisation are optimised since "tromboning" of traffic between networks is eliminated;
- Traffic to ported and non-ported numbers are treated equally;
- No additional set-up time for traffic to ported numbers; and
- Potential for network congestion or disruption that may occur on the donor/ block network is eliminated.

Disadvantages:-

- All operators are required to invest in establishing and maintaining their own local copy of the NPDB;
- Significant configuration and infrastructure changes are required within all operators core network and associated systems to support ACQ direct routing. Implementing the necessary network changes can be complex and risky;
- Additional core network processing capacity may be required to support the query activity for all traffic to the local copy of the NPDB;
- Set up time for all traffic may be increased due to the additional ACQ processing activities.

On a global perspective, NICTA understands that different countries use different routing approaches. However, it is widely accepted that the direct ACQ routing approach is the most operationally efficient and consequently direct ACQ routing is the approach adopted in virtually

all recent MNP implementations globally. Whilst implementing direct ACQ routing requires significant investment and resourcing for all operators involved, the operational efficiencies and improved traffic routing quality benefits are seen to greatly outweigh the advantages offered by indirect routing approaches.

NICTA is aware that the cost to operators for implementing the direct ACQ routing approach into their networks is falling and NICTA understands that direct ACQ routing approach has been adopted in most emerged and developing market MNP implementations have adopted this option, including India, Pakistan, Malaysia, Singapore, Ghana, Nigeria, South Africa, Sudan, Iraq, Iran, Qatar, Saudi Arabia, Argentina, Barbados, ECTEL, Ecuador, Jamaica, Mexico, Peru, Trinidad & Tobago, Channel Islands, Gibraltar, Isle of Man, and the Cayman Islands etc.

NICTA therefore concludes that the direct ACQ routing approach is the preferred routing approach for supporting MNP in PNG.

Question 5
It is proposed that all fixed and mobile traffic to ported and non-ported numbers originated and terminated in PNG will be directly routed by the originating network to the terminating network using the All Call Query approach. All Call Query direct routing is widely used in MNP implementations across the world and is considered to be the most operationally efficient and reliable form of routing in MNP jurisdictions. Please provide your comments and views regarding this proposed approach.

3.4 MNP Impact on the PNG Market

NICTA has outlined the broader global view that MNP can be an effective enabler for driving and enhancing competition in telecommunications markets and as such MNP could be a valuable tool to assist NICTA in meeting its legal obligations to promote and further competition in the PNG market to the benefit of PNG consumers.

NICTA understands that implementing MNP can be expensive both financially and in terms of resource and for operators and stakeholders alike. However, NICTA believes the direct and indirect benefits of introducing MNP to the PNG market could be significant.

Under NICTA's legal obligations outlined in the NICTA Act, NICTA's prime objectives are to promote and further sustainable competition in the PNG market and to ensure that PNG numbering resources are used efficiently. Thus, NICTA favours the globally held view that subscribers have a fundamental right to move or port their number to the service provider of their choice and consequently, that supporting MNP in PNG is a basic obligation for all operators.

It is evident that competition is well established in the PNG market, and yet competition has not fundamentally changed the status quo in the PNG mobile telecommunications market which is still dominated by Digicel. In addition, it is evident that there is strong consumer demand for mobile telecommunications services in the PNG market; yet it is likely that some consumers are constrained from being able to freely access their preferred service provider.

NICTA is satisfied that the key prerequisites exist to support the introduction of MNP into the PNG market and that there will be significant consumer demand for porting services.

NICTA believes that introducing MNP will benefit the PNG economy, market and consumers, by:-

- increasing value offered to consumers;
- increasing consumer choice and freedom;
- improving customer and network service and quality;
- driving innovation;
- driving efficiency; and
- encouraging new entrants.

Question 6
Introducing MNP is likely to enhance competition and choice in the PNG telecommunications market. Please provide your comments about this statement.

3.5 Optimising the implementation and operating costs related to MNP

Section 189 of the NICTA Act requires NICTA to consider within its MNP consultation approach the likely costs to be incurred in implementing, introducing and operating MNP in PNG.

NICTA therefore sets out below its proposals on MNP cost recovery. NICTA does not believe that MNP cost recovery should be left solely to commercial negotiations between operators. This view is informed by experience in other countries where reliance on commercial negotiations has served to delay implementation of MNP and resulted in high or inappropriate charges, or both.

International studies and experience of MNP implementations in other countries suggests that there are two broad categories of costs associated with the provision of MNP, namely: (i) establishment / set-up costs and (ii) ongoing consumption costs.

