

Exceptional Cases for Mobile Number Portability Provision

Office of the Communications Authority

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Exceptional Cases for Mobile Number Portability Provision

Revision History

Issue No.	Date Issued	Note
1	September 1998	Issued by the former Telecommunications Authority (TA) for the initial launch of Mobile Number Portability (MNP).
2	October 1999	Issued by the former TA after the successful launch of MNP
3	August 2000	Issued by the former TA after the use of electronic documents to replace fax transaction.
4	December 2013	Consequential amendments as a result of establishment of the Communications Authority (CA) on 1 April 2012.

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1. Introduction

1.1 General

- 1.1.1 Mobile Number Portability (MNP) is the ability for customers to retain their assigned mobile telephone number when changing their subscription from one mobile network operator to another mobile network operator.
- 1.1.2 Licensees for the provision of fixed or mobile services (including holders of Fixed Telecommunications Network Services (FTNS) Licence, Fixed Carrier Licence, Mobile Carrier Licence, Unified Carrier Licence (with provision of fixed or mobile service authorised), and Services-Based Operator (SBO) Licence providing Class 1 or mobile virtual network operator services (hereafter referred to as the **Network Operators**) are required to provide the function of mobile number portability among their networks.
- 1.1.3 In order to avoid any possible uncertainty in some exceptional circumstances and also minimize any undesirable consequences in certain disastrous events in MNP provision, this document sets out the procedures and the associated responsibilities among the operators to handle these exceptional circumstances. The exceptional circumstances may include porting requests procedure, system failure, customer reported faults, auditing and maintenance window. The procedures for normal MNP porting process and change of gateway number are mentioned in Annex 1 and 2 of HKCA 2104 respectively.

1.2 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 Mobile operator's working and history records of ported-out and ported-in numbers and its 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.
- Directory Number (DN):** The telephone number that is dialled by a calling party to reach the called party. If the called party is a mobile customer which has been ported from the Donor Network to the Recipient Network, this is the same as the Ported Number.

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Donor Network Operator (DNO):	Operator of the Mobile Network from which the number is being or has been ported.
Donor Network:	The Network of the DNO.
DNO MA:	The MA of the DNO.
GN Database:	The database that provides translation of the ported number into the gateway number (GN).
MNP Provider:	The Network Operator which provides number portability translation service to the Originating Network for the purpose of routing of calls to the Recipient Network. A MNP Provider may also play the role of a transit network if requested by the originating network.
Original DNO:	Operator of the Mobile Network from which the number was first ported.
Originating Network:	The Mobile or Fixed Network from which a call is originated.
Other MA:	The MA who is neither representing RNO nor DNO for the porting request.
Ported Number:	Mobile number of a customer which has been ported from the Donor Network to the Recipient Network.
Receiving Network Operator:	The network operator that retrieves information exchange files from the sending network operators.
Recipient Network Operator (RNO):	Operator of the Mobile Network which has gained the ported number.
Recipient Network:	Network of the RNO.
RNO MA:	The MA of the RNO.
Sending Network Operator:	The network operator that sends information exchange files to other network operators.
Terminating Network:	The mobile network to which the called

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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.

1.3 Information Exchange

The information exchange between Network Operators includes the following documents.

- i) NPR (Number Portability Request)
- ii) NTNPR (Negotiation of NPR)
- iii) AKNPR (Acknowledgment to NPR)
- iv) CLNPR (Cancellation of NPR)
- v) ACNPR (Acknowledgment to CLNPR)
- vi) APN (Advice of Porting Number)
- vii) AKAPN (Acknowledgment to APN)
- viii) CLAPN (Cancellation of APN)
- ix) ACAPN (Acknowledgment to CLAPN)
- x) SCAPN (Successful Completion of APN)
- xi) ARPN (Advice of Relinquished Porting Number)

Negotiation Phase

Document	Description	Sender Address	Receiver Address
NPR	Number Portability Request	RNO	DNO
CLNPR	Cancellation of NPR	RNO	DNO
AKNPR	Acknowledgment to NPR	DNO	RNO
ACNPR	Acknowledgment to CLNPR	DNO	RNO
NTNPR	Negotiation of NPR	DNO	RNO

Provisioning and Completion Phase

Document	Description	Sender Address	Receiver Address
APN	Advice of Porting Number	RNO	All MAs
SCAPN	Successful Completion of APN	RNO	All MAs
CLAPN	Cancellation of APN	RNO /MA	All MAs/RNO
AKAPN	Acknowledgment to APN	All MAs	RNO
ACAPN	Acknowledgment to CLAPN	All MAs/RNO	RNO/MA

Termination Phase

Document	Description	Sender Address	Receiver Address
ARPN	Advice of Relinquished Ported No.	RNO	Original DNO, All MAs

1.4 References

- A. HKCA 2103 "Requirements for Mobile Number Portability by Database Solution"
- B. HKCA 2104 "Functional Specification of Administration Database For Mobile Number Portability"
- C. Procedures for Mobile Number Portability Provision

2. Abnormal Cases

2.1 NPR Corrupted in Transmission

On receipt of a NPR the DNO should verify that the data within the NPR still conforms to the format of an Information Exchange Document. If it does not then the NPR may be considered to be corrupted in transmission and the DNO should reply to the RNO with a NTNPR. If the data is so corrupted that it is not possible to identify the RNO then the DNO should not reply to the NPR and the late document procedure detailed below should be instigated by the RNO. If DNO can identify the sender (by file name or Frame Relay connection) of the corrupted document files, DNO should inform the sending network immediately.

