

HKTA 2102
Issue 8.1

Procedures for Handling Number Porting by Database Solution



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Telecommunications Authority
Hong Kong

Revision History

Issue No.	Date Issued	Note
1	29 June 1995	Central reference database approach.
2	September 1996	Incorporation of Annex E - Functional Requirements of Reference Database.
3	March 1999	Modification of Section 4.1. Modification of Section 10.1 of Annex E.
4	December 2000	Incorporation of database interrogation service and relevant implementation details.
5	31 May 2002	Addition of procedures for number port back, cancellation and rejection as well as arrangements for adverse weather conditions.
5.1	5 December 2002	Update of Chapter 4 to facilitate the implementation of electronic NSD.
5.2	28 March 2003	Introduction of procedures for handling number porting that involves duplex ringing number (ref. Annex K).
6	December 2003	Modification of Sections 4.1, 4.2, 4.5 and 4.6. Addition of new Section 8.5. Incorporation of Annex L – Investigation of Number Porting Request Form.
7	October 2004	The contents of HKTA 2105, HKTA 2106 and HKTA 2107 are merged with HKTA 2102. The number migration requirements and procedures are included. The details of the minor problem handling procedure are moved to Annex L. Annex N - Investigation of Number Porting Request form is revised.
7.1	June 2006	The porting requirement of 900x is removed. Under Section 4.5.2, the DNO is required to return the documentary evidence within 7 calendar days from the date of issuing the request form by the RNO.

The typhoon and black rainstorm arrangement in Section 11 is revised.

Only the abbreviation of the name of the Network Operators is included in the Annex B.

The new minor problem codes are added in the Annex I.

The new major problem codes are added in the Annex J.

8 May 2010 The migration support of 5(1-9)x numbers is added in Annex A.

The operator list in Annex B, Annex H and Annex K is updated.

8.1 Aug 2011 The Annex B is updated with a signature applicable to both Part A and Part B.

The texts in relation to commercial issues/arrangements in Section 2, Annex E and Annex F are deleted.

The operator list in Annex B, Annex H and Annex K is updated.

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Procedures for Handling Number Porting by Database Solution

0. Foreword

As directed by the Telecommunications Authority (TA), the licensees using numbers and codes allocated by the TA for fixed network services in accordance with the “Code of Practice Relating to the Use of Numbers and Codes in the Hong Kong Numbering Plan” (hereafter referred to as the Network Operators¹) are required to provide the function of Operator Number Portability (ONP) among their networks.

ONP generally refers to the ability for a customer to retain his/her assigned or allocated number(s) / access code(s) when changing the subscription from one Network Operator to another Network Operator. The numbers concerned may be any numbers assigned to individual end users of general telephone services or block of number levels / access codes allocated to service providers or institutions for the provision of different telecommunications services such as paging service, Internet access service, tele-betting service, etc. to the general public.

This document sets out the procedures and requirements for ONP. In this connection, unless otherwise stated to the contrary, the numbers considered in this document are restricted to those involving ported numbers and migrated numbers only.

Unless otherwise approved by the TA, the Network Operators shall comply with the procedures and requirements specified in this document.

The TA stipulates that the Network Operators have to adopt the most effective and efficient method, such as database solution, to implement ONP whether it is number porting or number migration. It is understood that some Network Operators may use some sort of routing method instead of database solution to implement number migration. However, in the long terms, the TA considers that a unified database solution should be adopted by all Network Operators for ONP implementation no matter it is porting or migration.

Nothing in this document absolves a Network Operator from operating according to the terms of its licence and/or any legislation in force in Hong Kong. In case of a conflict between this document and a licence condition, the latter should take precedence.

¹ For avoidance of doubt, “Network Operators” referred to in this document shall include, but not limited to licensees of External Fixed Telecommunications Network Services licence, Fixed Telecommunications Network Services licence, Fixed Carrier licence, Unified Carrier licence, Service-based Operator offering Class 1 services licence referred to in the TA Statement entitled “Service-Based Operator Licence”.

1. Definition of Terms

Administration Database (AD):	The off-line database that mainly performs the backup and auditing role for all ported-out and ported-in numbers, and is required to store all Network Operators' working and history records of ported-out and ported-in fixed numbers and their corresponding information.
AD Maintenance Agent (MA):	The AD Maintenance Agent is the Network Operator designated to be responsible for the agreed operation, administration and maintenance work of the physical AD server.
Business day:	09:00-17:00 from Monday to Friday excluding public holiday.
Directory Number (DN):	The telephone number that is dialed by a calling party to reach the called party. If the called party is a fixed customer whose number has been ported/migrated from the Donor Network to the Recipient Network, this is the same as the Ported Number / Migrated Number.
Donor Network Operator (DNO):	The Network Operator from which the number is being or has been ported or migrated.
Donor Network:	The Network of the DNO.
Gateway Number (GN):	The called address translated from the ported number for supporting the real time call routing purpose.
GN Database:	The database that provides translation of the ported number into the gateway number (GN).
Migrated Number:	Number of an entity which has been migrated from the Donor Network to the Recipient Network.
Migration:	The movement of a single number or a block of numbers, which is directly assigned/allocated by OFTA to an entity, from one Network Operator to another Network Operator upon the request of an entity.

ONP Provider:	The Network Operator which provides GN translation service to the Originating Network for the purpose of routing of calls to the Recipient Network by maintaining an updated GN Database. An ONP Provider may also play the role of a transit network if requested by the originating network.
Original DNO:	The Network Operator from which the number was first ported.
Originating Network:	The Mobile or Fixed Network from which a call is originated.
Other Network Operator (ONO):	Network Operator which is neither DNO nor RNO.
Ported Number:	Fixed number of a customer which has been ported from the Donor Network to the Recipient Network.
Porting:	The movement of a single number or a block of numbers, which is assigned by an Network Operator to an entity, from one Network Operator to another Network Operator upon the request of an entity. The number(s) in question is (are) allocated by OFTA to the Network Operators who then assign this (these) number(s) to the entity.
Receiving Network Operator:	The Network Operator that retrieves information exchange files from the sending Network Operators.
Recipient Network Operator (RNO):	The Network Operator which has gained the ported or migrated number.
Recipient Network:	Network of the RNO.
Sending Network Operator:	The Network Operator that sends information exchange files to other Network Operators.
Service Provider:	A licensed operator which does not have its own network infrastructure but uses that of a Network Operator / mobile operator to provide telecommunications services. A service provider uses the number blocks allocated to it by the TA or assigned to it by a

Network Operator for the provision of services.

Terminating Network: The network to which the called number is connected. By inference, this is the same as the Recipient Network.

Transit Network: The network which is involved in carrying a call between the Originating Network and the Terminating Network but which is neither the Originating nor the Terminating Network.

2. Classification of Operator Number Portability (ONP)

- 2.1 In view that the movement of certain levels of number / code across networks will result in significant change in traffic flow carried by the Network Operators and necessitate the Network Operators to re-configure or re-dimension their networks, OFTA has, in consultation with the industry, classified ONP into “Porting” and “Migration” to help the Network Operators identify their responsibilities and involvement in completing a porting or migration request and adopt the appropriate procedures for handling portability request of different number levels.
- 2.2 The classification of ONP into “Porting” or “Migration” is solely established for the convenience of Network Operators and helps them identify their responsibilities and involvement in completing a number portability request. From the TA's regulatory point of view, “Porting” and “Migration” are functions to implement ONP.
- 2.3 The table as shown in Annex A summarizes the classification of ONP according to number levels. Network Operators should base on the classification to determine whether porting procedures or migration procedures should be adopted to handle a number portability request.
- 2.4 For porting, the procedures and requirements are set out with a view to allowing ONP whereby the routing information is obtained by making reference to a database, such as the one established in an intelligent network (IN).

3. Requirements on Networks Operators, ONP Provider and MA

3.1 General Requirement

- 3.1.1 All Network Operators shall process the porting/migration request in a prompt and efficient manner to meet the customers' required cut-over date.
- 3.1.2 All Network Operators shall minimize service interruption of the ported/migrated numbers during cut-over.

3.1.3 All Network Operators shall provide adequate POI capacity between networks to avoid possible network congestion.

3.1.4 Handling of Data

All Network Operators shall observe the Personal Data Privacy Ordinance as well as applicable code of practice or guidelines that may be issued by the TA in handling customers' personal data. The data provided by the porting/migration customers are solely for the purpose of porting/migration, and must not be used for any other purposes.

3.2 Number Porting

3.2.1 Requirements on Originating Network and Transit Network

3.2.1.1 Calls originating in the Originating Network and calls passing through the Transit Network shall be passed to the Recipient Network over one or more pre-determined Points of Interconnection(s) (POI).

3.2.1.2 The Originating Network (or Transit Network which is the ONP Provider of the Originating Network) has to recognize a call into a ported number and translate the called party number to a GN pre-determined by the Recipient Network. The call is then routed to the Recipient Network using GN. Blocks of GN will be centrally allocated by the TA. The Originating Network can, with mutual agreement, rely on an ONP Provider to provide number translation and/or routing services for ported number recognition, GN translation and/or routing of the call to the Recipient Network.

3.2.1.3 The Originating Network shall ensure that calls destined for numbers residing on its own network shall not be passed to another network except its own ONP Provider.

3.2.1.4 Under the conditions where Calling Line Identity (CLI) is transferred, calls delivered across the POI from the Originating Network (or Transit Network) to the Recipient Network shall have the CLI set to the Directory Number of the originating caller line.

3.2.1.5 Calls delivered from the Originating Network (or Transit Network) to the Recipient Network will use a routing which is technically and operationally most efficient.

3.2.2 Requirements on Donor Network Operator

3.2.2.1 The Donor Network Operator (DNO) shall ensure that any ported number is not reassigned to another customer of the Donor Network unless and until the Recipient Network Operator (RNO) relinquishes the number.

3.2.2.2 The DNOs will, at such intervals as may be directed by the TA, file reports to the TA on details of numbers ported from their networks.

3.2.3 Requirements on Recipient Network Operator

- 3.2.3.1 After having received a call over the POI from the Originating Network (or Transit Network), the Recipient Network will connect the call to the destined ported number in a manner that is technically and operationally most efficient.
- 3.2.3.2 Under the conditions where CLI is transferred, calls originated by the ported number shall have the CLI set to the Directory Number and not to any other number that may be used by the Recipient Network for completing incoming calls.
- 3.2.3.3 When a ported number ceases to be used in the Recipient Network, the ported number shall be relinquished and returned to the original Donor Network three calendar months after the customer ceased to use the number(s). Within these three months, the RNO could re-assign the same number(s) to the original customer upon request by this customer but is not allowed to assign the number to any other customer.
- 3.2.3.4 The RNOs will, at such intervals as may be directed by the TA, file reports to the TA on details of numbers ported to their networks.

3.2.4 Requirements on ONP Provider and MA

General

- 3.2.4.1 In this document, all the defined responsibilities would refer to the Network Operators only, although the Network Operators could delegate the concerned responsibilities to its ONP Provider(s) and/or its MA(s). Every Network Operator should nominate one or more ONP Provider and/or MA, which may be the Network Operator itself. The Network Operator should ensure proper coordination between its ONP Provider(s) and/or its MA(s).

ONP Provider

- 3.2.4.2 An ONP provider has to provide database look-up and number portability translation service to its associated Originating Network for the purpose of routing of calls to the Recipient Network. The ONP Provider has the responsibility to update its GN Database on behalf of its associated Network Operator.

MA

- 3.2.4.3 An MA is responsible for the agreed operation, administration and maintenance work of the physical AD server as designated by a Network Operator. The MA has the responsibility to update its AD on behalf of its associated Network Operator.

3.3 Number Migration

3.3.1 Requirements on Originating Network and Transit Network

- 3.3.1.1 Calls originating in the Originating Network and calls passing through the Transit Network shall be passed to the Recipient Network over one or more pre-determined Points of Interconnection(s) (POI) route.
- 3.3.1.2 Originating Network (or Transit Network) has to recognize a call to a migrated number and route the call to the RNO. A suitably dimensioned POI link must be established between the Originating Network (or Transit Network) and the Recipient Network.
- 3.3.1.3 Under the conditions where Calling Line Identity (CLI) is transferred, calls delivered across the POI from the Originating Network (or Transit Network) to the Recipient Network shall have the CLI set to the Directory Number of the originating caller's line. Details should be referred to the relevant documents on CLI including but not limited to HKTA 3101, "Code of Practice in relation to Calling Line Identification and other Calling Line Identification related services" and "Code of Practice on Code of Conduct for CLI".
- 3.3.1.4 Calls delivered from the Originating Network (or Transit Network) to the Recipient Network should use a routing which is technically and operationally efficient.

3.3.2 Requirements on Donor Network Operator

- 3.3.2.1 The DNO should, through the Service Provider that raises the migration request, furnish the RNO with information about the migrated numbers to facilitate the planning of the changeover arrangement by the RNO.

3.3.3 Requirements on Recipient Network Operator

- 3.3.3.1 The RNO has to coordinate with the DNO and ONO to establish and provide adequately dimensioned POI routes directly or indirectly connecting between the two parties.
- 3.3.3.2 After having received a call to a migrated number over the POI from the Originating Network (or Transit Network), the Recipient Network has to connect the call to the Service Provider, who has migrated the number to the RNO, in a manner that is technically and operationally most efficient.
- 3.3.3.3 When a single or a block of migrated number ceases to be used by the Service Provider, the migrated numbers shall be relinquished and returned to the TA.