Establishment/ Set-up costs - represent the capital costs incurred by operators and MNP stakeholders to ensure that customers have the capability to port their telephone numbers. These costs are incurred because of the regulatory policy objectives to reduce the cost and inconvenience of customers switching between operators, and to foster competition amongst operators through the implementation of MNP and include:-

- Initial operator network modifications;

- Software modifications in the information systems such as customer accounting and billing system and inter-operator accounting and billing system;
- Set-up of new inter-operator tools and procedures;
- Modification of internal operator processes;
- Training of operator staff to provide MNP services; and
- Establishment of NPC.

Consumption costs - represent the additional costs incurred when customers make use of MNP services. These costs are typically more easily linked to individual operators'/ stakeholders or customers.

- Per-line administration costs, generated by:-
    - MNP service ordering procedures;
    - Modifications of subscribers data in the information systems; and
    - Modification of subscriber data in the network elements.
- Additional conveyance costs, caused by:-
    - Extension of traffic link capacity; and
    - Additional national and international incoming call/ SMS processing, switching and intelligent network (IN) resources.
- Continuing administrative costs, including:
    - Management and operation of the NPC; and
    - Administration of general MNP information.

NICTA understands that the establishment/setup costs are likely to vary between operators and MNP stakeholders, since these costs will be driven by different factors, such as network characteristics, organisation structure, business scale, business system types etc. However, NICTA's research of stakeholder costs incurred in other MNP implementations suggests that the variation in establishment/setup costs between operators is actually low.

In line with accepted cost recovery practice, NICTA is proposing a set of economic principles (see table below) to ensure that the cost recovery process for MNP is fit for purpose. NICTA believes the cost recovery process should be equitable by ensuring the appropriate allocation of the costs resulting from the implementation of MNP between operators and their customers. NICTA believes its proposals will engender regulatory certainty and minimise inter-operator disputes, thereby ensuring the mechanism for cost recovery is transparent, non-discriminatory reasonable and reflects the underlying costs of providing MNP.

Effective competition	Pressures for effective competition should not be weakened by the mechanism of cost recovery. As such, the cost recovery mechanism should not be used to raise a competitor's cost or weaken their ability to compete.
Distribution of benefits	Cost recovery mechanism should reflect the distribution of benefits that accrue from a customer porting their telephone number. Portability generates both direct and indirect benefits, as everyone benefits from increased competition. Hence, those who benefit from portability indirectly should pay some of the costs.

Cost minimisation	The mechanism for cost recovery should provide strong incentives to minimise costs. Those who are able to affect the size of the costs should face strong incentives to minimize costs.
Cost causation	Cost should be borne by those whose actions cause the cost to be incurred.
Relevant costs	Only those costs directly incurred or attributable as a result of the provision of MNP should be recovered.
Reciprocity	Where MNP is provided on a reciprocal basis it may be appropriate for charges to be reciprocal in each direction.
Practicality	Costs should be recovered in a way that is practicable and does not unduly raise administration costs.

In this consultation document, NICTA has indicated its preference for the introduction of MNP to the PNG market and the corresponding direction to operators to support the provision of porting services to PNG consumers as being a fundamental operator obligation and condition to continue to provide telecommunications services in PNG.

NICTA believes the establishment/setup costs of the PNG operators will be relatively similar and from assessment of establishment/setup cost recovery in other MNP jurisdictions, NICTA is proposing that each operator and MNP stakeholder should be responsible for their own establishment/setup costs and that such costs cannot be recovered from other stakeholders or the consumer.

The recovery of NPC setup and consumption costs is a critical element of any MNP implementation. In view of the relatively small scale of the PNG market, NICTA will focus on ensuring that the tendering process delivers an NPC solution that offers excellent value and is effectively benchmarked against the NPC costs secured in similar jurisdictions. NICTA is committed to ensuring the NPC cost recovery model is appropriate for the PNG market and costs are allocated between operators based on the principles of "*distribution of benefits*", "*cost minimisation*" and "*practicality*".

Question 7
It is proposed that each operator and the successful provider of the NPC will be responsible for their set-up costs to prepare for the implementation and launch of MNP in PNG and that such set-up costs shall not be recoverable from consumers or other stakeholders. Please provide a cost estimate of set-up investment your organisation is likely to incur in preparing for the possible introduction of MNP into PNG, and your comments and views regarding this proposed approach.