2.2 Incorrect or Incomplete Data in the NPR or in the Required Documents by Fax

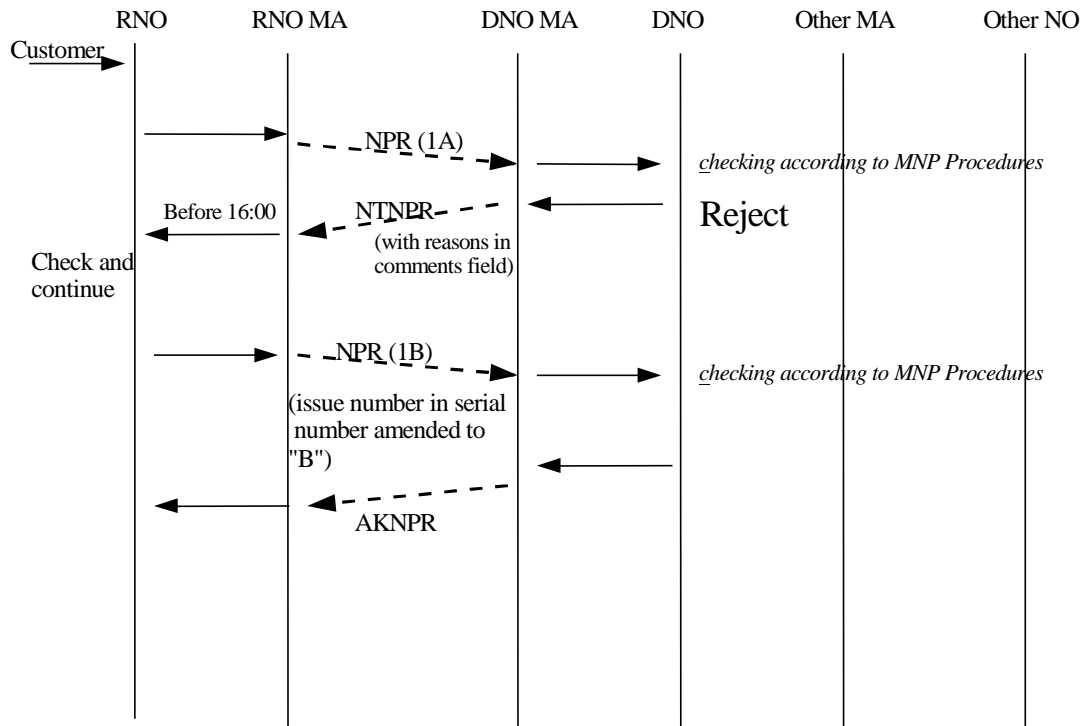
2.3.1 On receipt of the NPR, the DNO should check the necessary data, according to the Procedures for Mobile Number Portability Provision, to verify the porting request. In the case where the data is either incorrect or incomplete the DNO should send a NTNPR to the RNO. The format of the rejection code in “comments field” of NTNPR shall be ABC (comments) where ABC are the valid rejection codes, as stated below, and the information after the bracket would be the further information to elaborate what is wrong.

- A- reserved
- B- Incorrect/incomplete name of the customer in English
- C- incorrect/incomplete HK Identity Card / Passport /Business Registration Certificate (BRC) /institution's registration Number
- D- Mobile number is ceased to be assigned by the DNO
- E- reserved
- F- reserved
- G - reserved
- H- Mobile number owned by different customer
- I - Customer supplied to the DNO a valid police case report confirming the porting is not authorized by themselves the police report should be faxed to the RNO
- J- Pre-paid SIM not specified
- K- Incomplete /incorrect information on the NPR sent by the RNO
- L- Reserved
- M- Double Porting

2.3.2 After receiving a NTNPR the RNO should confirm the details of the porting request, amending them where necessary.

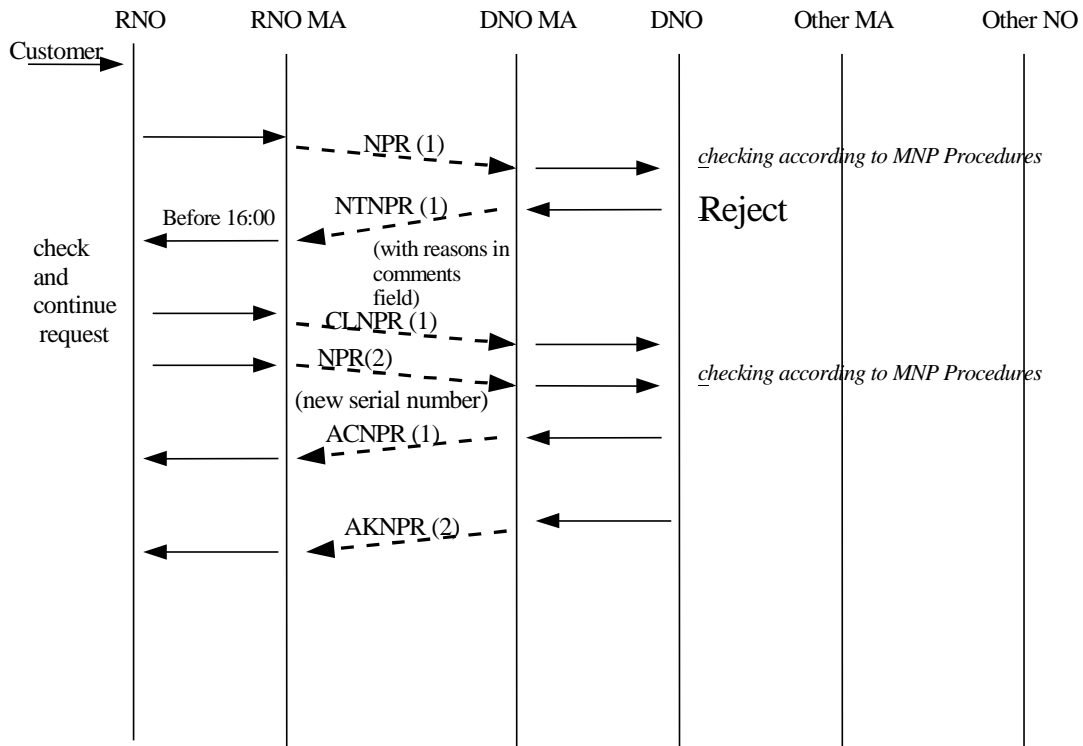
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2.3.2.1 Continue with the Porting Request. If the RNO wishes to continue with the porting request it should cancel (by sending CLNPR) the original NPR and send a new NPR as shown in Figure 2.3.2.



MNPPOR3a.ppt

Figure 2.3.1 MNP Porting Procedure (Rejected by DNO - Case 1)



MNPPOR3b.ppt

Figure 2.3.2 MNP Porting Procedure (Rejected by DNO - Case 2)

2.3.2.2 In the event that the revised or new NPR is sent outside the NPR session that the first NPR was sent in then the cut-over will be delayed. The customer should be contacted by RNO and informed of situation. The revised NPR (with new issue number "B") will also apply for the case that required change of cut-over window. If there is more than one revised NPR for one single porting, the issue number will change to C, D, E etc.

2.3.2.3 If the RNO cannot satisfy the data requirements for porting request then the RNO should cancel the NPR by issuing a CLNPR.

2.4 Cancellation of Porting Request by RNO

In accordance with the Procedures for Mobile Number Portability Provision, RNO can cancel the porting request before 2100 hours on the day before the cut-over window. If the RNO wishes to cancel the porting requests it should follow the procedures below in the appropriate scenarios:

2.4.1 Cancellation before reception of AKNPR/NTNPR

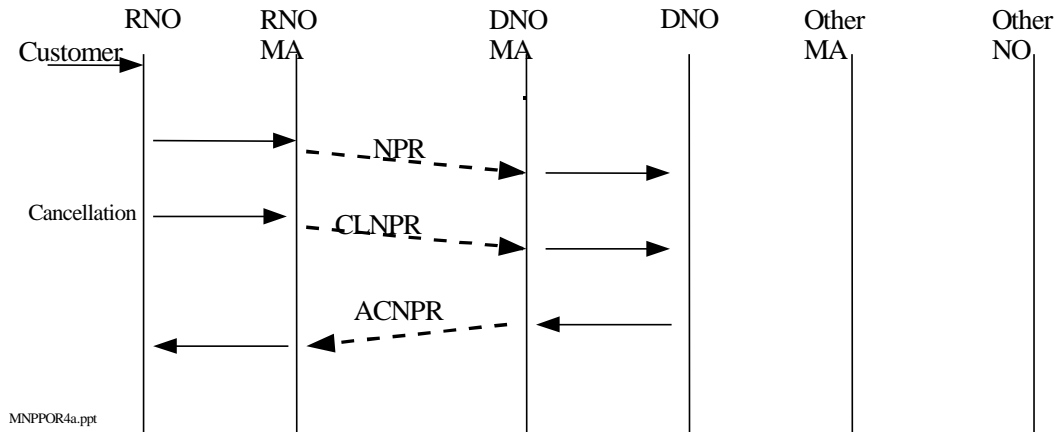


Figure 2.4.1 MNP Porting Procedure (Cancel by RNO - Case 1)

2.4.2 Cancellation before sending of APN

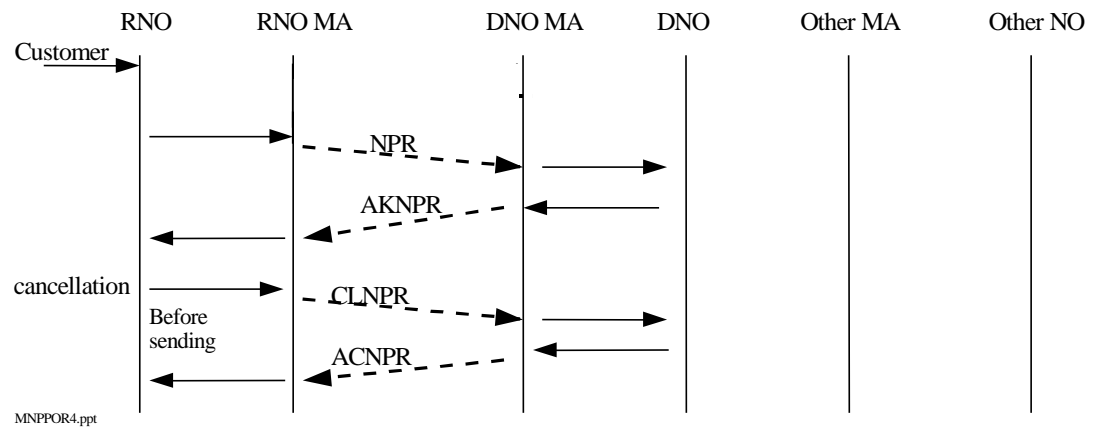
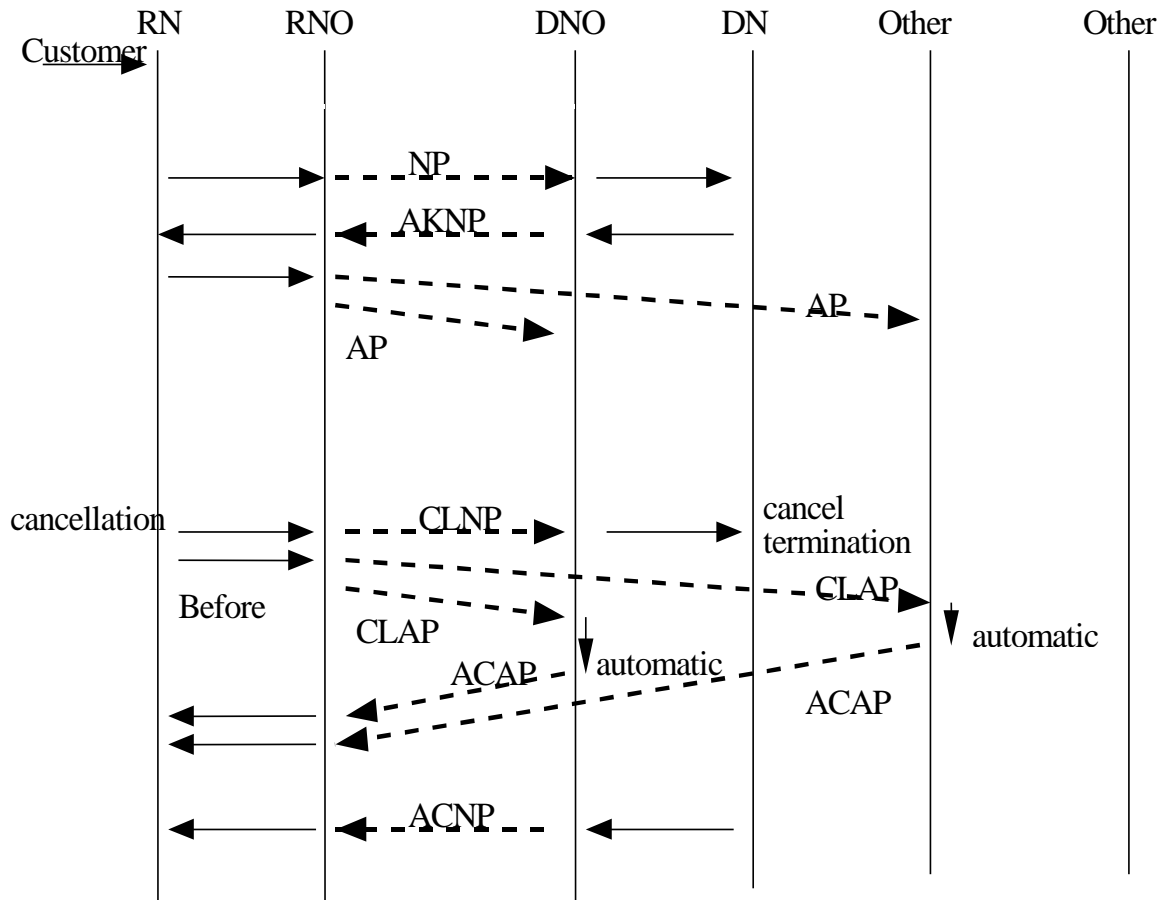


Figure 2.4.2 MNP Porting Procedure (Cancel by RNO - Case 2)

2.4.3 Cancellation after sending of APN.



Note : CLNPR and CLAPN can be sent independent of

Figure 2.4.3 MNP Porting Procedure (Cancel by RNO - Case 3)

2.5 AKNPR

2.5.1 The AKNPR is to be generated from the respective NPR by modifying the fields "type of document" and/or "comment" to avoid human error in production.

2.5.2 To be checked by the RNO for validity against the NPR.

2.5.3 If the data is corrupted in the transmission, the RNO should request retransmission from the DNO by phone. If the subsequent sending of the AKNPR falls outside of the normal AKNPR time limit (of 1600 hours) then the late document procedure detailed below should be followed.