3.4 Requirements on the Database

- 3.4.1 The RNO needs to send the necessary ported number and migrated number information, as defined in Annex C and Annex D respectively, to the DNO and all

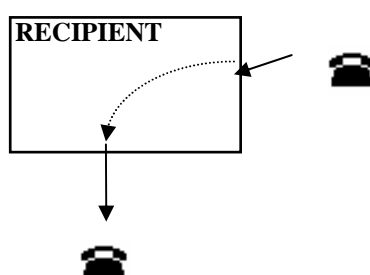
other Network Operators concerned. Such information may then be kept in the individual Network Operator's database which stores the necessary routing information for implementing number portability.

- 3.4.2 Network Operators are expected to deploy a common interface standard for their database schemes. However, in order that Network Operators may retain sufficient control and flexibility over the implementation of their own networks, the common interface standard may incorporate a number of variants, as may be determined jointly by the Network Operators and the TA.
- 3.4.3 Means should be provided to ensure that for the purpose of number portability, the minimum number of references to the database would be required. Nevertheless, the actual number of references to the database could be more than the minimum due to considerations other than the number portability requirements, and will be determined by the respective Network Operators.
- 3.4.4 Means should be provided to ensure that the data for each newly ported/migrated number or newly relinquished number is effected in a concurrent manner on all databases and that an audit trail should be available to ensure that data integrity is maintained.
- 3.4.5 Applications of the information on the databases shall be restricted to those for operational purposes, such as for routing of calls and fault handling. A new Network Operator / MA making use of the database image from the other Network Operator / MA to build its own database would be accepted as an operational purpose. Unless otherwise approved by the TA, the Network Operators / MA shall not make use of the information obtained from the databases for any other purposes.

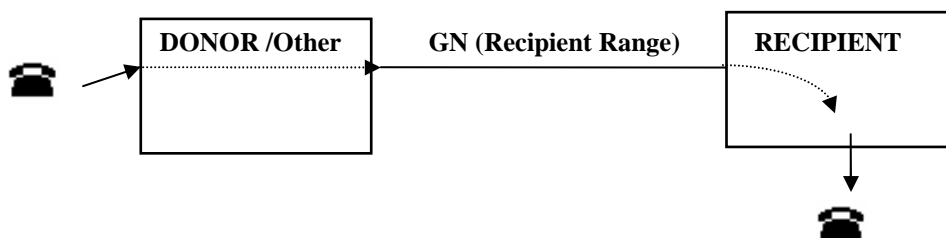
3.5 Network Configuration

The following three diagrams illustrate the completion of calls to a ported number or a migrated number:

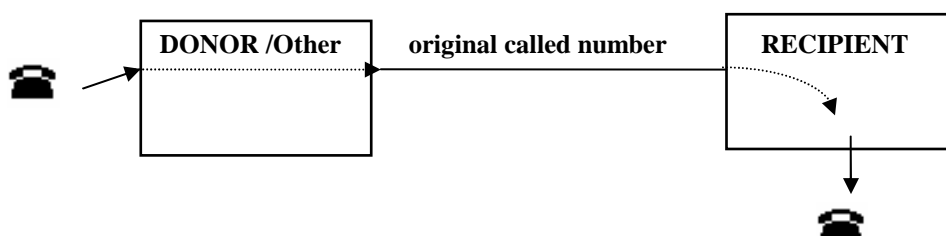
3.5.1 Calls to Ported Number and Migrated Number Originated by Recipient Network



3.5.2 Calls to Ported Number Originated by Donor Network or Other Network



3.5.3 Calls to Migrated Number Originated by Donor Network or Other Network



4. Number Porting Activation and Termination

Part A : For 2x, 3x fixed network numbers and 8(1-3)x personal numbers

4.1 Number Porting Service Request and Activation Process

4.1.1 This section describes the inter-operator procedures that require joint or coordinated activities. To achieve ONP, each Network Operator should nominate one or more ONP Provider and MA, which could be the Network Operator itself, to provide GN database look-up and other logistic services. In case that a Network Operator is not allocated numbers in 2x, 3x and 8(1-3)x, the Network Operator may nominate an ONP Provider only. The internal procedures and agreement between a Network Operator and its ONP Provider(s) and/or MA(s) are outside the scope of this document.

4.1.2 The customer requests number porting service from the RNO. This will involve the completion of a Notification of Service Disconnection (NSD) form signed by the customer concerned for subsequent entry to the internal provisioning process. A sample of the NSD form in English and Chinese is shown in Annex B. Essential information in this form will be input by the RNO into a Number Portability Request (NPR) of AD system to be transferred to the DNO and provide the basis for the customer advising the DNO of the request for number porting service. In the event of number porting with associated number termination (i.e. RNO input the associated number termination into the NPR), Network Operators should apply

electronic means to process the service termination. For associated number retention in the DNO, the RNO may supply the optional information by means of the Comments field in NPR for the DNO reference and the exact implementation is described in HKTA 2108. If necessary, the DNO should approach the RNO to request for the sending of NSD form.

4.1.3 Upon receiving the customer service request, the RNO performs initial checks to confirm whether the number portability can be applied. If initial checks are passed, the RNO will send an NPR, which shall incorporate essential customer information including customer name and Identity/Business Registration number and associated termination numbers (if any) extracted from the NSD form, with a proposed cut-over date to the DNO. On receipt of the NPR, the DNO performs initial checks and will reply to the RNO according to the following time-frame no matter whether the porting order involves the provisioning of LAL / BW or not :

- (a) if the DNO receives an order before 12:00, it should respond on or before 17:00 of the next day; and
- (b) if the DNO receives an order between 12:00 to 17:00, then it should respond on or before 12:00 of the day after next.

If initial checks are passed, the DNO will send an Acknowledgment to NPR (AKNPR) to the RNO with the agreed cut-over date. The RNO will then send an Advice of Portable Number (APN) with the cut-over details to all the Network Operators concerned including the DNO at least 4 calendar days in advance of the agreed cut-over date.

In general, the normal lead-time for number porting without rejection should be 3 business days plus 4 calendar days upon submission of NPR by the RNO and received by the DNO.

If major problems are found in the initial checks, the DNO will send a Negotiation of NPR (NTNPR) to the RNO to advise of the problem(s) as described in Annex J and, if appropriate, any suggestion(s) to resolve the problem(s). The RNO will issue Cancellation of NPR (CLNPR) to the DNO within 2 business days. In case the RNO would like to resubmit the porting request, it should issue a new NPR with a new serial number.

If problems as described in Annex I (for detailed procedures, please refer to Section 4.6.1 & 4.6.2) are found in the initial checks, the DNO will send by fax the Minor Problem Negotiation Form to the RNO to advise of the problem.

Upon the request of customer, the DNO may request the RNO to fax NSD form to it as long as it could provide the RNO with supporting written evidence showing the customer's initiative. Upon receiving the DNO's request together with supporting written evidence of customer request, the RNO shall fax the hardcopy NSD form to the DNO for customer enquiry or billing dispute handling.

At the request of the DNO with supporting written evidence from customer before the cut-over, the RNO shall send NSD form to the DNO following the response time

requirement for the acknowledgement of NPR. In summary, when a request is received by the RNO before 12:00 of Day 1, the RNO should fax the NSD form to the DNO by 17:00 of Day 2. If the request is received between 12:00 to 17:00 of Day 1, the RNO should fax the NSD form to the DNO by 12:00 of Day 3. If the request is received after 17:00 of Day 1, the RNO should fax the NSD form to the DNO by 17:00 of Day 3.

For request raised after the cut-over date, the RNO shall fax the associated NSD form to the DNO within 14 calendar days from the date of issuing the request form by the DNO. The RNO will not entertain the DNO's request if the cutover date is dated 3 months earlier than the date the DNO makes the request.

The DNO shall initiate the request by filling in a standard form given in Annex N.

For the avoidance of doubt, all days referred to in this section (i.e. Section 4.1.3) are business days unless otherwise specified.

- 4.1.4 On receipt of the APN, all the Network Operators concerned will, within 1 business day, reply to the RNO with an Acknowledgment to APN (AKAPN) to confirm agreement to proceed with the cut-over on the agreed cut-over date.

However, the RNO should not proceed to carry out a number porting until the AKAPN messages from all Network Operators concerned are received.

- 4.1.5 If a new customer line is required, the RNO shall provision and install the line up to the pre-determined network termination point. The installation testing of the RNO must not interfere with the existing routing of calls to and from the customer using the Donor Network's existing customer line.
- 4.1.6 If any difficulties are encountered by either the RNO or the DNO, that would mean the cut-over date could not be achieved at the agreed date/time, then either the RNO or the DNO must inform all other Network Operators concerned at least 1 business day before the agreed cut-over time/date, by issuing a Cancellation of APN (CLAPN) to all the Network Operators concerned and the RNO issues cancellation of NPR (CLNPR) to the DNO within 2 business days. Once the difficulties have been overcome, the RNO will issue a new NPR to the DNO if the customer agrees to another cut-over date.
- 4.1.7 If the cut-over is successful, the RNO will send a Successful Completion of APN (SCAPN) to all Network Operators concerned within 5 business days to confirm the successful completion date/time of the cut-over for record purpose.
- 4.1.8 The details of information exchange in supporting number porting are shown in Annex C.

4.2 Cut-over Procedures

- 4.2.1 Prior to the start of cut-over, as described in Section 4.1, each Network Operator will be responsible for having all deliverables ready for service. The RNO should have already issued the APN with all the details included and all the Network Operators concerned have acknowledged and responded to the APN.
- 4.2.2 The RNO will have completed all necessary installation and pre-cut-over testing up to the physical cut-over point and have all the necessary number porting data in place prior to cut-over.
- 4.2.3 Within the scheduled cut-over time-window as agreed with the customer, the RNO will commence physical connection of the customer to its network if physical cut-over is required. The detailed arrangements of physical cut-over are to be coordinated between the RNO and the DNO. Within the same time-window, the DNO, the RNO and all other networks will effect a re-route on the routing plan of the ported line.
- 4.2.4 If the line is still busy within the time-window, on the basis that the RNO has informed the customer of possible service interruption during the cut-over time-window, the RNO or the DNO may force-release the line, without waiting for it to be idle, to carry out the cut-over.
- 4.2.5 The physical cut-over and the activation of routing plan are two independent activities and could be started and finished at any time within the agreed time-window.
- 4.2.6 If, for any reason, the cut-over is unsuccessful, the case will be treated as a fault. The RNO will be responsible for resolving the fault and the DNO and all ONOs concerned will work closely with it to solve the problem. The RNO is also responsible for notifying the customer of the status.
- 4.2.7 After the end of the cut-over time-window, the RNO will then carry out testing for call termination to the customer's new connection.
- 4.2.8 After successful testing of call termination to the new connection, the RNO will send a Successful Completion of APN (SCAPN) in accordance with section 4.1.7 to all Network Operators, including all MAs, and update all necessary records.

4.3 Service termination of ported number(s)

- 4.3.1 If a ported number eventually ceases to be used by a customer of the RNO and thus the number is relinquished, the ported number will be returned to the original DNO. This will be achieved by the RNO passing an Advice of Relinquished Ported Number (ARNP) to the original DNO and other Network Operators three calendar months after the customer ceases to use the number in question. Within these three months, the RNO could re-assign the same number(s) to the original customer upon request by this customer but is not allowed to assign the number to any other customer. The

original DNO will then be responsible for providing appropriate call handling treatment for that number in the same manner as other non-ported numbers.

4.4 Successive porting and port back

- 4.4.1 For a customer wishing to port the number from an Old Recipient Network to a New Recipient Network, the procedures will be similar to those of initial porting of the number. The same procedures as specified in sections 4.1 and 4.2 above shall be followed. The New RNO will become the “RNO” and the Old RNO will become the “DNO”. If a successive ported number eventually ceases to be used by that customer of the New RNO service and thus relinquishes the number, the ported number will be returned to the original DNO according to the requirement specified in Section 4.3.1 above.
- 4.4.2 In the case of number port back, normal porting and cut-over procedures as that specified in Sections 4.1 and 4.2 should be followed except that the directory number should no longer be classified as a working ported number in the GN databases and the Administration Databases after the port-back. The GN to be used in a port back case is defined in Annex G. Port back is not a service termination but is the process of porting number(s) back to the original DNO after one or more porting events among the Network Operators.

4.5 Cancellation of number porting and gateway number change

Cancellation of number porting⁽¹⁾ is classified into normal and urgent cases and will be handled with two different procedures. For any cancellation that is requested by a customer one business day before the scheduled cut-over time, it is regarded as normal cancellation. For any cancellation that is requested by a customer less than one business day but more than or equal to 2 hours before the agreed cut-over time, it is taken as urgent cancellation. After cancellation of number porting, the RNO must get prior consent from customer before re-submitting the same number porting.

4.5.1 Normal cancellation

The RNO should be the sole agent in handling a customer’s normal cancellation request. In case a customer approaches the DNO to request for normal cancellation, the DNO should advise the customer to approach the RNO direct. The RNO has to send CLAPN and CLNPR to the DNO and CLAPN to ONOs to complete a cancellation order before the scheduled cut-over time.