Studies of MNP implementations from around the world clearly show the strong relationship between consumer demand and the charges levied to customers for using porting services. In many recent MNP implementations, the local regulator has specified that porting will be free of charge to customers in order to maximise consumer demand for MNP services.

NICTA is minded to mandate that all recipient operators will offer porting services to consumers free of charge.

In line with best practice from other MNP implementations, NICTA will not permit donor operators levying MNP related charges to customers who leave their network or services. Donor charging of consumers who port their number or service is viewed to be contrary to the interests of consumers and MNP in PNG, since such charges could discourage consumers requesting MNP.

Question 8
It is proposed that recipient operators will NOT be allowed to charge customers for porting their numbers at the discretion of each recipient operator. Donor operators are not permitted to charge customers for porting out numbers from their network. Please provide your comments and views regarding this proposed approach.

NICTA recognises that donor operators could incur additional incremental costs directly related to the processing of porting requests for customers wishing to leave their network or service. Whilst NICTA has already stated that it will not permit donor operators to levy charges on customers leaving their networks, under the cost recovery principles outlined above, NICTA accepts that it may be appropriate for donor operators to recover from recipient operators, reasonable and directly attributable costs incurred in efficient processing of porting costs.

NICTA believes that these charges, if or where appropriate, should be set and assessed based on the cost recovery principles of "*effective competition*", "*cost minimisation*", "*cost causation*", "*relevant costs*", "*reciprocity*" and "*practicality*". NICTA therefore reserves the right to review and assess donor charges and, where appropriate, set a maximum limit.

NICTA also recognises that in many countries once MNP is established, porting transaction volumes between different operators in the market tend to become balanced. Consequently, there can be an argument that due to the principle of "*Reciprocity*", an operator is likely to be a recipient in equal proportion to being a donor, then charging between operators becomes balanced and there is no need for the levying of donor charges.

Question 9
It is proposed that donor operators shall be permitted to charge recipient operators for reasonable costs which are directly attributable to the actual efficient processing of porting requests. NICTA reserves the right to set a maximum limit to donor porting charges. Please provide your comments and views regarding this proposed approach.

3.6 MNP Implementation Approach in PNG

NICTA appreciates that successfully implementing and launching of MNP into the PNG market requires detailed planning and disciplined and structured management across the broad range of MNP stakeholders. Introducing MNP cannot be rushed yet there will be urgency driven by the expectations of the PNG public for NICTA to launch MNP services in a timely manner.

Subject to the outcome of the consultation process, NICTA believes a reasonable timeframe to progress to the launch of MNP in PNG would be 15-20 months. NICTA's research has assessed the actual development and implementation timeframes experienced in other MNP implementations, taken advice from MNP consultants, and has considered the potential MNP stakeholder community in PNG.

NICTA believes that a 15-20 month timeframe is reasonable to complete the key activities to enable MNP to be launched in PNG, including:-

- Completing the MNP consultation;
- Completing the NPC and vendor selection;
- Licencing of the NPC and corresponding MNP stakeholder contractual framework;
- Implementation of the NPC and connection with the PNG operators;
- Internal operator technical, operational and commercial MNP readiness preparations;
- Developing the PNG inter-stakeholder MNP framework, including MNP process, business rules, legal instruments, consumer code, etc; and
- Building public/ consumer awareness of MNP.

Question 10
It is proposed that MNP will be implemented and launched to the PNG public within 20 months of the conclusion date of this consultation. Please provide your comments and views regarding this proposed approach.

Preparing for the introduction of MNP into the PNG market and progressing the corresponding MNP development and implementation activities is a complex undertaking involving a wide range of potential MNP stakeholders, including, NICTA, the PNG network operators, NPC provider, other PNG Government bodies, the PNG public and other local and external interested parties. NICTA recognises that as the guardian of public/consumer interests within the PNG telecommunications market, NICTA is a key stakeholder in ensuring that MNP is introduced and operated in an effective, appropriate and efficient manner.

From NICTA's research, it is evident that successful MNP implementations are characterised by strong leadership, clear direction and continuous involvement by the sector regulator. Thus, NICTA intends to drive the MNP implementation and launch process, develop an appropriate and comprehensive MNP framework for PNG, set a clear and achievable implementation schedule and establish an effective and positive management forum engaging with the key MNP stakeholders.

Whilst NICTA will set the agenda for the implementation of MNP and will be responsible for all key MNP decisions, NICTA proposes to establish a working group (the MNP Working Group) comprising the key PNG MNP stakeholders.