2.6 APN

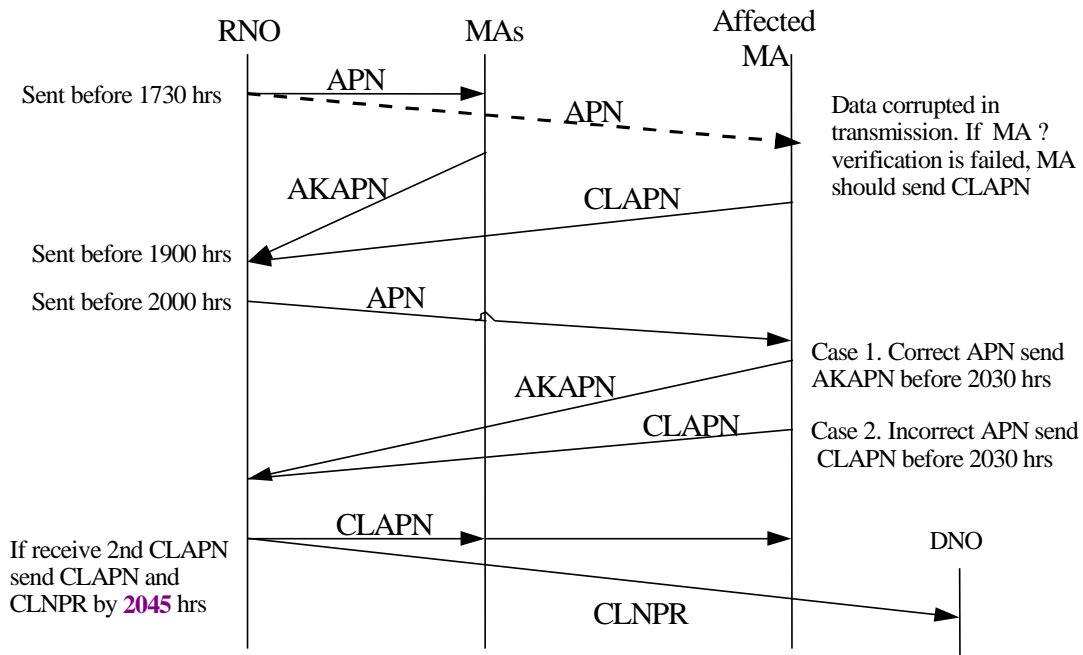


Figure 2.6.1 MNP Abnormal Cases - Error in APN

2.6.1 The APN is to be generated from the respective AKNPR by modifying the fields "type of document", "GN" and/or "comment". In cases of GN number changes the AD system must allow for APN to be manually input (ie not from AKNPR) providing that the RNO equals DNO.

2.6.2 Before sending the APN the RNO must check:

- GN is valid
- APN is verified against AKNPR specially the DN and the cut-over window

2.6.3 On receipt of the APN, all MAs should conduct the following simple checks for verification of the data in APN:

- NI or NN in GN against RNO
- a legitimate cut-over window
 - The cut-over date is either one or two day after the APN receipt date
 - The cut-over window is either 0100-0400 or 1200-1400
- DNO should be same as the RNO at AD working record or same as the ODNO if no AD working record available

2.6.4 DNO's verification of the APN. The DNO may arrange (not a mandatory requirement) to verify the following details in the APN against the DNO's associated AKNPR:

- DN
- cut-over window

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- 2.6.5 If an individual MA's checks are successful then the individual MA automatically responds with AKAPN.
- 2.6.6 If an individual MA's checks are unsuccessful then the individual MA should send the RNO a CLAPN (within the timeframe for an AKAPN) including in the comment field of the CLAPN the reason for the rejection of the APN by using one or more of the following codes. The format of rejection code in "comments field" of CLAPN shall be ABC (comments) where ABC are the valid rejection codes and the information after the bracket would be the further information to elaborate what is wrong.
- R1 - Data corrupted - completely corrupted APN
 - R2 - Data corrupted - inaccurate GN
 - R3 - Data corrupted - inaccurate cut-over window
 - R4 - No associated AKNPR
 - R5 - Mismatch with AKNPR - inaccurate DN
 - R6 - Mismatch with AKNPR - inaccurate cut-over window
 - R7 - Wrong DNO
- 2.6.7 If the received APN is so corrupted that it is not possible to identify the RNO, then the MA should not reply to the APN and the late document procedure detailed below should be instigated by the RNO.
- 2.6.8 The affected MA should make reasonable efforts to approach the RNO to resolve the issues and allow the porting to proceed as planned.
- 2.6.9 On receipt of a CLAPN the RNO should check the APN and then re-send it to the affected MA(s) within the "fault" timeframe, before 2000 hours.
- 2.6.10 On receipt of the re-sent APN the individual MA should conduct simple verification checks detailed in paragraph 2.6.3 and paragraph 2.6.4 if appropriate. If the checks are successful then the affected MA(s) should reply with an AKAPN within the "fault" timeframe before 2015 hours. If checks continue to be unsuccessful then the individual MA should reply to the RNO with a CLAPN before 2015 hours.
- 2.6.11 If the RNO receives a second CLAPN from the same affected MA then the RNO should before 2100 hours send a CLAPN to all MAs and a CLNPR to the DNO.

2.7 AKAPN

- 2.7.1 The AKAPN is to be generated from the respective APN by modifying the fields "type of document" and/or "comment" following simple verification checks above.

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2.7.2 Data corrupted in transmission. On receipt of AKAPN the RNO should conduct the verification checks detailed in paragraph 2.6.3 above. If the data has been corrupted in transmission then the RNO should request by phone the MA sending the AKAPN to re-send it.

2.8 SCAPN

2.8.1 The SCAPN is to be generated from the respective APN by modifying the fields "type of document" and/or "comment".

2.8.2 Data corrupted in transmission. On receipt of SCAPN, MAs should conduct the verification checks detailed in paragraph 2.6.3 above. If the data has been corrupted then the MA should request the RNO to re-send the SCAPN by phone.

2.9 CLNPR

2.9.1 The CLNPR should be generated from the respective NPR by the RNO.

2.9.2 If the data in the CLNPR is corrupted in transmission then the DNO should request the RNO by phone to re-send it.

2.10 CLAPN

2.10.1 The CLAPN should be generated from the respective APN, with the reasons for rejecting the APN added. (refer to section 2.6.6 for details).

2.10.2 If the data in the CLAPN is corrupted in transmission then the receiving party should request the sending party to re-send it.

2.11 ARPN

2.11.1 The ARPN should be generated from the AD working records by the latest RNO.

2.11.2 All the MAs should verify whether the sender of the ARPN matches with the RNO field of the corresponding AD working record. If there is an error, the MA should contact the sender of the ARPN to rectify the issue.

2.11.3 If the ODNO in the ARPN finds out that the relinquish number does not belong to them, it may contact the sender of the ARPN to rectify the issue.

2.11.4 In general, if the data in the ARPN is corrupted in transmission, the relevant parties should contact each other by phone to rectify the situation.