4.5.2 Urgent cancellation

The DNO should be the sole agent for all urgent cancellation requests. The RNO should advise the customer to approach the DNO in case customer contacts the RNO to request urgent cancellation. Upon receiving customer’s cancellation request, the

⁽¹⁾ To avoid dispute, RNO should clearly communicate to their customers in advance the standard procedures for making a cancellation request and operators’ standard arrangement for handling a cancellation request.

DNO should send by fax the customer's urgent cancellation order by filling in a standard form given in Annex H to all Network Operators concerned.

In order to cater for the situation in which the customer is so late to make a cancellation request that Network Operators do not have sufficient time to carry out necessary activities to stop the porting, a deadline of two hours in advance of the cut-over time is set for customer to initiate urgent cancellation request. However, the DNO must inform the RNO/ONOs of the urgent cancellation at least 1.5 hours before the cut-over if urgent cancellation is to be effected by resume-to-normal procedures. For cancellation request initiated by the DNO less than 1.5 hours before the cut-over, urgent cancellation cannot be implemented and the request will only be processed by port-back-to-normal procedures.

The DNO is required to verify customer's information, and send the urgent cancellation order by fax to other Network Operators. The RNO and ONOs should make acknowledgement in the received urgent cancellation form and send it back by fax to the DNO within 30 minutes after receiving the fax. The DNO and the RNO have to send CLAPN and CLNPR respectively any time before the end of the next business day.

With written request from the customer, the RNO may initiate the request to the DNO for acquiring the evidence on urgent cancellation by filling in a standard form given in Annex N. The DNO shall return the "documentary" evidence⁽²⁾ to the RNO within 7 calendar days from the date of issuing the request form by the RNO.

(a) Resume-to-normal-procedures

Upon receiving customer's urgent cancellation request, the DNO should send by fax the customer's cancellation orders to the RNO and ONOs and then confirms the receipt of the fax transmission by fax. The detailed information of customer's cancellation order has to be specified in a standard form as that shown in Annex H. After getting the cancellation orders, the RNO and ONOs are required to carry out the necessary activities to effectively stop a specific number porting and work back to normal before the scheduled cut-over.

(b) Port-back-to normal procedures

Port-back-to-normal procedures should be the same as normal porting procedures. As customer is so late to raise its cancellation request that Network Operators concerned do not have sufficient time to carry out the necessary activities to stop the scheduled porting, the number(s) concerned will be ported to the RNO first and then ported back to the DNO following the required porting procedures. However, the RNO and the DNO should jointly work out possible means or solutions to avoid or minimize any service interruption to the customer concerned. They should also

⁽²⁾ Documentary evidence refers to a piece of evidence that can be presented to a third party and used to prove that a request for urgent cancellation by the customer concerned has taken place. Signatures and voice in a recorded message of the customer concerned are the acceptable form of documentary evidence for the purpose of urgent cancellation.

mutually agree to adopt fast track port back process in order to facilitate the customer to port back to the DNO as soon as possible.

4.6 Special Problem Handling Procedure

- 4.6.1 In order to minimize the possibility of having the scheduled cut-over date of a porting order rejected by the DNO due to some minor problems, the DNO is required to proceed with the cut-over at the agreed cut-over date even though there are problems with the customer information as that identified in Annex I if the DNO has been given 5 business days (for negotiation with customer and Network Operators) plus 4 calendar days (for provisioning of the porting order) in advance of the agreed cut-over date to process the cut-over. The 5 business days has already included the extra time required by the RNO to tackle the minor problems as identified in Annex I. For minor problem identified in the porting request, Network Operators are required to follow the minor problem handling procedure given in Annex L
- 4.6.2 For a number porting that involves duplex ringing number, provided that the essential number porting information is correct, Network Operator is required to follow the procedures and fulfill the lead-time requirement described in Annex M.

Part B : For Special Numbers Porting (i.e. level 180x, 183x, 187x, 30x and 800x)**4.7 Number Porting Service Request and Activation Process**

- 4.7.1 This section describes the inter-operator procedures that require joint or coordinated activities concerning special number porting service request. To achieve ONP, each Network Operator should nominate one or more ONP Provider and MA, which could be the Network Operator itself, to provide GN database look-up and other logistic services. In case that a Network Operator is not allocated numbers in 180x, 183x, 187x, 30x and 800x, the Network Operator may nominate an ONP Provider only. The internal procedures and agreement between a Network Operator and its ONP Provider(s) and/or MA(s) are outside the scope of this document.
- 4.7.2 The customer requests special number porting service from the RNO. This will normally involve the completion of a NSD form for subsequent entry to the internal provisioning process, and provide the basis for the customer advising the DNO of the request for special number porting service.
- 4.7.3 Upon receiving the customer service request, the RNO performs initial check on whether the special number porting can be proceeded. If initial checks are passed, the RNO will send an NPR with the necessary information including proposed cut-over date to the DNO. On receipt of the porting request, the DNO has to carry out initial checks.

If initial checks are passed, the DNO will send a AKNPR and inform the RNO that it is technically feasible. Upon receiving the DNO's advice, the RNO will check whether it is necessary to revise the cut-over schedule, and will negotiate with the DNO to finalize the cut-over schedule. The RNO will then send a APN with the cut-over details to all the Network Operators concerned including the DNO before the agreed cut-over date in accordance with the stipulated lead-time requirement.

The lead-time requirement for number porting is categorized into three classes. The criteria for classification and lead-time requirement for each class can be referred to Annex E. The specified lead-time requirement is proposed based on the assumption that all the respective NN level of the RNO are pre-installed in the network of the DNO before the special number porting takes place. Therefore, all Network Operators should well plan for assignment of NN in their networks and advise the other Network Operators in order to achieve the lead-time.

If problems are found in the initial checks, the DNO will send a NTNPR to the RNO to advise of the problem(s) and, if appropriate, any suggestion(s) to resolve the problem(s). The RNO has to issue a CLNPR to the DNO within 2 business days. If the RNO issues a new NPR for the same porting request, a new serial number should be used instead of using the same serial number of the original NPR(s).

If the RNO does not respond to the DNO's NTNPR by issuing CLNPR, the porting request will be automatically cancelled 30 calendar days after the issue of NTNPR or 4 calendar days before the requested cut-over date, whichever is the earlier. The RNO is required to send CLNPR to the DNO.

- 4.7.4 On receipt of the RNO's Number Portability Feasibility Request (NPFR) (i.e. send by fax), all the ONOs will study the technical feasibility and will reply to the RNO by sending Acknowledgement to NPFR (AKNPFR) by fax to confirm agreement to proceed with the cut-over on the agreed cut-over date.

If problems are found, the ONOs will send Negotiation of NPFR (NTNPFR) by fax to notify the RNO about the identified problem. On receipt of the ONO's NTNPFR, depending on the nature of the problem(s), the RNO will either further negotiate or issue revised porting request to the DNO/ONOs or issue Cancellation to all parties before the time the RNO informs the DNO to start the porting process. If the time is not matched and the DNO has started the porting process, the RNO is required to take the financial burden to work back to normal.

- 4.7.5 On receipt of the APN, all the Network Operators concerned will, within 1 business day, reply to the RNO with an Acknowledgment to APN (AKAPN) to confirm agreement to proceed with the cut-over on the agreed cut-over date.

However, the RNO should not proceed to carry out a number porting until the AKAPN messages from all Network Operators concerned are received.

- 4.7.6 The new customer line is then provisioned and installed by the RNO up to the pre-determined network termination point. The installation testing of the RNO must not interfere with the existing routing of calls to and from the customer using the Donor Network's existing customer line.

- 4.7.7 If any difficulties are encountered by either the RNO or the DNO, that would mean the cut-over date could not be achieved at the agreed date/time, then either the RNO or the DNO must inform all other Network Operators concerned at least 48 hours before the agreed cut-over time, by issuing a CLAPN to all the Network Operators concerned and the RNO issues a CLNPR to the DNO within 2 business days. Once the difficulties have been overcome, the RNO will issue a new NPR to the DNO if the customer agrees to another cut-over date.

- 4.7.8 If the cut-over is successful, the RNO will send a SCAPN to all Network Operators concerned to confirm the successful completion date/time of the cut-over for record purpose.

4.8 Cut-over Procedures

- 4.8.1 Prior to the start of cut-over, as described in Section 4.7, each Network Operator will be responsible for having all deliverables ready for service. The RNO should have already issued the APN with all the details included and all the Network Operators concerned have acknowledged and responded to the APN.

- 4.8.2 The RNO will have completed all necessary installation and pre-cut-over testing up to the physical cut-over point and have all the necessary number porting data in place prior to cut-over.

- 4.8.3 Within the scheduled cut-over time-window as agreed with the customer, the RNO will commence physical connection of the customer to its network if physical cut-over is required. The detailed arrangements of physical cut-over are to be coordinated between the RNO and the DNO. Within the same time-window, the DNO, the RNO and all other Network Operators will effect a re-arrangement of the routing plan of the ported number(s).

If it is technically feasible and required, traffic re-routing from the DNO / ONO to the RNO will be performed phase-by-phase during the cut-over operation. Alternatively, multiple porting requests with different cut-over time-windows can be made. An estimated schedule for completion of each porting phase will be provided before cut-over by the DNO / ONO to the RNO for operational planning purpose. For coordination of phase-by-phase cut-over process, the DNO / ONO will notify the RNO on completion of each porting phase.

- 4.8.4 If the line is still busy within the time-window, on the basis that the RNO has informed the customer of possible service interruption during the cut-over time-window, the RNO or the DNO may force-release the line, without waiting for it to be idle, to carry out the cut-over.
- 4.8.5 If the cut-over is unsuccessful, the case will be treated as a fault. The RNO will be responsible for coordinating the resolution of the fault. The DNO and all ONOs concerned will work closely with the RNO to solve the problem. The RNO is also responsible for notifying the customer and all other Network Operators concerned of the status. The customer shall have the right to request for urgent restoration in case of unsuccessful cut-over.
- 4.8.6 The customer can request for urgent restoration after the cut-over operation is started and before the operational staffs of the DNO and ONOs are released. The procedures for urgent restoration can be referred to Section 5.5.1.
- 4.8.7 After successful activation of the re-route, the DNO and all other Network Operators concerned will confirm to the RNO of the result.
- 4.8.8 The RNO will then carry out testing for call termination to the customer's new connection.
- 4.8.9 Normally, the operational staff of the DNO and ONOs will be released one hour after the completion of the agreed cut-over time-window unless the RNO requests to hold them.

The RNO will be required to bear the relevant reasonable costs for holding the DNO and ONOs' operational staff if the extension of operation is not caused by the DNO and ONOs.

On completion of the extended operation, the RNO will notify the DNO and ONOs for the release of their operational staff.

- 4.8.10 After successful testing of call termination to the new connection, the RNO will send a SCAPN in accordance with section 4.7.8 to all Network Operators, and update all necessary records.

4.9 Service termination of special ported number(s)

- 4.9.1 If a special ported number, which is allocated by a Network Operator directly to the customer, is ceased for service in the RNO without being ported to ONO, the ported number will be returned to the original DNO. The RNO should pass a ARPN to the original DNO and ONOs three calendar months after the customer ceases to use the number. Within these three months, the RNO could re-assign the same number(s) to the original customer upon request by this customer but is not allowed to assign the number to any other customer.

4.10 Successive porting and port back

- 4.10.1 For a customer wishing to port the number from an Old Recipient Network to a New Recipient Network, the procedures will be similar to those of initial porting of the number. The same procedures as specified in sections 4.7 and 4.8 above shall be followed. The New RNO will become the “RNO” and the Original RNO will become the “DNO”. If a successive ported number eventually ceases to be used, section 4.9 will be followed.
- 4.10.2 In the case of number port-back, special number porting and cut-over procedures as that specified in 4.7 and 4.8 should be followed except that the directory number should no longer be classified as a working ported number in the GN databases and the Administration Databases after the port back. The GN to be used in a port back case is defined in Annex G. Port back is not a service termination but is the process of porting number(s) back to the original DNO after one or more porting events among the Network Operators.

5. Number Migration Activation and Termination

5.1 Number Migration Service Request and Activation Process

- 5.1.1 This section describes the inter-operator procedures that require joint or coordinated activities concerning number migration request. A flowchart showing the procedures of handling number migration request is shown in Annex D.
- 5.1.2 A customer's request for number migration service from the RNO will normally involve the completion of an application form for internal provisioning process by RNO and provide the basis for the customer to advise DNO of the request for number migration service.

- 5.1.3 Upon receiving the customer service request, the RNO performs initial check on whether the number migration can be proceeded. If initial checks are passed, the RNO will send by fax to the DNO a Number Migration Request (NMR) with the necessary information supplied including proposed cut-over date. On receipt of the migration request, the DNO has to carry out initial check on the information received.

If initial checks are passed, the DNO will inform the RNO of the result of feasibility check by sending an Acknowledgement of NMR (AKNMR). Upon receiving DNO's advice, the RNO will check whether it is necessary to revise the cut-over schedule and will negotiate with the DNO to finalize the cutover schedule. The RNO will then send an Advice of Number Migration (ANM) together with the cutover details to all the concerned Network Operators including the DNO in accordance with the lead-time requirement as shown in Annex F.