The MNP Working Group would be responsible for making recommendations to NICTA on detailed matters pertaining to the introduction and operation of MNP in PNG. Following the Minister's final determination on MNP, the MNP Working Group would be responsible for overseeing the actual implementation and launch of MNP in PNG, subject to NICTA's directions.

Question 11
It is proposed that the implementation and preparations for the launch of MNP in PNG will be managed by a cross stakeholder working group reporting to NICTA, but NICTA shall be responsible for setting the key MNP process and functional details and implementation timeframes etc. Please provide your comments and views regarding this proposed approach.

3.7 Porting Times in PNG

Research shows that consumer demand for MNP services is directly linked to the time taken to port a customer's number. In early MNP implementations, porting times could be up to one month, but developments in the porting process approach have enabled recent MNP implementations to reduce porting times to less than two working days. In some countries, porting can be completed consistently in a matter of a few hours. The link between porting time and consumer demand is recognised by regulators across the world as being critical, and in fact, the European Union (EU) has mandated that all EU countries must ensure that a number is ported within one working day.

NICTA recognises the importance of minimising porting times in PNG and NICTA's research indicates international best practice suggests that mobile numbers to be ported within one working day using an efficient and automated task-driven porting process which is consistent across all licenced mobile service providers in PNG. NICTA's proposed timeframes compare favourably with benchmarks timeframes in similar developing market jurisdictions in which MNP is already available.

When determining porting timeframes, NICTA believes it is important to clearly define the starting point of the porting process. On this basis, NICTA proposes to define the starting point of the PNG porting process to be when the customer and the recipient operator have agreed the porting of the customer's number, with the recipient operator confirming it can provide service to the customer and the customer has completed and signed the necessary porting form/declaration.

Question 12
It is proposed that all customer MNP porting requests will be completed within one working day from the date of the customer's validated and signed porting request. Please provide your comments and views regarding this proposed approach.

3.8 Validation of Porting Requests

NICTA recognises that careful and considered MNP process design is a critical element in the successful introduction and operation of MNP in PNG. It is necessary, particularly in a recipient led process, for the recipient operator to be able to reliably ensure that the person requesting the port is the legitimate owner of the number to be ported and is eligible to request the porting service.

The MNP process must balance operational efficiency with adequate security to protect legitimate subscribers from fraudulent or inappropriate porting. Consequently, with recipient led porting, it is necessary for the recipient operator to verify the customer's identification and ownership of the number to be ported.

Various validation methods are used across the world to address these issues, with varying levels of success. In some countries, it is not necessary to transfer a wide range of customer confidential data between the recipient and the donor for verification, which can extend porting timeframes significantly and result in unnecessarily high reject levels of porting requests. NICTA understands that a number of particularly successful MNP implementations in which porting timeframes are short and fraud and rejection levels are low, limit the amount of customer data transfer between the donor and recipient during the porting process, through the use of additional secure customer validation mechanisms, for instance, requiring the customer to send a dedicated validation SMS to the NPC.

NICTA considers it necessary to implement an MNP process in PNG that will ensure the highest level of accuracy, without unduly delaying or complicating the porting process, or increasing the costs of portability. However, NICTA believes that the sending of extensive customer confidential information between the recipient and the donor during the porting process is not necessary, because it:-

- Increases the likelihood of data input errors by the recipient and hence unnecessarily increases porting rejection rates;
- Increases the donor operator checking resources;
- Extends the validation process timeframe and hence the overall porting period; and
- Potentially compromises the protection of customer confidential data.

NICTA understands that secondary customer validation mechanisms, such as, parallel customer initiated Short Message Service (SMS) or Interactive Voice Response (IVR) validation, work well in other similar jurisdictions and enable the porting process to be efficient, quick and secure.

NICTA proposes that the data transfer during the porting process between the recipient and donor operators will be minimised to:-

- Mobile Station Integrated Services Digital Network (MSISDN) identification or number to be ported;
- Confirmation by the recipient operator that the validation process has been completed correctly; and
- Name of the donor operator.

In parallel, NICTA proposes that the PNG MNP porting process will use secondary customer-initiated validation/authorisation by SMS.

Question 13
It is proposed that data transfer during the porting process between the recipient and donor operators is minimised to ensure an efficient and robust consumer porting experience with minimal unnecessary porting failures or rejections. It is proposed that porting data transfer will be restricted to MSISDN/ number being ported and donor operator name. Porting process security and integrity will be provided by independent customer validation for each porting request by SMS. Please provide your comments and views regarding this proposed approach.