2.12 Late Document

2.12.1 The RNO should chase up late AKNPRs and NTNPRs by phone and DNO to ensure that it is sent by 1800 hours such that the APN and AKAPN can be handled during the "fault" timeframes detailed in paragraphs 2.6.8 and 2.6.9 above.

2.12.2 The RNO should chase up late AKAPNs and CLAPNs by phone with individual MAs.

2.13 Authority to Reject/Cancel Porting.

2.13.1 The authority to reject and cancel portings should be referred to Procedures for Mobile Number Portability Provision.

2.14 Abnormal Weather Arrangement

2.14.1 Abnormal Weather Conditions shall be deemed to exist from the official time of raising to the official time of lowering of the following bad weather warning signals by the Hong Kong Observatory:

- Black Rainstorm Signal
- Tropical Cyclone Signal Number 8 or higher

2.14.2 When Abnormal Weather Conditions exist, all network operators should handle porting requests as follows:

2.14.2.1 NPR not sent by RNO

The RNO should cease sending new NPRs. This may cause a delay in the cut-over window proposed to the customer. The RNO is responsible for informing the customer of the situation.

2.14.2.2 NPR sent but APN not sent

The sending of AKNPR by DNO or APN by RNO will be stopped during the period of Abnormal Weather Condition. The RNO should stop the porting request by cancelling the NPR by CLNPR for completeness and inform the customers accordingly. The RNO should issue a new NPR with a revised cut-over time after the Abnormal Weather Condition has ended.

2.14.2.3 After the APN has been sent

The porting request handling should proceed and be completed in the normal fashion.

3. Handling of Mobile Number Portability Porting Request in Different System Failure Cases

3.1 AD System Failure

General

3.1.1 All Network Operators should handle porting request in accordance with the agreed response time as stated in the Normal/Abnormal MNP Porting Procedure. If there is system failure in the AD system and the affected Network Operators find that using Normal/Abnormal MNP Porting Procedure will be unable to meet the agreed response time, the workaround procedures defined in this section should be employed. As soon as the fault is detected, the affected MA should notify all other Network Operators that there is a AD system failure in their system. All the Network Operators should arrange necessary resources for the possible workaround procedures.

3.1.2 The failure situations can be classified into three cases:

3.1.2.1 Short Duration Failure: The failure duration is so short that the affected Network Operators can meet the agreed response time within the Normal/Abnormal MNP Porting procedure using the recovered AD system.

3.1.2.2 Long Duration Failure: The failure AD system cannot be recovered within a short time and the affected Network Operators may be unable to meet the agreed response time within the Normal/Abnormal MNP Porting procedure using the AD system. In this situation, the workaround procedures defined in this section should be employed in order to meet the agreed cut-over time for the porting requests. The affected MA should work with the relevant MNP Provider and Network Operator(s) to update the porting data into the GN database as soon as possible.

3.1.2.3 Disaster Situation: The AD system is in failure for quite a long time and workaround procedure has been employed. This situation should be escalated to OFCA and OFCA will handle the situation on a case by case basis.

3.1.3 Irrespective of the duration of AD system failure, the affected Network Operator is required to send back the AD electronic documents, despite the adoption of the manual workaround procedure prior to system resume normal, if they can still catch the agreed response time within the Normal/Abnormal MNP Porting Procedures.

Workaround Procedure

3.1.4 The following table summarizes the workaround procedure to be employed under different failure situations:

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Type of System Failure	Failure Duration	
	Short Duration	Long Duration
1. DNO MA's AD failure		
h negotiation phase	Normal/Abnormal Procedure	Workaround Procedure (see fig. 3.1.1)
h provisioning phase (starting from APN sent)	Normal/Abnormal Procedure	Workaround Procedure (see fig. 3.1.1)
2. RNO MA's AD failure		
h negotiation phase	Normal/Abnormal Procedure	STOP porting Request (see fig. 3.1.2, fig. 3.1.3)
h provisioning phase (starting from APN sent)	Normal/Abnormal Procedure	Workaround Procedure (see fig. 3.1.4)
3. Other MA's AD failure		
h provisioning phase (starting from APN sent)	Normal/Abnormal Procedure	Workaround Procedure (see fig. 3.1.5)

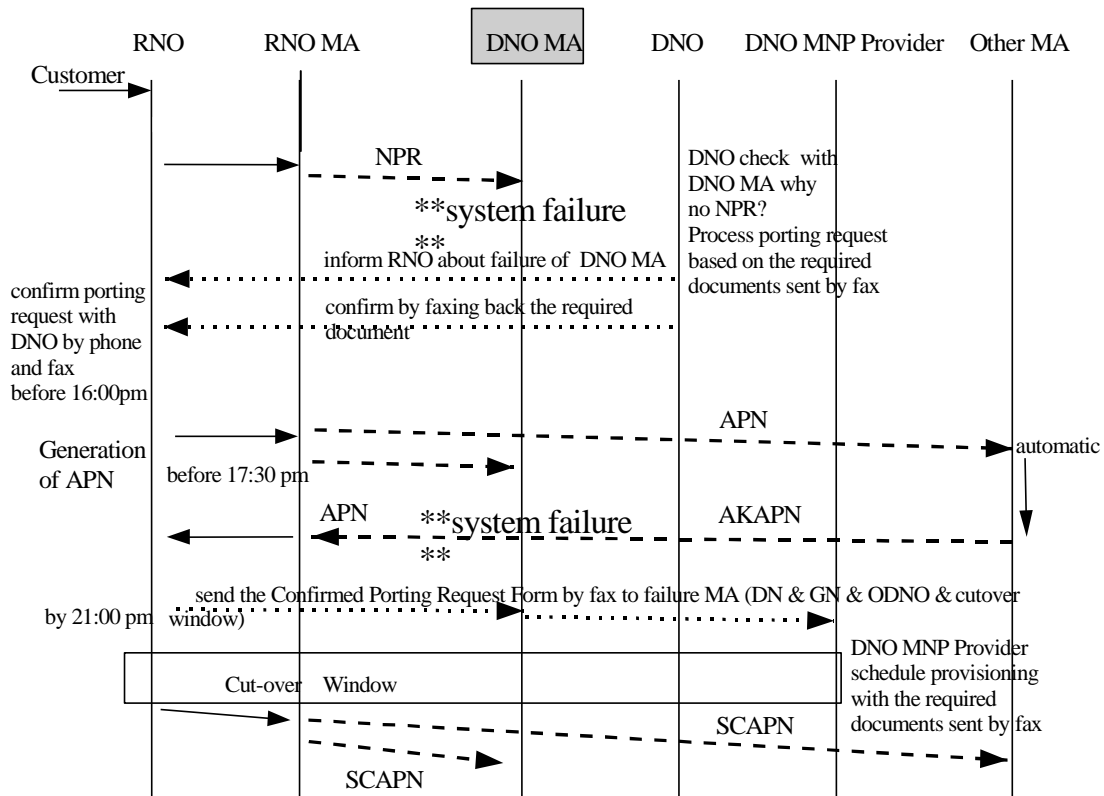
Table 3.1.4 Workaround Procedure

In general, the workaround procedures employ communication by fax and phone between the RNO and the affected Network Operators (associated with the failure AD system). The communication between RNO and other normal Network Operators should follow that of Normal/Abnormal MNP Porting procedure as far as possible.