If problems are found in the initial checks, the DNO will notify the RNO, indicating the problem identified and, if appropriate, offer suggestion(s) to resolve the problem(s) with a Negotiation of NMR (NTNMR). On receipt of the DNO's advice, depending on the nature of the problem(s), the RNO will determine the subsequent course of actions to be taken such as to further negotiate with DNO to solve the problem, to issue a revised migration request to DNO or to issue Cancellation of NMR (CLNMR) to DNO. The migration request will be automatically cancelled if the RNO does not reply to DNO within 30 days after receiving DNO's advice on the result of feasibility check or 4 calendar days before the requested cut-over date.

- 5.1.4 On receipt of RNO's Number Migration Feasibility Request (NMFR), all the ONO will study the technical feasibility and will reply to the RNO to confirm the agreement to proceed the migration request on the agreed cut-over date with an Acknowledgement of NMFR (AKNMFR).

If problems are found, the ONO will notify the RNO with a Negotiation of NMFR (NTNMFR) and indicate the problem identified. On receipt of the ONO's advice, depending on the nature of the problem(s), the RNO will determine the subsequent course of actions to be taken such as to further negotiate with ONO to solve the problem, to issue a revised migration request to DNO/ONO or to issue a cancellation to all parties before the time the RNO informs the DNO to start the migration process. If the time is not matched and the DNO has started the migration process, the RNO is required to take the financial burden to work back to normal. The migration request will be automatically cancelled if the RNO does not reply to DNO within 30 days after receiving DNO's advice on the result of feasibility check or 4 calendar days before the requested cut-over date. .

- 5.1.5 On receipt of the ANM, DNO and all the ONO concerned will reply to the RNO with an Acknowledgement ANM (AKANM) to confirm agreement to proceed with the cut-over on the agreed cut-over date in accordance with the lead-time requirement as shown in Annex F.

However, the RNO should not proceed to carry out a number porting until the AKANM messages from all Network Operators concerned are received.

- 5.1.6 The new customer line is then provisioned and installed by the RNO up to the pre-determined network termination point. The installation tests conducted by the RNO must not interfere with the existing routing of calls to and from the customer using the Donor Network's existing customer line.
- 5.1.7 If any difficulty is encountered by the RNO or the DNO in meeting the agreed cut-over time during the provisioning phase of the migration request, then either the RNO or the DNO must inform the ONO at least 48 hours before the agreed cut-over time, by issuing Cancellation of ANM (CLANM). Once the difficulties have been overcome, the Network Operator encountering the difficulty will issue a revised cutover schedule to all Network Operators concerned if the customer agrees to another cutover date. Otherwise, the RNO will issue a Cancellation of NMR (CLNMR) to the DNO if neither the RNO nor the customer wants to proceed further with the number migration service request.
- 5.1.8 If the cut-over is successful, the RNO will send a Successful Completion of Advice of Number Migration (SCANM) to all concerned Network Operators to confirm the successful completion date and time of the cut-over for record purpose.

5.2 Cut-over Procedures

- 5.2.1 Prior to the start of cutover, as described in Section 5.1, each Network Operator will be responsible for having all deliverables ready for service. The RNO should have already issued the Advice for Number Migration (ANM) with all the details included and all the other Network Operators should have acknowledged and responded to the ANM.
- 5.2.2 The RNO will have completed all necessary installation and pre-cutover testing up to the physical cutover point and have all the necessary number migration / data in place prior to cutover.
- 5.2.3 Within the scheduled cut-over time-window as agreed with the customer, the RNO would set up physical connection with the customer if physical cutover is required. The detailed arrangements of physical cutover are to be coordinated between the RNO and the DNO. Within the same cut-over time-window, the DNO, RNO and ONO will effect a re-arrangement of the routing plan for the migrated number(s).

If it is feasible and deemed to be necessary, traffic migration from the DNO / ONO to the RNO will be performed phase-by-phase during the cutover operation. Otherwise, multiple migration requests with different cut-over time-windows can be made. An estimated schedule for completion of each migration phase will be provided to the RNO by the DNO / ONO before cutover for operational planning purpose. For coordination of phase-by-phase cutover process, the DNO / ONO will notify the RNO on completion of each migration phase.

- 5.2.4 On the basis that the customer has given consent to a service interruption during the cut-over, the RNO or DNO may force-release the line to carry out the cutover even if the line in question is being used by the customer during the cut-over,
- 5.2.5 If the cutover is unsuccessful, the case will be treated as a fault. The RNO will be responsible for coordinating the resolution of the fault. The DNO and all concerned ONOs will work closely and cooperate with it to solve the problem. The RNO is also responsible for notifying the customer and all ONO of the status. The customer shall have the right to request for urgent restoration in case of unsuccessful cut-over as stated in Section 5.5.
- 5.2.6 In case of problem, the customer can request for urgent restoration after the cutover operation is started and before the operational staff of DNO and ONO are released. For the procedure regarding urgent restoration, please refer to Section 5.5.
- 5.2.7 After successful activation of the re-route, the DNO and ONO will confirm the result with the RNO.
- 5.2.8 The RNO will then carry out testing for call termination to the customer's platform via the new connection.
- 5.2.9 Normally, the operational staff of DNO and ONO will be released one hour after the successful completion of the agreed cut-over time-window unless the RNO requests to hold them.

The RNO will be required to bear the relevant reasonable costs for holding the operational staff of DNO and ONO if the extension of operation is not caused by the DNO and ONO.

On completion of the extended operation, the RNO will notify the DNO and ONO for the release of their operational staff.

- 5.2.10 After successful testing of call termination to the new connection, the RNO will send Successful Completion of Advice of Number Migration (SCANM) to all Network Operators in accordance with Section 5.1.8 and update all relevant records.

5.3 Service termination of a migrated number

- 5.3.1 If any migrated number ceases service in the RNO and is not migrated to other Network Operators, the RNO will pass an Advice of Relinquished Migrated Number (ARMN) to other Network Operators to recover the relevant network resources. The customer has to relinquish the number(s) to OFTA for re-allocation.

5.4 Successive migration of a number

- 5.4.1 For a customer wishing to migrate the number from an old Recipient Network to a new Recipient Network, the procedures will be similar to those of initial migration of

the number. The same procedures as specified in Sections 5.1 and 5.2 above shall be followed. The new RNO will become the “Recipient Network Operator” and the original RNO will become the “Donor Network Operator”. If a successive migrated number eventually ceases to be used, Section 5.3 will be followed.

5.5 Handling Procedures for Special Situation

5.5.1 Urgent Restoration Procedure

5.5.1.1 The urgent restoration request has to be raised by customer.

5.5.1.2 Before the cut-over, the RNO will request the customer to nominate an authorized person(s) for making urgent restoration request and complete a form regarding the procedure and essential information relating the making of urgent restoration request. The procedure on making urgent restoration request should include proper steps to identify the authorized persons of the customer. The RNO will then provide a copy of these essential information to the DNO for subsequent urgent restoration request.

5.5.1.3 The urgent restoration request has to be made directly to the RNO by the authorized person(s) of the customer.

5.5.1.4 After receiving the request of the customer, the RNO will request the DNO and ONO for urgent restoration.

5.5.1.5 On request for urgent restoration, all the Network Operators will make the reasonable endeavor to restore the pre-cutover configuration and services of the customer.

5.5.1.6 On completion of the urgent restoration, the other Network Operators will notify the RNO. The RNO will coordinate with all other Network Operators to perform test calls to confirm normal operation of the customer.

5.6 Call Routing Principle

5.6.1 For calls to migrated numbers, DN shall be used as the called party address for routing purpose. The classification of porting and migration in terms of number levels can be referred to Annex A.

6. Information/Actions Required on Receipt of a Porting/Migration Request

6.1 Information/Actions Required

The RNO should ask the entity, which requests porting / migration, to fill in a request form (the form should include the information given in Annex O) and should check

the details therein. The following table sets out the information to be verified by the RNO and DNO:

	<u>INFORMATION TO BE VERIFIED BY THE RNO</u>	<u>INFORMATION TO BE VERIFIED BY DNO in NPR/NMR (ALLOWS REJECTION BY DNO)</u>
PERSONAL USERS	<ul style="list-style-type: none"> • Porting / Migration Request Form signed by Customer with: <ul style="list-style-type: none"> • Customer's Full Name (English and Chinese if applicable as indicated in HKID /Passport)) • Customer's HKID No (or Passport No if appropriate) • Customer's Directory No • Copy of customer's HKID (or passport if appropriate) 	<ul style="list-style-type: none"> • Customer's Full Name • Customer's HK Identity Card No (or Passport No if appropriate) • Customer's Directory No
CORPORATE ENTITY	<ul style="list-style-type: none"> • Porting / Migration Request Form with the name, title, authorized signature, and company chop complete with the following additional information : <ul style="list-style-type: none"> • Company's name (English and Chinese if applicable as indicated on the BR) • Company's BR Number • Number(s) authorized for porting / migration • Valid copy of Company's BR (i.e. valid on porting request date) 	<ul style="list-style-type: none"> • Company's name • Company's BR Number • Number(s) for porting / migration
INSTITUTION ENTITY	<ul style="list-style-type: none"> • Porting / Migration Request Form with the name, title, and authorized signature complete with the following additional information : <ul style="list-style-type: none"> • Institution's name (English and Chinese if applicable as indicated on the institution's registration) • institution's registration number • Mobile Number(s) authorized for porting / migration • Valid copy of institution's registration (i.e. valid on porting request date, e.g. Certificate for Incorporation (CI), Association Certificate (AC) etc.) 	<ul style="list-style-type: none"> • Number(s) for porting / migration • Institution's name • Institution's registration number

7. Criteria for Rejecting / Cancelling a Porting / Migration Request

7.1 By the DNO

7.1.1 The DNO may reject a porting / migration request only under the following circumstances :

- Incorrect/incomplete name of the entity in English
- Incorrect/incomplete Business Registration /institution's registration
- Porting / Migration number(s) ceased to be assigned by the DNO / allocated by OFTA
- Porting / Migration number(s) owned by different entity
- Incomplete/incorrect information on the NPR sent by the RNO
- Double porting / migration

7.1.2 If the DNO has the due reason to reject the porting / migration request then the DNO should respond to the NPR / NMR with an NTNPR / NTNMR sent to the RNO within the time frame for a normal response by AKNPR / AKNMR as given in Sections 4 and 5. The DNO should explain in the “comments” field of the NTNPR / NTNMR the reasons for the rejection using the rejection codes given in Annex J.

7.1.3 Specifically the DNO may not reject a porting / migration request due to any financial, contractual or other concerns or issues it may have with the entity requesting for porting / migration.

7.2 By the RNO/Customer

The RNO and customer may cancel a porting / migration request in accordance with Sections 4 and 5 if they so wish.

7.3 By ONO

7.3.1 During the negotiation phase, on receipt of the RNO's feasibility request NPFR / NMFR, an ONO may respond NTNPFMR / NTNMFMR to notify the RNO of the problem identified. The ONO should explain the reasons for the problem identified by including one or more, as appropriate, of the following:

- Technical infeasible
- Insufficient POI capacity

7.3.2 All ONOs may not cancel a porting or migration under any circumstances during the provisioning phase except non-compliance with this document is detected.

8. Fault handling procedures

- 8.1 Each Network Operator will proceed with its own fault handling within its own operations. If a fault requires joint investigation or the co-ordination of fault handling, then the procedures agreed between the Network Operators shall be used, as for any other coordinated interconnect faults. In particular, the DNO will inform the RNO, in accordance with the agreed operational procedures or Interconnect Manual between Network Operators, in case persistent fault is detected for the normal operation of the number portability function.
- 8.2 Each Network Operator will be responsible for its own customer base and therefore will have control of any service fault reports. For ported/migrated numbers, fault handling for the ported number will be under the control of the RNO, although additional co-ordination may be required with the DNO. Such co-ordination and fault handling should follow the agreed operational procedures among Network Operators. The RNO will work closely with the DNO and the ONOs to resolve any faults, as with any other interconnect faults.

9. Numbering Allocations for Porting

9.1 Gateway Number

- 9.1.1 The Gateway Number (GN) refers to the Called Address which is sent through the Point of Interconnect (POI) during call set up. For ported number calls, the GN is sent instead of the ordinary Directory Number (DN).
- 9.1.2 Blocks of GN will be allocated to each Network Operator by the TA and the responsibility for individual GN assignment and notification will fall on the RNO (please refer to Annex G). The TA will administer the allocation of GN blocks based on the actual requirements of the Network Operators.

10. Performance objectives

- 10.1 Additional call set-up delay time due to number portability

The additional call set-up delay time due to implementation of number porting and migration should have a mean value of 3 seconds or less, and for 95% probability of the calls this value should not exceed 3.75 seconds.

11. Typhoon and Black Rainstorm Arrangement

- 11.1 When the Hong Kong Observatory announces the Tropical Cyclone Signal Pre-No. 8, Network Operators should complete all the number porting/migration orders whose cut-over is scheduled for the cut-over time-window during which the Signal Pre-No. 8 is issued. The orders which are scheduled for the next cut-over

time-window will be suspended. Network Operators who are unable to stop all the scheduled porting orders should make effort to cancel them during the next cutover time-window in order to reduce the service interruption to customers.