MNP processes differ widely across the world in complexity. In some cases, MNP processes involve multiple steps, offering the option of changing or cancelling porting right up to the point that the number is migrated from the donor to the recipient. NICTA recognises that the greater the complexity and number of steps in a porting process, then porting timeframes become extended and there is greater opportunity for confusion and errors.

NICTA therefore proposes the MNP process in PNG will be simplified yet secure, to ensure efficient and robust porting. NICTA is advised that once porting requests have been validated by the NPC then further revision or cancellation by either the customer or the recipient should not be allowed, the so-called "point of no return". By adopting the secondary customer-initiated validation/authorisation approach NICTA believes the customer has the final power to validate whether their porting request proceed or not by deciding whether to send the secondary validation message/activity or not.

NICTA believes that prohibiting the cancellation or modification of porting requests once the point of no return has been reached will not only reduce porting transaction errors or failures but will also eliminate the opportunity for inappropriate engagement of the customer by the donor operator during the porting process.

Question 14
It is proposed that once a customer's porting request has been authorised by the customer, validated by the NPC and passed to the donor operator for approval, the porting request must proceed to completion unless legitimately rejected by the donor operator in compliance with the rejection reasons determined by NICTA. Once a validated porting request has been passed to the donor operator by the NPC it cannot be amended or cancelled by any party. Please provide your comments and views regarding this proposed approach.

NICTA recognises that some stakeholders will be concerned about the potential for post-pay customers to port their numbers to avoid settling their debts or liabilities. However, NICTA believes that a key principle of MNP is that operators should not discriminate between porting and non-porting customers and thus MNP should not be considered an extension of an operator's existing credit management activities or processes.

NICTA believes that operators have an obligation to protect their own business interests by operating effective credit and risk management processes and policies. On this basis, NICTA is proposing that if a customer's account has not been barred or suspended by the donor operator from making outbound calls/SMS, then the customer has the right to port their number at that point in time. Consequently, in such circumstances, NICTA is proposing that donor operators cannot reject porting requests on the basis of outstanding debt, if the customer has not already been barred or suspended.

NICTA recognises that post-pay customers, by the nature of the services they use, will always have a debt accrued with the donor operator at any point in time. NICTA further accepts that customers are absolutely obliged to settle all outstanding debts and charges with their donor operator; NICTA believes such settlement should be completed outside of the porting process. Consequently, NICTA proposes that a key element of the porting process is to ensure customers are aware of their absolute obligation to settle outstanding debts and charges to the donor operator, and that such charges may also include any early termination fees applicable to their service or contract.

NICTA also recognises that the use of the secondary customer-initiated validation approach also provides a mechanism to safeguard operators from potential errant customers using porting to avoid their current debts, but the effectiveness of this safeguard depends on the efficiency of the operator's existing credit management processes and policies.

Question 15
It is proposed that post-paid consumers can port their number if the total billed and unbilled account balance is less than the deposit held by their current operator, provided their service is not barred or suspended from making outbound calls at the time the consumer's porting request is processed by the recipient operator. It is proposed that debt cannot be used to prevent pre-paid consumers porting their number. Please provide your comments and views regarding this proposed approach.

3.9 Win-back Protection

Win-back is defined as contact initiated by the donor operator to the customer, the purpose of which is to either dissuade the customer from porting out their number or to encourage the customer to return to the donor operator's network.

Whilst NICTA believes the making of win-back attempts may in certain circumstances be a legitimate competitive activity, it has the potential to quickly undermine the benefits of MNP by acting as a further barrier to switching and compromising the MNP process. On this basis, NICTA proposes that win-back activity is contrary to the interests of a fair MNP service in PNG and should therefore be prohibited for a defined period.

NICTA's research indicates that when win-back is permitted in some jurisdictions, it also becomes a source of customer frustration and irritation.

NICTA recognises that it may be appropriate and necessary for the donor operator to engage the customer after the porting process is completed to discuss the settlement of outstanding debts and charges.

NICTA does not advocate prohibiting donor operators from making win-back contact to customers over an extended or prolonged period. NICTA believes that former/donor operators should be allowed to contact former customers in the future with the intention of encouraging them to return to their networks, but there should be a reasonable win-back prohibition period to enable the customer to form a relationship with and form an opinion of the new recipient operator. NICTA's research benchmarking against other similar MNP jurisdictions, suggests that an appropriate win-back prohibition period would be sixty (60) calendar days.