DNO MA's AD Failure During Negotiation Phase and/or Provisioning Phase

3.1.4.1 Under this failure situation, DNO should confirm with RNO on the porting request by fax. And RNO should inform DNO MA of the confirmed porting numbers by fax. The communication between RNO and other MAs should follow that of Normal/Abnormal MNP Porting procedure. The workaround procedure is shown in the following diagram:

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MNPP0F1a.ppt

Figure 3.1.1 MNP Porting Procedure (System Failure in DNO MA)

- 3.1.4.2 RNO should fax the Transaction Form to DNO and send NPR document to DNO. However, as AD system of DNO MA is in failure, DNO cannot retrieve the NPR document. DNO should go ahead with checking of porting request based on the received MNP Transaction form, and should inform RNO about the failure of AD system of DNO MA. DNO should confirm the porting request with RNO by faxing back the MNP Transaction Forms to the RNO with corresponding information (accept or reject with reasons) before the agreed deadline of normal porting procedure.
- 3.1.4.3 After reception of the fax confirmation, RNO should generate from NPR and send out the corresponding APN to all MAs (including DNO MA).
- 3.1.4.4 Furthermore, by 2100 hours of the day before cut-over window, RNO has to send a Confirmed Porting Request form by fax to the DNO MA containing all "Confirmed Porting Request". "Confirmed Porting Request" refers to porting request generated from the RNO which has not been rejected/cancelled by any related parties. The format of the content of the fax is shown as follows:

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From RNO	YY		
To DNO MA	XX		
Confirmed Porting Request			
Cutover Window	DD-MM-YYYY am		
Total number of Porting Request : xxxx			
DNO 1	DN	GN	ODNO
1	DN1	GN1	ODNO1
2	DN2	GN2	ODNO2
3	DN3	GN3	ODNO3
4	DN4	GN4	ODNO4
5	DN5	GN5	ODNO5
DNO 2			
1	Dni	GNi	ODNOi
2	Dnii	GNii	ODNOii
3	Dniii	GNiii	ODNOiii
Cutover Window	DD-MM-YYYY pm		
Total number of Porting Request : xxxx			
DNO 1	DN	GN	ODNO
1	DN1	GN1	ODNO1
2	DN2	GN2	ODNO2
3	DN3	GN3	ODNO3
4	DN4	GN4	ODNO4
5	DN5	GN5	ODNO5
DNO 2			
1	Dni	GNi	ODNOi
2	Dnii	GNii	ODNOii
3	Dniii	GNiii	ODNOiii

Table 3.1.4.4 Confirmed Porting Request Form

RNO MA's AD Failure During Negotiation Phase

3.1.4.5 If failure of the RNO MA's AD system occurs before the sending of APN, RNO should cancel the porting request with DNO by phone and by fax. Some possible cases are shown in the following diagrams:

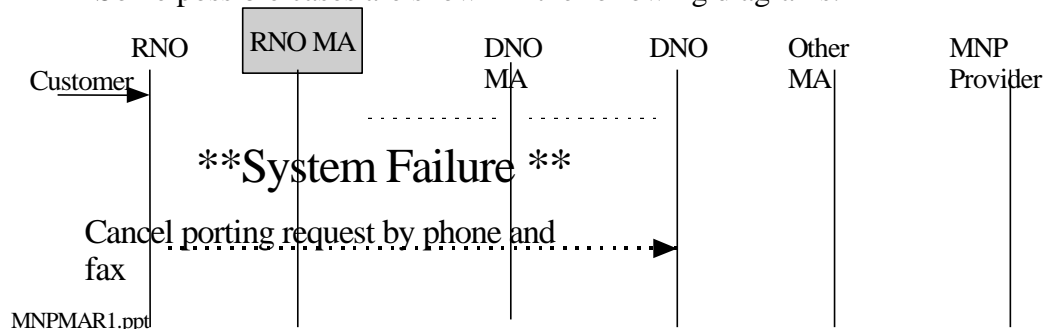


Figure 3.1.2 MNP Porting Procedure (System Failure in RNO MA-Case 1)

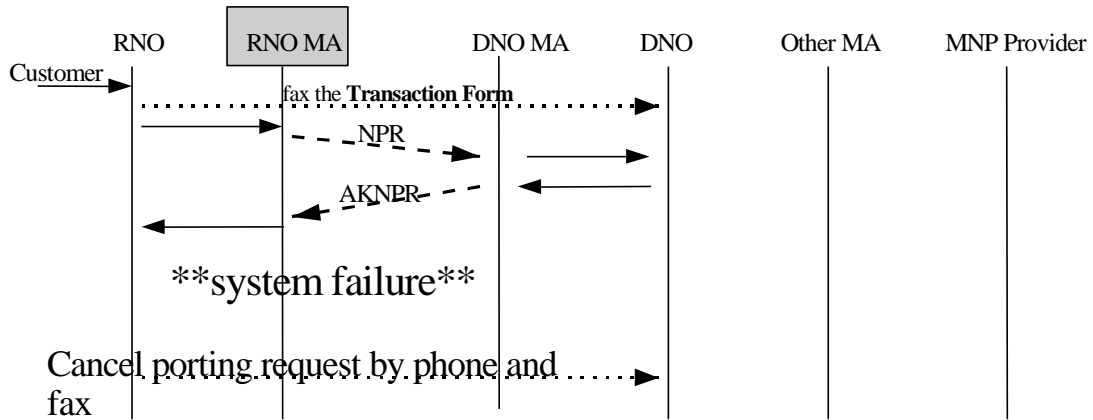


Figure 3.14 MNP Porting Procedure (System Failure in RNO MA- Case 2)

From RNO	YY	
To DNO	XX	
Canceled Porting Request		
Cutover Window	DD-MM-YYYY am/pm	
Total Number	XXXX	
DNO 1	<u>DN</u>	<u>GN</u>
1	DN1	GN1
2	DN2	GN2
3	DN3	GN3
4	DN4	GN4
5	DN5	GN5

Table 3.1.3.5 Canceled Porting Request Form

RNO MA's AD Failure During Provisioning Phase

3.4.1.1 If failure of RNO MA's AD system occurs after APN is sent out, RNO should confirm with DNO MA and other MAs by phone and fax (with format of table 3.1.4.6.a) that porting can still go ahead. If some APNs are rejected, corresponding MA should send the Rejected Porting Request Form of associated DN with reason code to RNO by fax (with format of table 3.1.4.6.b). If the RNO and corresponding MA cannot rectify the reason for rejection within the abnormal case time frame, the RNO should cancel the APN with all MAs by fax and phone (with format of table 3.1.4.6.c), and the corresponding DNO by phone and fax (with format of table 3.1.4.6.d) by 2100 hours. The format of the fax is shown as follows:

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From RNO	YY		
To MA	XX		
List of APN			
Cutover Window	DD-MM-YYYY am		
Total number of APN : xxxx			
DNO 1	DN	GN	ODNO
1	DN1	GN1	ODNO1
2	DN2	GN2	ODNO2
3	DN3	GN3	ODNO3
4	DN4	GN4	ODNO4
5	DN5	GN5	ODNO5
DNO 2			
1	Dni	GNi	ODNOi
2	Dnii	GNii	ODNOii
3	Dniii	GNiii	ODNOiii
Cutover Window	DD-MM-YYYY pm		
Total number of APN : xxxx			
DNO 1	DN	GN	ODNO
1	DN1	GN1	ODNO1
2	DN2	GN2	ODNO2
3	DN3	GN3	ODNO3
4	DN4	GN4	ODNO4
5	DN5	GN5	ODNO5
DNO 2			
1	Dni	GNi	ODNOi
2	Dnii	GNii	ODNOii
3	Dniii	GNiii	ODNOiii

Table 3.1.4.6.a List of APN Form

From MA	YY	
To RNO	XX	
Rejected Porting Request:		
Cutover Window	DDMMYYYY am	
Total Number of Rejecting Porting Request : xxxxxx		
	DN	Rejection Code
1	Dna	rejection code x
2	DNb	rejection code y
3	DNc	rejection code x
Cutover Window	DDMMYYYY pm	
Total Number of Rejecting Porting Request : xxxxxx		
	DN	Rejection Code
1	Dna	rejection code x

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2	DNb	rejection code y
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Table 3.1.4.6.b Rejected Porting Request Form to RNO

From RNO	YY	
To MA	XX	
Canceled porting request:		
Cutover Window	DD-MM-YYYY am	
Total number of canceled request: xxxxxx		
DNO 1	DN	GN
1	DN1	GN1
2	DN2	GN2
3	DN3	GN3
4	DN4	GN4
5	DN5	GN5
DNO 2		
1	Dni	GNi
2	Dnii	GNii
3	Dniii	GNiii
Cutover Window	DD-MM-YYYY pm	
Total number of canceled request: xxxxxx		
DNO 1	DN	GN
1	DN1	GN1
2	DN2	GN2
3	DN3	GN3
4	DN4	GN4
5	DN5	GN5
DNO 2		
1	Dni	GNi
2	Dnii	GNii
3	Dniii	GNiii

Table 3.1.4.6.c Canceled Porting Request Form to all MA

From RNO	YY	
To DNO	XX	
Canceled porting request:		
Cutover Window	DD-MM-YYYY am	
Total number of canceled request: xxxxxx		
	DN	GN
1	DN1	GN1
2	DN2	GN2
Cutover Window	DD-MM-YYYY pm	
Total number of canceled request: xxxxxx		

Exceptional Cases for Mobile Number Portability Provision

	DN	GN
1	DN1	GN1
2	DN2	GN2

Table 3.1.4.6.d Canceled Porting Request Form to DNO

The procedure is summarized in the following diagram:

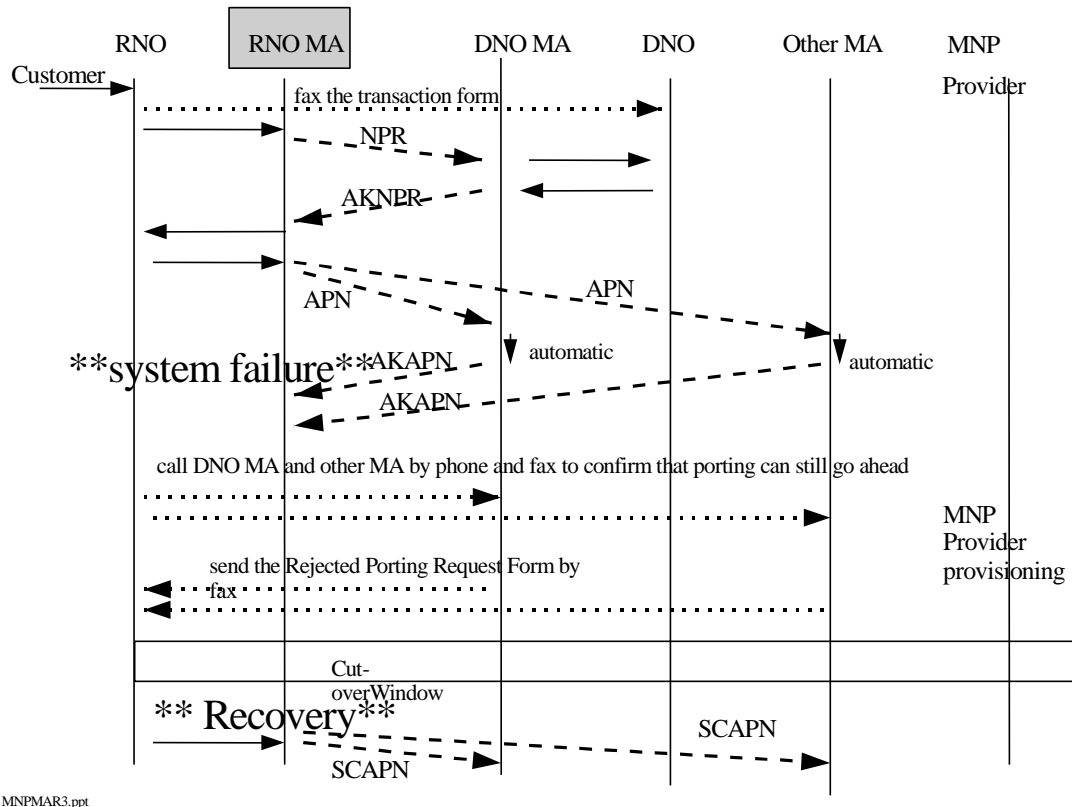


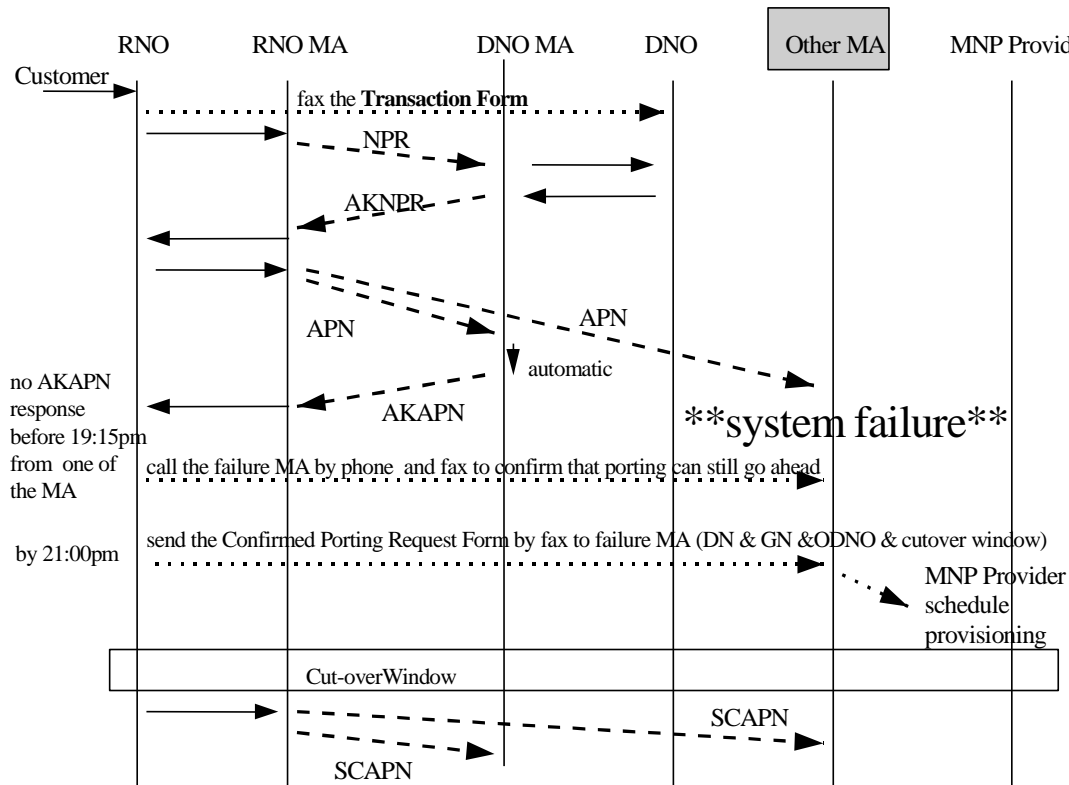
Figure 3.1.4 MNP Porting Procedure (System Failure in RNO MA -Case 3)

Other MA's AD Failure During Provisioning Phase

3.1.4.7 If failure of AD system(s) of other MA(s) occurs during the provisioning phase, RNO should confirm with the affected MA by phone ~~and fax~~ that porting can still go ahead. Furthermore, by 2100 hours of the day before cut-over window, RNO has to send a Confirmed Porting Request Form to the affected MA containing all "Confirmed Porting Request". The format of the fax is same as that in Section 3.1.4.4.

The procedure is summarized in the following diagram:

Exceptional Cases for Mobile Number Portability Provision



MNPMAO1.ppt

Figure 3.1.5 MNP Porting Procedure (System Failure in Other MA)

3.2 GN Database System Failure

- 3.2.1 For partial or total system failure of the GN database, the related MNP Provider should fix the problem as soon as possible.
- 3.2.2 Other MAs and MNP Providers will continue with the porting process. The new porting number will be updated into the affected GN database as soon as possible after system recovery.

3.3 Inter AD Network Failure

General

- 3.3.1 To maintain high availability of the inter-AD network, it is required that all MAs to equip 2 routers (1 router for back-up purpose) for connection to the Frame Relay (FR) network. The AD system is connected to the FR network via 2 links for MNP information file retrieval. This configuration provides better reliability. Under this configuration, the likely failure scenarios are to be handled as follows:

Single Link / Router Failure

- 3.3.2 The traffic will be arranged to route to the other link/router and no impact to the operations of affected AD server.

Double Links / Routers Failure

- 3.3.3 In the extreme case where the 2 FR links or 2 routers failed at the same time, the porting procedure should be followed according to the AD System Failure procedure in Section 3.1. The affected MA should notify the other MA of this situation and try its best to recover at least 1 link as soon as possible.

3.4 AD to GN Communication Failure

- 3.4.1 Communication between the AD and GN databases is an internal issue for the network operator(s) providing the MA and MNP Provider functions. Any failure in the communications between the databases is an internal operation and the porting process will continue. Porting requests will be updated into the affected GN database as soon as possible.
- 3.4.2 If GN updating cannot be completed for a porting request within the relevant cut-over window, GN Operator is required to give notification to RNO by fax and phone. GN Operator is responsible for taking immediate remedial action for GN updating as soon as possible.

4. Customer Reported Faults

The handling of Fault investigation should refer to Appendix 1 "Request for MNP Fault Investigation/modification". Manual adjustment of system record should only be considered if situation cannot be rectified through the normal handling procedure.

5. Exceptional Cases Following Audit Verifications and Ad Hoc Audit

5.1 Disputes in the Rectification Files

5.1.1 In case the dispute is found affecting the entire data file (file dispute), the comparison/rectification process should be aborted immediately. Any changes made in the rectification should be rolled back. The case must be reported to the MA who generated the file and the MA must resolve the problem as soon as possible.

5.1.2 If the dispute is found in a particular record (record dispute), just simply ignore the record and continue the process. These error records must be then forwarded to the MA who generated the file and the MA must resolve the problem as soon as possible.

5.2. Ad Hoc Auditing.

Following a major AD system failure, a network operator may request an Ad Hoc Audit outside the normal auditing time table. All network operators should comply with such request in good faith.

6. Maintenance Window

A Maintenance Window starting from 2200 hours of each day to 0900 hours of the next day is scheduled for the routine maintenance of AD systems.

Request for MNP Fault Investigation / Modification

Part I (to be filled-in by originator)

Date : _____
 To : _____

Serial No. : xx- nnnnnn
 Fax No : _____

Please *investigate the problem/amend the record for the mobile number below :-

Mobile Number	RNO	DNO	Porting Serial No.	Gateway Number
Description (tick where appropriate)				
<input type="checkbox"/> Unable to receive incoming calls from your network. _____ _____ _____ _____				
* delete as appropriate				

Reporting by : _____ (with Co. Chop) Contact No. : _____
 Contact Person : _____ Fax No. : _____
 Date / Time of Transmission : _____

Part II (to be filled-in by recipient)

Reply Slip :

The problem of the above mobile number has been investigated and result was found in dd/mm/yyyy at hhmm .

Result : _____

Reported by : _____ (with Co. Chop) Contact No. : _____
 Contact Person : _____ Fax No. : _____
 Date / Time : _____

Part III (to be filled-in by Action Initiator)

Manual action should be taken to amend * AD / GN ?

No Yes (please specify) _____

Exceptional Cases for Mobile Number Portability Provision

Status before action _____

Status after action _____

Reason (if any) : _____

* delete as appropriate

Action Request By :

(with Co. Chop)

Contact No. : _____

Contact Person :

Fax No. : _____

Date / Time of Transmission : _____

Part IV (to be filled-in by Action Taker)

Reply Slip :

The required action in part III was completed on dd/mm/yy at hhmm.

Action Taken By :

(with Co. Chop)

Contact No. : _____

Contact Person :

Fax No. : _____

Date / Time :