- 11.2 After the Tropical Cyclone Signal No. 8 or a higher signal (i.e. typhoon signal) is issued, all scheduled orders will be suspended except those in-progress orders. The RNO should inform all Network Operators of the arrangement of the in-progress orders, taking into account the safety issues and agreements among Network Operators.
- 11.3 Network Operators should observe the following arrangements after the typhoon signal is cancelled:

Cancellation of typhoon signal	Handling of the porting/migration orders on the typhoon day
Before 06:30	The orders for the whole day will not be affected.
06:30 – 10:59	The orders with cut-over scheduled between 09:00 to 13:00 will be suspended while the orders with cut-over scheduled after 13:00 will not be affected.
11:00 – 13:59	The orders with cut-over scheduled between 09:00 to 17:00 will be suspended while the orders with cut-over scheduled after 17:00 will not be affected.
After 14:00	The orders with cut-over scheduled before 21:00 will be suspended. For any orders with cut-over scheduled after 21:00 or in the next calendar day, the cut-over will be proceeded only on the condition that there are at least 3 hours from the cancellation of typhoon signal to the start time of the cut-over time-window concerned.

- 11.4 When the Black rainstorm signal is issued, the porting/migration orders should be proceeded as usual except those affected orders which are reported by the RNO or DNO. The RNO should coordinate with the DNO and ONOs to complete the affected porting/migration orders on the same day as far as possible.
- 11.5 The RNO should cooperate with the DNO and ONOs in accomplishing the affected porting/migration orders in times of typhoon and rainstorm in the earliest time-window. Network Operators should aim at completing those affected orders not later than the next working day as far as possible to minimize piling up of backlog orders. For those affected orders which are identified as critical by the RNO, the DNO and ONOs, upon the request of the RNO, will consider performing the cut-over within the same day on a case-by-case basis subject to the availability of resources. Same day rescheduling of affected porting/migration orders is not applicable to orders scheduled to be cut-over on Saturday, Sunday or public holidays.

- 11.6 The Network Operators should observe the following when handling the affected porting/migration orders:
- a) In the coordination of the earliest time slots for handling affected porting/migration orders, the RNO would send the DNO and ONOs by email/fax a standard negotiation form specifying the preferred time slots in priority order and quantity of porting/migration orders to be discharged.
 - b) Upon receipt of the form, the DNO and ONOs should check whether there is spare capacity for cut-over at the requested time slots. In case of insufficient cut-over capacity at the requested time slots, the DNO and ONOs would communicate to the RNO and suggest other available time slots. In case of problem, Network Operators would communicate by telephone to clarify and confirm the cut-over information.
 - c) The latest time slots suggested by the DNO or ONOs would be taken as the earliest unused time slots for discharging the affected porting/migration orders.
 - d) There is no need to re-send any APN/ANM and AKAPN/AKANM for those affected orders which would be completed within the next working day.
 - e) For the affected orders which would only be completed beyond the next working day, RNO is required to submit new NPR/NMR to DNO and exchange the AKNPR/AKNMR, APN/ANM and AKAPN/AKANM before the revised cut-over. In addition, RNO should also issue the CLAPN/CLANM and CLNPR/CLNMR to cancel the affected porting/migration orders.
 - f) For affected porting/migration orders which involved local access loop (LAL) or blockwiring (BW), the relevant arrangements as specified in the document entitled "Code of Practice for the Interconnection of Broadband and Narrowband Local Access Link" should be followed. The standard negotiation form is shown in Annex K.

12. Dispute Resolution / Arbitration

- 12.1 Each Network Operator shall establish some contact points among themselves to facilitate communications related to the provision of ONP. Each Network Operator should set up at least 2 levels of contacts for handling disputes. These contacts should be updated from time to time or as required.
- 12.2 It is the responsibility of each Network Operator to ensure that their staff members have the required training and skill for processing service orders in relation to operator numbers porting/migration and that they adhere to the agreed principles and procedures laid down in relevant documents. In case of disputes, respective Network Operators are encouraged to resolve them bilaterally through the established level of contacts. It is essential that the implementation obstacle be cleared in the shortest time to minimize impacts on customers. If it still cannot be resolved after several

attempts, the respective Network Operator can escalate the case with sufficient details to OFTA for assistance.

- 12.3 The escalation levels for the handling of disputes among Network Operators are given in the table below.

Escalation Level	Examples:
First	Front line Supervisor
Second	Manager in charge of operator number porting/migration
Third	OFTA

13. Treatment of Numbers Allocated to Network Operators and Service Providers

- 13.1 All number levels as specified under "The Numbering Plan for Telecommunications Services in Hong Kong" shall be within the scope of ONP.
- 13.2 Except the numbers that have ceased service, those numbers assigned / allocated to a customer shall be allowed to be ported / migrated to any fixed network.
- 13.3 The assignment of service to ported/migrated number shall be subject to mutual agreement between the RNO and the ported-in / migrated-in customer.
- 13.4 After a migrated number ceased service, it will be relinquished to OFTA by the Service Provider.
- 13.5 For the ported number, RNO should return the ported number, 3 calendar months after the customer ceased to use the number, to the Original DNO (i.e. original Network Operator). For the migrated number, RNO should inform the other Network Operator to release the corresponding network resources after the migrated number cease service.
- 13.6 Before the Original DNO assigns a relinquished number to a customer, it should ensure that at least one regular AD cross-auditing cycle has been completed successfully. For relinquished numbers, the Original DNO will freeze the number for a reasonable period of time (e.g. 3 months) before re-assignment is made to new customers.

List of Annexes

Annex A	Classification of Operator Number Portability
Annex B	Notification of Service Disconnection (NSD) Form
Annex C	Information Exchange for Number Porting
Annex D	Information Exchange for Number Migration
Annex E	Criteria for classification and implementation lead-time requirement for the porting of number(s) not allocated to basic telephone service and mobile phone service
Annex F	Criteria for classification and implementation lead-time of number migration
Annex G	Gateway Number Allocation
Annex H	Urgent Cancellation Form of Number Porting
Annex I	List of Minor Problems
Annex J	List of Major Problems
Annex K	Standard Negotiation Form for Handling Affected Orders After Typhoon and Black Rain Storm
Annex L	Minor Problem Handling Procedure
Annex M	Procedures for handling number portability that involves duplex ringing number
Annex N	Investigation of Number Porting Request Form

Annex A : Classification of Operator Number Portability

Number Level	Classification
15x	Migration
16x	Migration
17x	Migration
180x, 183x, 187x	Porting
181x, 182x, 184x, 186x, 188x	Migration
2x	Porting
3x	Porting
5(1-9)x	Migration
6x	Migration
7x	Migration
8x	Porting
90(1-9)x, 91(0,2-9)x, 9(2-8)x	Migration
99x	Migration

From time to time, the above table may be amended or updated by the TA in order to extend the scope of its application or to reflect revision in the “The Numbering Plan for Telecommunications Services in Hong Kong”.

Notification of Service Disconnection from Customer of # _____ Note 1

PART A: (To be completed by # Customer)		
Customer Name (as registered with #) : (Family Name then followed by Given Name if applicable)		ID/BR/Passport No. : (Delete as appropriate)
User Name: (if different from above)		ID/BR/Passport No.: (Delete as appropriate)
Customer Account Number(s) (optional):		
Number(s) and/or services (features) requested for termination: (all telephone / Private Circuit / Dataline numbers and/or services (features) involved have to be specified and please attach sheets in case of insufficient space) []*** Duplex ringing number(s) to be terminated (if any) Duplex ringing number(s) (optional) :		
Equipment supplied by #** : [] Nil [] continue to rent from # [] return to #		
Autopay Information (optional)		
Bank Name:	Bank Account No.:	Signature:
Installation address:		
Flat/Room/Unit : _____, Floor : _____, Block : _____, Building : _____, Estate : _____, Street No. : _____, Street Name : _____, District : _____, Lot No. : _____, HK/KL/NT (Delete as appropriate)		
New Correspondence address (required only if different from above):		
Customer contact person:	Tel. No.:	Fax No. (optional):
The Customer authorises # to terminate the number(s) and/or services (features) identified above (each a "Service") and acknowledges and agrees that # excludes all liability to the Customer and any third party which may arise out of or in connection with termination of the Services whether in contract, tort, or otherwise and including direct loss and indirect loss (including loss of profit, goodwill or business opportunity or any other consequential loss or any cost relating to any interruption of the Customer's or any other party's business) incurred by the Customer or any third party.		
Termination of the associated duplex ringing number(s)		
<input type="checkbox"/> The Customer authorises # to terminate the number(s) and the associated duplex ringing number(s) (the termination of which is requested above) and/or services (features) identified above (each a "Service") and acknowledges and agrees that # excludes all liability to the Customer and any third party which may arise out of or in connection with termination of the Services whether in contract, tort, or otherwise and including direct loss and indirect loss (including loss of profit, goodwill or business opportunity or any other consequential loss or any cost relating to any interruption of the Customer's or any other party's business) incurred by the Customer or any third party.		
PART B: (To be completed by # Customer if Operator Number Portability is required)		
Number(s) requested for Operator Number Portability: (all telephone numbers involved and requested services have to be specified and please attach sheets in case of insufficient space)		
1. The Customer applies to disconnect the service(s) currently provided by # under the number(s) identified above for porting and to port the same number(s) to _____ (Name of the Recipient Network Operator) subject to the technical procedures agreed among the relevant network operators ("number porting arrangement").		
2. The Customer agrees that # will not be liable to the Customer or to any other party in contract, tort, or otherwise for any loss or damage suffered or incurred by the Customer or any other party howsoever arising from or in relation to the number porting arrangement.		
SIGNATURE FOR PART A AND PART B		
Authorised Signature & Date : _____ Company Chop of the Customer : _____ Name: _____		
PART C: (To be completed by the Requesting Operator for Local Access Link / Blockwiring*)		For # use only
Date:	The Requesting Operator :	
LAL / BW* Order No :	The Requesting Operator requests # to provide Local Access Link (LAL) / Blockwiring(BW)* on and subject to the terms of the Local Access Link / Blockwiring* Agreement with #.	

* Delete as appropriate ** For continuing to rent # Phones, #'s special terms and conditions may apply. *** Tick box if appropriate

Please refer to # for issues relating to "PERSONAL DATA PRIVACY"

- Note 1 : PCCW-HKT HGC HKC VZ
 WT&T NWT SSL
 HKBN ComNet CSL

In case of inconsistency between the English and the Chinese versions of this form, the English version shall prevail.

Annex B (2/2)

_____ 註一 客戶終止服務通知書

甲 部份 (# 客戶須填寫此欄)	
客戶姓名 (須與於 # 登記之姓名相同) (如適用的話先填姓後填名)	身份証/商業登記証/護照號碼: (刪除不適用者)
用戶姓名 (若與上述不同)	身份証/商業登記証/護照號碼: (刪除不適用者)
賬戶號碼 (可選擇):	
申請終止之電話號碼及/或服務 (功能): (所有電話/私人線路/數據號碼及/或服務 (功能) 必須詳細列明, 若空格不足夠填寫, 請另加附頁)	
[] *** 終止的雙音辨號電話號碼(如有者)	雙音辨號電話號碼(可選擇填寫):
** # 提供之設備: [] 沒有 [] 繼續向 # 租用 [] 歸還 #	
自動轉賬資料 (可選擇)	
銀行名稱:	銀行戶口號碼: 簽署:
安裝地址:	
室/單位: _____, 樓 _____, 座: _____, 大廈: _____	
屋苑: _____, 街號: _____, 街名: _____	
區域: _____, 段號: _____.	
香港 / 九龍 / 新界 (刪除不適用者)	
新通訊地址: (若與上述不同才需填寫)	
聯絡人:	電話號碼: 傳真號碼 (可選擇):
客戶授權 # 終止上述電話號碼及/或服務 (功能) (每項 "服務") 並知悉及同意以下事項:	
客戶及任何第三方若因終止服務而引致合約、民事訴訟或與此有關, 或/及包括之任何直接或間接損失 (包括利潤損失、商譽損失、商業機會或引致之任何損失、或客戶或其他人士因商務中斷之有關損失), # 無須負起任何責任。	
終止有關雙音辨號電話號碼	
<input type="checkbox"/> 客戶授權 # 終止上述電話號碼及有關 雙音辨號電話號碼 (如客戶在上述已申請終止)及/或服務 (功能) (每項 "服務") 並知悉及同意以下事項:	
客戶及任何第三方若因終止服務而引致合約、民事訴訟或與此有關, 或/及包括之任何直接或間接損失 (包括利潤損失、商譽損失、商業機會或引致之任何損失、或客戶或其他人士因商務中斷之有關損失), # 無須負起任何責任。	
乙 部份 (如要保留原有電話用作電話號碼轉駁安排, # 客戶須填寫此欄)	
申請保留用作電話號碼轉駁安排之原有之電話號碼: (所有電話號碼及服務必須詳細列明, 若空格不足夠填寫, 請另加附頁)	
1. 客戶申請終止上述現時由 # 提供之服務, 並轉駁同一號碼至 _____ (新網絡商名稱), 須根據有關網絡商同意之技術程序 (電話號碼轉駁安排)	
2. 客戶同意如因電話號碼轉駁安排引致客戶或其他人士在合約或民事訴訟, 或由客戶或其他人士引致之任何之損失或損害, # 無須負起任何責任。	
甲 部份及乙 部份簽署	
申請人簽署及日期: _____ 公司印鑑: _____	
姓名: _____	
丙 部份: (申請本地接駁連線/樓宇佈線之網絡商須填此欄)	
日期:	申請網絡商:
本地接駁連線/樓宇佈線* 申請號碼	申請網絡商要求 # 提供本地接駁連線/樓宇佈線*乃根據與 # 同意之本地接駁連線/樓宇佈線*條款。

* 刪除不適用者 ** 如繼續租用 # 電話, 將以 # 之條款及細則為準。 *** 如適用的話在空格內加/ 如欲索取 "個人資料私隱" 及有關之資料, 請與 # 聯絡。

註一: PCCW-HKT HGC HKC VZ

WT&T NWT SSL

HKBN ComNet CSL

若本通知書之中, 英文條款之意思有衝突, 應以英文為準。

Annex C - Information Exchange for Number Porting

1. Introduction

- 1.1 In addition to the real-time routing database residing in the switching network of each of the Network Operators, a notional centralized but physically duplicated database (hereafter referred as to Administration Database (AD)) is found essential to facilitate number porting by database solution.
- 1.2 The major function of the AD is to maintain the data integrity of the records kept by individual Network Operator. It also serves as a backup image to speed up the recovery of AD in case of disaster.
- 1.3 This annex specifies the structure of the AD, its record format, the Information Exchange File format, inter-operator communication network for file transfer and the communication protocol used.