NICTA therefore proposes that the donor operator will not be permitted to initiate any contact with the customer once the NPC has passed the porting request to the donor operator and for the remaining period until the porting transaction is completed. Furthermore, for a period of 60 days after the customer's number has been ported, the only permitted contact that a donor operator may have with the customer is for the sole purpose of recovering any outstanding payments or debts and will under no circumstances contact the customer for the purpose of soliciting the return to the donor operator's network. This proposed win-back prohibition provision will only apply to numbers or services that are subject to the porting

process and thus the donor operator is permitted to freely contact customers about non-ported numbers or services.

Question 16
It is proposed that once the customer's validated porting request has been passed to the donor operator by the NPC, the donor operator will not be permitted to contact the customer during the period the porting request is being processed. Once the porting request has been successfully completed, for a period of 60 calendar days the donor operator will only be permitted to contact the customer for the sole purpose of recovering any outstanding payment or debt and will under no circumstances contact the customer during this period with the purpose of soliciting the customer to return to the donor operator's network. Please provide your comments and views regarding this proposed approach.

3.10 Onward Porting Restrictions

MNP is intended to enable customers to move their number to the service provider/operator who best meets their needs and requirements and thus MNP enables customers to form constructive and meaningful relationships with their new service provider/operator. Providing MNP services to the PNG market involves costs to operators and MNP should be considered as a finite resource, which must be effectively managed for the best interests of the PNG market and consumers. NICTA recognises that the MNP service could be abused by customers frequently switching from one operator to another to merely avail themselves of the latest or best offer/ price promotion.

To prevent MNP services being abused, many implementations enforce onward porting restriction periods which prevent customers from onward porting their number to another operator for a minimum period from the date of the previous porting transaction. Such onward porting restriction functionality is typically enforced automatically by the NPC.

NICTA's research to benchmark with other similar MNP jurisdictions, suggests that an appropriate porting restriction period would be sixty (60) calendar days, which also aligns with the corresponding win-back prohibition period, outlined in section 3.8 of this consultation document.

Question 17
It is proposed that customers will not be permitted to port their number to another operator within 60 calendar days of their previous successful porting request. Please provide your comments and views regarding this proposed approach.

3.11 Ancillary Porting Functions

NICTA has already expressed its preference for simple and streamlined MNP process for PNG in the interests of efficiency, consistency and to ensure positive customer porting experience. NICTA has proposed that the MNP process should be limited to simple and efficient porting

numbers between donor and recipient and ancillary functions avoided unless absolutely necessary.

In some MNP processes, customers are allowed to nominate a future date for their porting request to be processed. NICTA recognises that such a deferred porting function may be useful in certain circumstances. However, NICTA's research suggests that such deferred porting functions are seldom used and can result in confusion amongst MNP stakeholders and resulting in unnecessary porting theories and errors.

NICTA therefore proposes that only real-time porting of numbers should be permitted in the PNG MNP process and that deferred or delayed porting should not be allowed.

Question 18
It is proposed that only real-time porting of customer numbers will be allowed and customers will not be able to defer or delay porting requests to later dates. Please provide your comments and views regarding this proposed approach.

The introduction of MNP into the PNG market is intended to benefit all PNG consumers, both retail and business/corporate. NICTA recognises that the porting requirements for retail and business/corporate customers may differ and in particular that business/corporate customers may wish to port multiple numbers in a single transaction.

NICTA understands that successful MNP implementations allow multiple numbers to be ported in a single transaction, but this capability may require a separate process and/or NPC functionality. For instance, if the PNG MNP process is to include secondary customer-initiated validation of porting requests, there are multiple number porting transactions and require each number to be separately validated by the user or customer which could be cumbersome and complex to manage.

In the interests of efficiency and positive customer porting experience, NICTA proposes that the PNG MNP process should allow the porting of multiple numbers within a single porting request, irrespective of whether such number blocks are contiguous or non-contiguous. However, NICTA recognises that to simplify the validation process for donor operators all numbers within a multiple number porting request should come from the same customer account held by the donor operator.

For simplicity and clarity, NICTA proposes that a multiple number porting request is defined as a request that contains two or more numbers. It may be appropriate for such multiple number porting requests to be exempt from the standard timeframe, but NICTA will review potential multiple porting process requirements during the post-consultation MNP implementation phase.

Question 19
It is proposed that the porting process will allow the porting of multiple customer numbers within a single porting request (where "multiple number" is defined as two or more numbers belonging to the same customer account), both contiguous and non-contiguous number ranges, to support the efficient porting of multiple number blocks. Please provide your comments and views regarding this proposed approach.