2. Requirements of Administration Database

- 2.1 Each Network Operator is required to set up and maintain an up-to-date electronic/optical copy of the AD or use the AD operated by its MA(s). The objectives are, firstly, to maintain data integrity among Network Operators for number porting and, secondly, to act as backup reference for disaster recovery in case of breakdown of any of the ADs.
- 2.2 The AD is a notional centralized database in the sense that all copies are of the same content, but physically duplicated since each Network Operator or its MA(s) has a copy of it.
- 2.3 The AD stores all the working ported-in and ported-out numbers together with their corresponding information. Relinquished ported numbers are stored in the AD for at least 6 months for audit trail. Numbers that have never been ported will not be stored in the AD.

3. Information Exchange File (INF)

- 3.1 Information exchange among the Network Operators or their MAs is achieved by means of Information Exchange Files sent through the communication network. Inside each Information Exchange File there is a series of Information Exchange Document (IED). The IED received are used to update the AD.
- 3.2 To implement the AD, Network Operators or their MAs shall comply with the requirements set out in HKTA 2108 “Functional Specification for NP Administration Database (Non-CRD Approach)”.

4. Information Exchange Document (IED)

- 4.1 Normally, only one IED within an INF is needed for the porting of one directory number. However, in case of porting DDI numbers multiple IED may be needed to represent the whole DDI range. The minimum size of each DDI number block that comes with an IED should be 100.
- 4.2 The format of different IED types and the usage of individual fields are given in HKTA 2108.

5. IED Type

- 5.1 There are 14 IED Types:

Negotiation Phase

IED	Description	Sender	Receiver
NPR	Number Portability Request	RNO	DNO
CLNPR	Cancellation of NPR	RNO	DNO
AKNPR	Acknowledgment to NPR	DNO	RNO
NPFR*	Number Portability Feasibility Request	RNO	ONO
AKNPFR*	Acknowledgment to NPFR	ONO	RNO
NTNPFR*	Negotiation of NPFR	ONO	RNO
ACNPR	Acknowledgment to CLNPR	DNO	RNO
NTNPR	Negotiation of NPR	DNO	RNO

* The sending of NPFR, AKNPFR and NTNPF is by means of fax messages.

Provisioning Phase

IED	Description	Sender	Receiver
APN	Advice of Porting Number	RNO	All NO
SCAPN	Successful Completion of APN	RNO	All NO
CLAPN	Cancellation of APN	RNO/DNO ^{Note1}	All NO
AKAPN	Acknowledgment to APN	All NO	RNO
ACAPN	Acknowledgment to CLAPN	All NO	RNO/DNO ^{Note2}

Termination Phase

IED	Description	Sender	Receiver
ARP	Advice of Relinquished Ported No.	RNO	All NO

6. Information Exchange Protocol

The following diagrams show the flow of IED between DNO, RNO and ONOs.

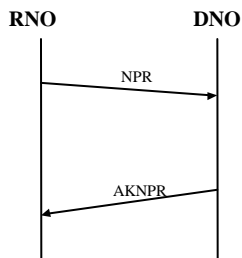


Figure 1 - Negotiation Phase, Successful (for new or revised NPR)

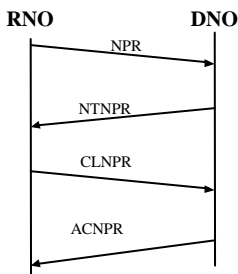


Figure 2 - Negotiation Phase Unsuccessful

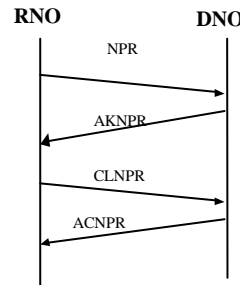


Figure 3 - Negotiation Phase Unsuccessful

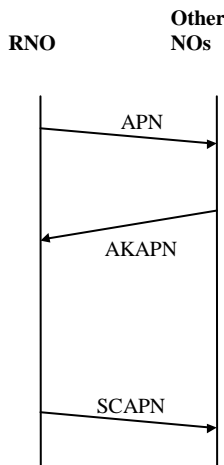


Figure 4 - Provisioning Phase, Successful

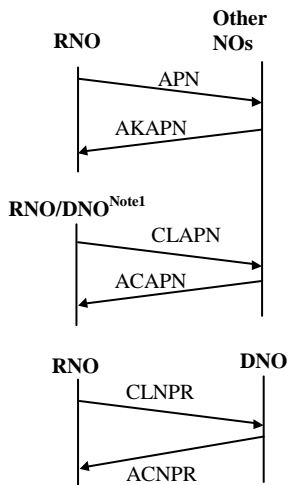


Figure 5 - Provisioning Phase, Unsuccessful

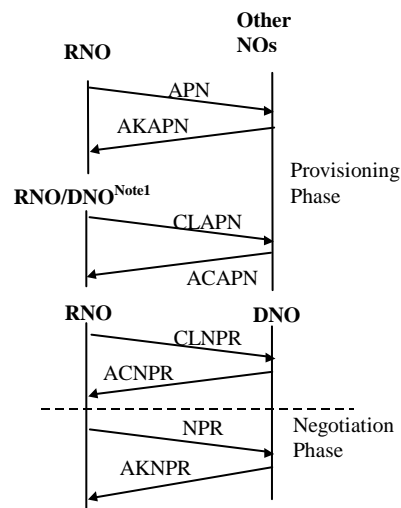


Figure 6 - Revert to Negotiation Phase after unsuccessful Provisioning

Note1:ONO may send CLAPN to all Network Operators concerned in case non-compliance with this document is detected. When an ONO received APN from the RNO and the ONO found that the T+4 criterion was not met, the ONO might issue CLAPN to cancel the APN and notice the RNO. Once the ONO issued the AKAPN, the ONO deemed to accept the APN even though the T+4 criterion was not met and should not issue CLAPN afterwards.

Note2:Network Operators should return ACAPN to the Network Operator which issues CLAPN within 2 business days.

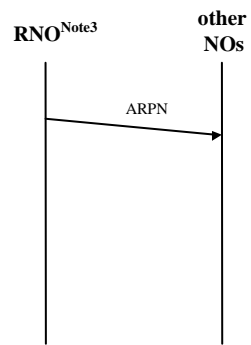


Figure 7 - Relinquish of Ported Number

Note3: RNO may amend or cancel its ARPN by making use of a fax, with a proper reason, to notify the other Network Operator.

Annex D Information Exchange for Number Migration

1. Introduction

This annex specifies the information exchange documents and the document exchange protocol for the support of the number migration by using fax messages.

2. Information Exchange Document (IED)

[&]

3. IED Type

3.1 There are 14 IED Types :

Negotiation Phase

IED	Description	Sender	Receiver
NMR	Number Migration Request	RNO	DNO
CLNMR	Cancellation of NMR	RNO	DNO
AKNMR	Acknowledgement of NMR	DNO	RNO
NMFR	Number Migration Feasibility Request	RNO	ONO
AKNMFR	Acknowledgement of NMFR	ONO	RNO
ACNMR	Acknowledgement to CLNMR	DNO	RNO
NTNMFR	Negotiation of NMFR	ONO	RNO
NTNMR	Negotiation of NMR	DNO	RNO

Provisioning Phase

IED	Description	Sender	Receiver
ANM	Advice of Number Migration	RNO	DNO / ONO
SCANM	Successful Completion of ANM	RNO	DNO / ONO
CLANM	Cancellation of ANM	RNO	DNO / ONO
AKANM	Acknowledgement to ANM	DNO / ONO	RNO
ACANM	Acknowledgement to CLANM	DNO / ONO	RNO

3.2 Service Termination of the Migrated Number

IED	Description	Sender	Receiver
ARNM	Advice of Relinquished Number Migration	RNO	DNO / ONO

(Just a notification note for engineering works. No special work to be done for database administration)

4. Information Exchange Protocol

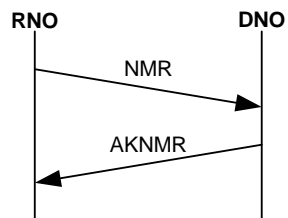


Figure 1 - Negotiation Phase (DNO), Successful Negotiation

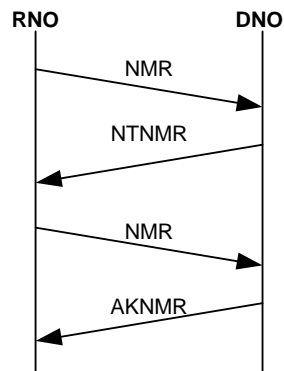


Figure 2 - Negotiation Phase (DNO), Successful Negotiation after solving some problems

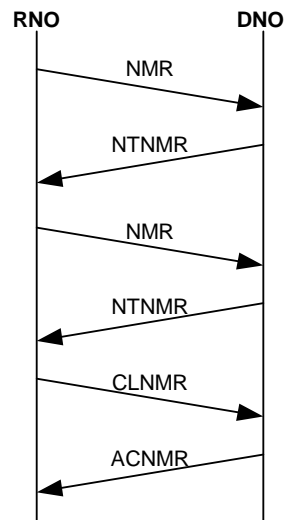


Figure 3 - Negotiation Phase (DNO), Unsuccessful Negotiation by ACNPR

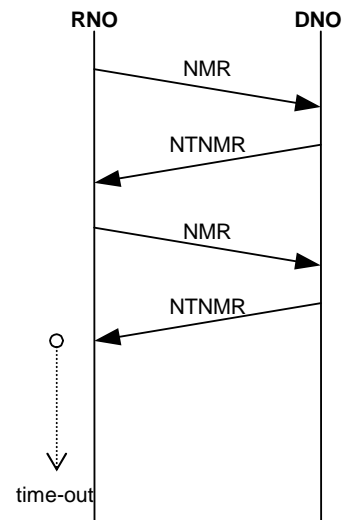


Figure 4 - Negotiation Phase (DNO), Unsuccessful Negotiation by time-out

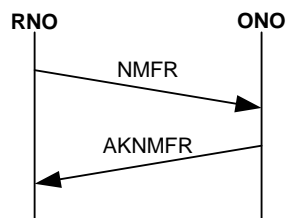


Figure 5 - Negotiation Phase (ONO), Successful Negotiation

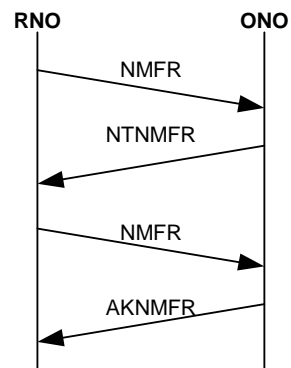


Figure 6 - Negotiation Phase (ONO), Successful Negotiation after solving some problems

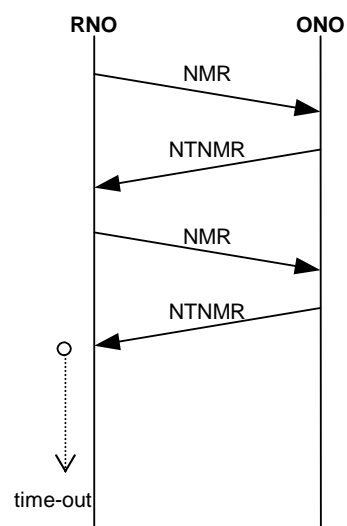


Figure 7 - Negotiation Phase (ONO), Unsuccessful Negotiation by time-out

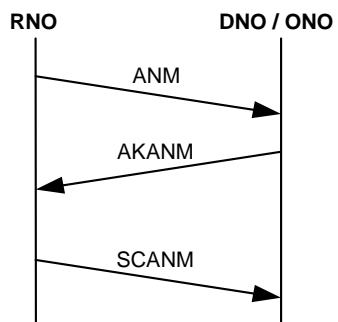


Figure 8 - Provisioning Phase, Successful Provisioning

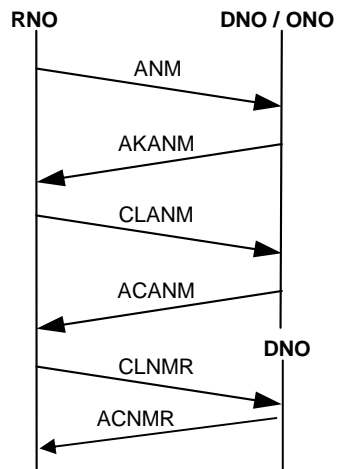


Figure 9 - Provisioning Phase, Unsuccessful Provisioning

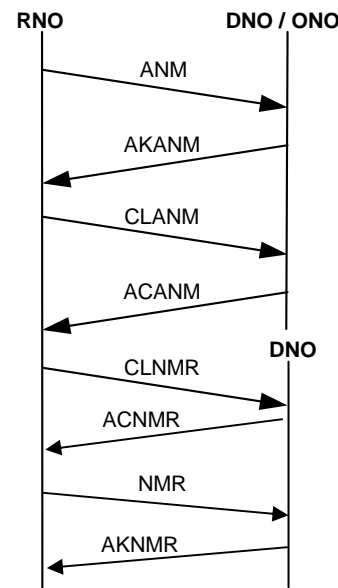


Figure 10 - Revert to Negotiation Phase after unsuccessful Provisioning Phase

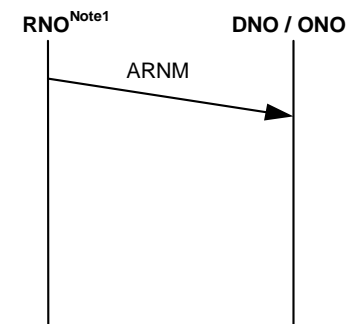
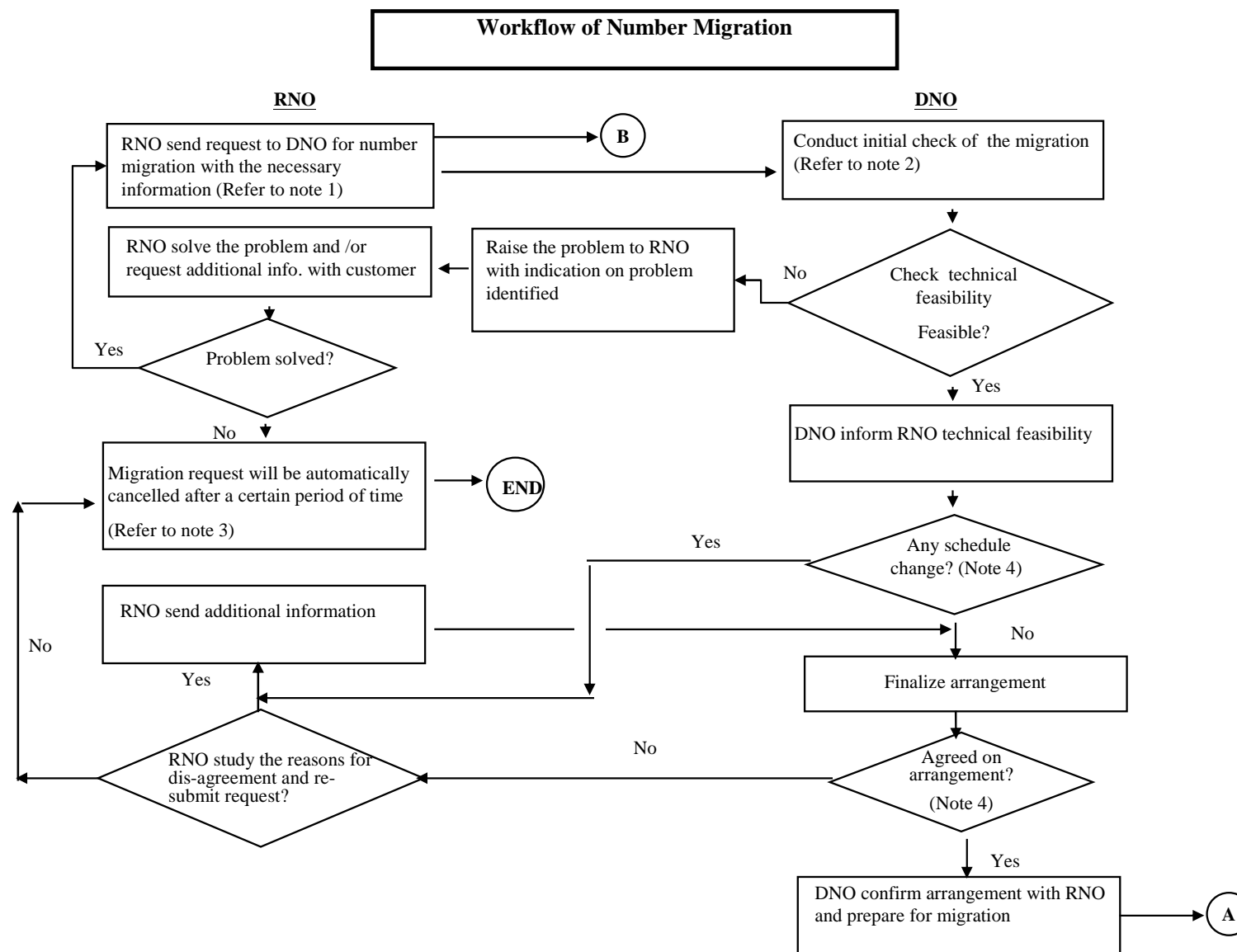
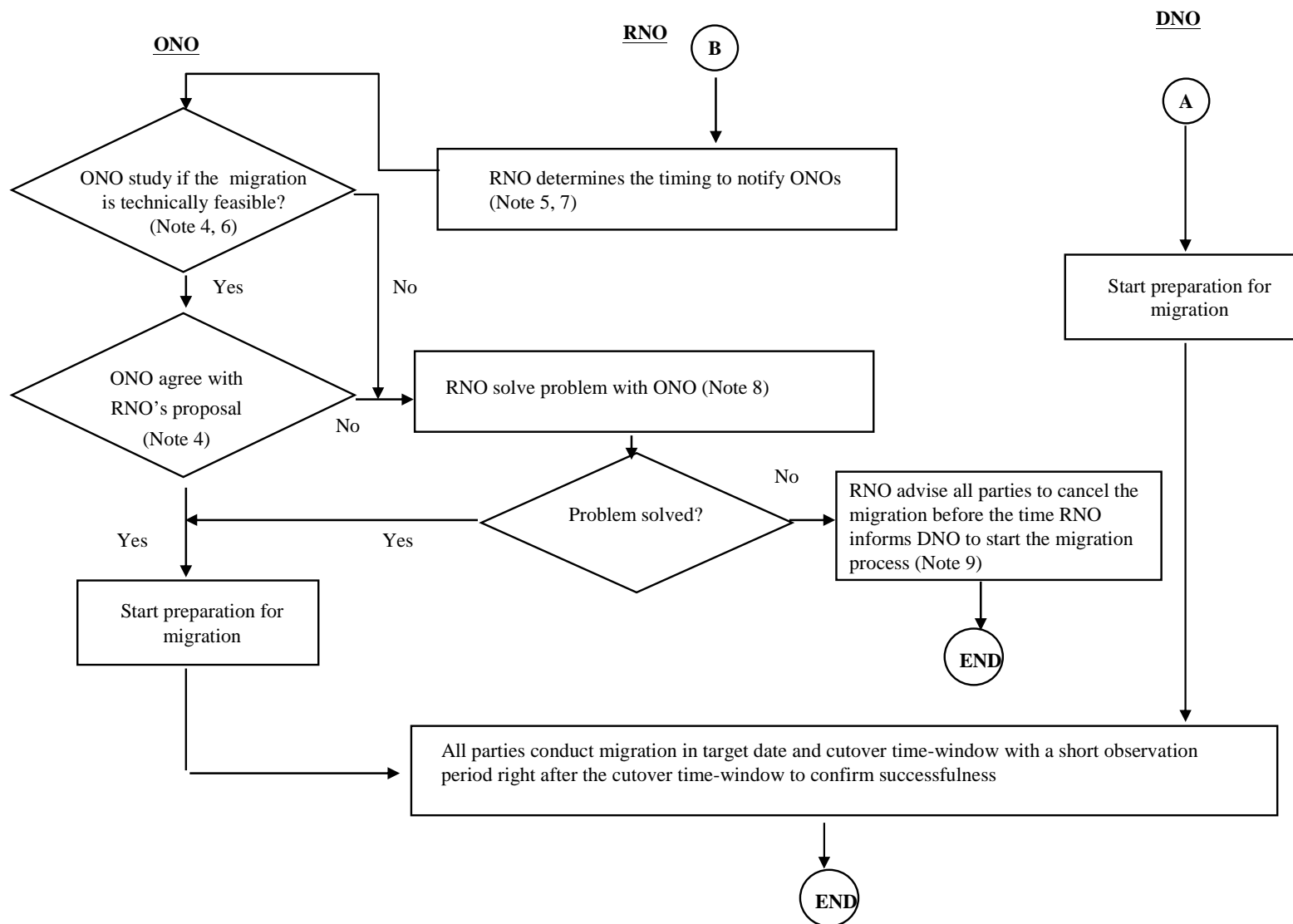


Figure 11 - Relinquish of migrated number

Note1: RNO may amend or cancel its ARNM by making use of a fax, with a proper reason, to notify the other Network Operators.

5. Workflow for Handling Number Migration Request





Workflow for Handling Number Migration Request -- Information identified to be necessary for each process of the workflow for handling number migration request

Note :-

- (1) Information passed from RNO to DNO
 - Name of service operator
 - Number(s) to be migrated
 - Proposed cut-over schedule
 - Number of additional POI T1/E1
 - Urgent restoration request
 - Special requirement
- (2) To check
 - if ownership of number(s) belongs to service operator
 - Number of additional POI T1/E1
 - Checking of special requirement
 - if Cut-over schedule is practical)
- (3) Reasonable time-out period (one month)
- (4) Only consider when Class C migration request is involved.
- (5) Information passed from RNO to ONO :
 - Number(s) to be migrated
 - Proposed cut-over schedule
 - Number of additional POI T1/E1
 - Urgent restoration request
 - Special requirement
- (6) Criteria for feasibility study
 - Number of additional POI T1/E1
 - Checking of special requirement
 - if cut-over schedule is practical
- (7) ONOs need to observe the agreed timing to respond to RNO
- (8) Problem to be solved
 - Re-scheduling of cut-over time-window may be required
- (9) If the timing is not properly controlled and lead to a situation in which the DNO has started off the migration process while some ONOs identify difficulty in handling the migration, the RNO may take the financial burden to work back to normal.

Annex E

**Criteria for classification and implementation lead-time requirement
for the porting of number(s) not allocated to basic telephone service and mobile phone service**

Class A		Class B		Class C	
Criteria	Implementation Lead-time	Criteria	Implementation Lead-time	Criteria	Implementation Lead-time
< 10 T1	Cut-over date is 3 business days plus 4 calendar days from the issue date of NPR Remark AKNPR should be sent by DNO on Day 2. APN should be sent by RNO on Day 3. AKAPN should be sent by DNO/ONO on Day 3.	10 – 50 T1	7 calendar days for technical feasibility check after receiving NPR Cut-over date is 21 calendar days from the issue date of APN or 42 calendar days from the issue date of APN if POI installation is required Remark AKNPR should be sent by DNO on Day 8. APN should be sent by RNO on Day 8. AKAPN should be sent by DNO/ONO on Day 9.	> 50 T1	7 calendar days for technical feasibility check after receiving NPR The lead-time for negotiation between RNO & DNO for reaching an agreement is subject to the two parties but should be as short as possible. Cut-over date is 42 calendar days from the issue date of APN or set on a case by case basis upon the study result Remark AKNPR should be sent by DNO on Day 8. APN should be sent by RNO on Day 15 or a later date subject to the negotiation time required for reaching an agreement between RNO and DNO. AKAPN should be sent by DNO/ONO on the same day APN is sent.

Note: Unless otherwise specified, all the above timings are counted in calendar days except the first three days of the Chinese New Year.
The above timings specify the latest time for sending the relevant documents which, in general practice, should be sent as soon as possible.

Criteria for classification and implementation lead-time of number migration

Class A		Class B		Class C	
Criteria	Implementation Lead-time	Criteria	Implementation Lead-time	Criteria	Implementation Lead-time
< 10 T1	<p>Cut-over date is 28 calendar days from the issue date of NMR</p> <p>Remark AKNMR should be sent by DNO on Day 4. ANM should be sent by RNO on Day 4. AKANM should be sent by DNO/ONO on Day 5.</p>	10 – 50 T1	<p>7 calendar days for technical feasibility check after receiving NMR.</p> <p>Cut-over date is 28 calendar days from the issue date of ANM or 42 calendar days from the issue date of ANM if POI installation is required</p> <p>Remark AKNMR should be sent by DNO on Day 8. ANM should be sent by RNO on Day 8. AKANM should be sent by DNO/ONO on Day 9.</p>	> 50 T1 or All volatile levels and 99x irrespective of the number of T1	<p>7 calendar days for technical feasibility check after receiving NMR.</p> <p>The lead time for negotiation between RNO & DNO for reaching an agreement is subject to the two parties but should be as short as possible.</p> <p>Cut-over date is 42 calendar days from the issue date of ANM or set on a case by case basis upon the study result</p> <p>Remark AKNMR should be sent by DNO on Day 8. ANM should be sent by RNO on Day 15 or a later date subject to the negotiation time required for reaching an agreement between RNO and DNO. AKANM should be sent by DNO/ONO on the same day ANM is sent.</p>

Note: Unless otherwise specified, all the above timings are counted in calendar days except the first three days of the Chinese New Year.
The above timings specify the latest time for sending the relevant documents which, in general practice, should be sent as soon as possible.

Annex G - Gateway Number Allocation

Instead of sending the original customer directory number (DN) through the Point of Interconnection (POI), the Gateway Number (GN) is delivered from one network to the other. For implementation of number porting by database solution, the format of the GN is as follows:

Network Identifier (NI) and Network Number (NN)

NI and NN will contain the leading digit of '14' and '4' respectively and are numbers for routing purpose. Details of the allocation can be referred to OFTA's document entitled "The numbering plan for Telecommunications Services in Hong Kong".

The format of the GN will be determined by the RNO. It can be either one of the following formats:

- (i) Network Number

For example: 42 01234567

Number block(s) of NN will be allocated by the TA for this purpose. The NN is designed to be a separate domain from the Directory Number.

- (ii)⁽²⁾ Network Identifier

For example: 141 23456789 if the Directory Number is 23456789

The Network Identifier (NI) will be centrally assigned by the TA

Special treatment for Special Number Porting

In order to facilitate the pre-allocation of GN for these special numbers (see classification on table below) porting, a fixed format is agreed among Network Operators as follows:-

- a) Prefix + 3 digit translation to identify the ported service and recipient network; and
- b) NN

Example 1) : 41 11872000

⁽²⁾ This format of GN is currently used by HGC only. All new Network Operators are required to adopt the format of NN to represent GN.

Special Numbers for porting can be classified as table below:-

Number Level	Type of Services
180x	Payment by Phone Service
183x	Services of High Volume of Traffic
187x	Services of High Volume of Traffic
30x	PNETS
800x	Freephone

The Originating Network or Transit Network shall send any one of the above formats to the Recipient Network. If Transit Network is involved, it has to integrally pass the GN to the Recipient Network.

GN Allocation for Porting back to the Original DNO

For porting back to the Original DNO, the GN should be set to fifteen "9's" in Gateway Number field of IEDs.

Annex I : List of minor problems

Problem code	Description of Problems	Remarks
Pb01	Different time-window between LAL form and NPR / AD	
Pb02	Duplicate NPR	
Pb09	Missing / incorrect service type (e.g. Del, Hunt)	
Pb12	Inappropriate time-window	
Pb14	Input data wrong	Mainly used to indicate error in the numbers which are to be terminated and listed in the "associated numbers" field of the NPR
Pb21	Pending order – service termination	Pending orders refer to those orders which are not yet completed by the DNO. The orders should be initiated by the customer concerned and they should be associated with the number under the porting arrangement.
Pb22	Pending order – relocation	
Pb23	Pending order – change of service feature	
Pb24	Pending order – change of customer's particular	
Pb25	Pending order – others	

Annex J : List of major problems

Rejection code	Rejection reasons	Remarks
RR01	Wrong customer name & chop	
RR02	Wrong certificate number of identification	
RR03	Wrong DN	
RR04	Missing / incorrect numbers associated	
RR05	Wrong DNO	
RR06	Wrong RNO	
RR07	Telephone number not in service	
RR09	Insufficient lead-time	
RR10	Wrong or invalid GN	
RR11	Failure to return NSD form for the duplex ringing number porting by RNO	
RR12	Failure to respond to the review event of LAL or BW leasing application by RNO	
RR13	Existence of pending order during the period between AKNPR and APN	

Annex L: Minor Problem Handling Procedure

At the encounter of any problem listed in Annex I, the DNO is not required to send NTNPR but instead, will fill in the ONP Minor Problem Negotiation (MPN) Form on each customer basis and then send it to the RNO by fax within 1.5 business day. The response time requirements for sending the ONP Minor Problem Negotiation Form and associated protocol messages are depicted as follows :

NPR is sent in morning session :

Day 1		Day 2		Day 3		Day 4		Day 5		Day 6	
AM	NPR	AM		AM		AM		AM		AM	
PM		PM	DNO sends MPN form	PM	RNO responds to MPN form	PM	AKNPR	PM		PM	

NPR is sent in afternoon session :

Day 1		Day 2		Day 3		Day 4		Day 5		Day 6	
AM		AM		AM	DNO sends MPN form	AM	RNO responds to MPN form	AM	AKNPR	AM	
PM	NPR	PM		PM		PM		PM		PM	

Upon receipt of the MPN Form, the RNO would proceed to fill in the required information correctly into the revised input field of the Form in accordance with the problem code indicated by the DNO and then send it back by fax to the DNO 2 business day plus 4 calendar days in advance the agreed cut-over date. Both the RNO and the DNO should arrange a dedicated fax number to receive the MPN Form. If all the relevant information was correctly supplied in the Form, the DNO shall return AKNPR to the RNO within one business day and then proceed with the cut-over on the agreed cut-over date. If any problem as that specified in Annex J is encountered or the RNO does not return the MPN form to the DNO within the specified response time, the DNO shall return NTNPR to the RNO in accordance with the response time requirement specified in Section 4.1.3.

In general, the normal lead-time for number porting with minor problem negotiation will take at least 5 business days plus 4 calendar days upon submission of NPR by the RNO and received by the DNO.

The scheduled cut-over date would be delayed under the following situation :

- a) One of the problems as identified in Annex J is found;
- b) The DNO is given a time frame of less than 5 business days (including the issue day of NPR) plus 4 calendar days to proceed with the cut-over of a porting order and it encounters one of the problems identified in Annex I except for situation listed in Annex M; or
- c) The RNO fails to meet the minimum requirement of 2 business day plus 4 calendar days in advance of the agreed cut-over day when making reply to the DNO regarding the problems identified in Annex I.

The DNO has to send NTNPR and the RNO has to send CLNPR in return to cancel the number porting in any one of the situations identified above.

ONP Minor Problem Negotiation Form

Part I (fill in by DNO)

DNO : _____ DNO handled by : _____ Date : _____

Part II (fill in by DNO & RNO)

To be fill in DNO (tick as appropriate)													Revised Input (To be filled in by RNO)		
Tel . No.	PB01	PB02	PB09	PB12	PB14	PB21	PB22	PB23	PB24	PB25	Duplex	ONP Serial No.		Remarks	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

Part III (fill in by RNO)

RNO : _____ RNO handled by : _____ Date : _____

**Annex M :
Procedures for handling number porting that involves duplex ringing number**

To tackle the issue of duplex ringing, the NSD form has been revised whereby the customer may select to terminate the duplex ringing number, if any, associated with the number to be ported by ticking the appropriate check box and sign the appropriate declaration in the NSD Form. In case duplex ringing service was found but the RNO failed to advise the DNO, the DNO will send the AKNPR via NPA platform and MPN via fax to the RNO. In the case that the customer selects to terminate the duplex ringing number, the RNO will fax the completed NSD form to the DNO before sending APN, otherwise, the RNO shall send CLNPR to cancel the porting. The response time requirements for the protocol messages and faxing of the NSD form are depicted as follows.

NPR is sent in the morning session

Business Day 1		Business Day 2		Business Day x		Day x+1		Day x+2	
AM	NPR	AM		AM	APN Fax NSD form (A1)	AM		AM	
PM		PM	AKNPR Send MPN	PM	APN Fax NSD form (A2)	PM		PM	

NPR is sent in the afternoon session

Business Day 1		Business Day 2		Business Day 3		Business Day x		Day x+1	
AM		AM		AM	AKNPR Send MPN	AM	APN Fax NSD form (B2)	AM	
PM	NPR	PM		PM	APN Fax NSD form (B1)	PM		PM	

‘Day x’ is ‘4 calendar days before cut-over day’.

In the case where NPR is sent in the morning session, the sending of APN and faxing of the NSD form are done either in the A1 or A2 session. In the case where NPR is sent in the afternoon session, the sending of APN and faxing of the NSD form are done either in the B1 or B2 session.

The latest response time for the RNO to send APN and NSD to the DNO should be 17:00 p.m. on the business day 4 calendar days before cut-over day.

AKNPR is sent on the condition that all the essential fields are checked to be correct.

Annex N : Investigation of Number Porting Request Form

Investigation of Number Porting Request

Part A (fill in by customer)

Customer Name : _____

ID/BR Number : _____

Telephone Numbers requested to investigate:

I request your company to investigate my number porting application of above telephone number(s) and send the following material to me for reference.

- Notification of Service Disconnection Form
- Evidence on urgent cancellation (at least include full name of the person who raised the request, the date and time of the request)

Customer signature

Date:

=====

Part B (fill in by requesting operator)

Date of request : _____

From (requesting operator) :

To (requested operator) :

At the request of customer, please provide the above material requested by the customer to us on or before

(date)_____ to fax number _____

Requested by : _____

Telephone number : _____

=====

Part C (fill in by requested operator)

*Date of return the material requested by the customer : _____

Handled by : _____

Telephone number : _____

*requested operator should provide the NSD form and evidence on urgent cancellation to the requesting operators in accordance with the requirements given in Sections 4.1.3 and 4.5.2 of HKTA 2102 respectively.

Annex N: Investigation of Number Porting Request Form**要求調查號碼轉攜**

甲部 (由客戶填寫)

客戶姓名：_____

身份證 / 商業登記證號碼：_____

要求調查的電話號碼：

本人要求貴公司調查上述電話號碼的號碼轉攜申請，並將以下資料送交本人參考。

[] 終止服務通知書[] 緊急取消服務的證明（最小包括提出要求者的姓名、提出要求的日期及時間）_____
客戶簽署

日期：

乙部 (由提出要求的營辦商填寫)

提出要求日期：_____

由 (提出要求的營辦商)：

致 (接到要求的營辦商)：

請按客戶的要求將上述客戶要求的資料於 ____年__月__日或之前提交至本公司(傳真號碼：
_____)。

提出要求的人員：_____

電話號碼：_____

丙部 (由接到要求的營辦商填寫)

*客戶要求取得資料的日期：_____

經手人員：_____

電話號碼：_____

*接到要求的營辦商需根據 HKTA 2102 第 4.1.3 及 4.5.2 章的規定向提出要求的營辦商提供終止服務通知書及緊急取消服務的證明資料。

Annex O – Information on Number Porting/Migration Application Form for Number/Access Code not Allocated for Basic Telephone Service and Mobile Phone Service

<i>Customer Information</i>	
Name in English	
Name in Chinese	
ID No. / Passport No. / BR No.	
Telecommunication Numbers to be Ported / Migrated	
Donor Network Operator (“DNO”)	
Recipient Network Operator (“RNO”)	
Target Cut-over Date / Time	
Copy of ID /BR document	
Urgent Restoration Arrangement is Required or Not	
Customer’s Declaration to accept the Terms & Conditions printed overleaf of the Application Form with signature (Company Chop if applicable) and Date	

<i>Terms and Conditions</i>	
1	The customer requests DNO to terminate the services on relevant number(s) with effect from the Requested Cut-over Time. The continuation of any other services provided by the DNO, will be subject to the applicable terms and conditions for such services of the DNO.
2	The customer requests DNO and RNO to effect the porting / migration of the relevant number(s) to the RNO’s network with effect from the Requested Cut-over Time.
3	The customer understands that the porting / migration of the relevant number(s) does not affect his obligations to the DNO incurred prior to the successful porting / migration of the relevant number(s) under the applicable service terms and conditions of the DNO.
4	The Target Cut-over Time is subject to the DNO’s confirmation of the details and technical arrangements with the RNO. The RNO is authorized to change the Requested Cut-over Time as the RNO may reasonably consider as appropriate.
5	In the event that the relevant number(s) cannot be ported to the RNO’s network for whatever reasons, the RNO should have the right to cancel the porting / migration application.
6	The DNO / RNO will not be liable to the customer or any party in the contract for any loss or damage arising from this application and the related number(s) porting / migration arrangements.
7	The customer’s personal data disclosed herein may be transferred to all relevant parties who may require access to the customer’s personal data in relation to this application and the customer understands that he may request access to and corrections of his personal data.
8	The customer confirms the accuracy and correctness of all the information provided and he will be liable for and shall fully indemnify each of the RNO and the DNO against any costs, claims demands, liabilities and expenses resulted from his breach of this clause.
9	The customer agrees no request for cancellation of this porting / migration application will be entertained after x days immediately before the Target

	Cut-over Time. (x: up to the agreement between the Network Operator and the customer)
10	In case of inconsistency, the English version of the terms prevails.
11	The customer understands that request for restoration of services to the DNO may not be accepted if the customer has not requested for this service in the application for number porting / migration.
12	The customer understands that RNO and DNO do not guarantee the successful recovery of services in case of urgent restoration.
13	The customer understands that urgent restoration request is accepted only if the request is made after the cut-over is started and before the acceptance of cut-over by the customer. The cut-over will also be considered accepted by customer in case of no problem report received from the customer by the RNO within a certain period after the completion of cut-over.