



MALTA COMMUNICATIONS AUTHORITY

# Charging for Number Portability

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March 2006

***Updated March 2023***

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# 1 Scope

This document specifies the changes in charging arrangements that will result from number portability.

This document applies to:

- fixed and DDI number portability;
- mobile number portability;
- freephone number portability; and
- premium rate number portability;

and affects all operators in Malta who handle calls to ported numbers.

This document defines in more detail than the Decision Notice *Number Portability in Malta* what may be charged and gives options for how the charges may be calculated and in what circumstances transitory errors are permissible during the process of porting a number. Unless otherwise stated, references to decisions in this document, in the format *Decision X/2022*, refer to decisions in the aforementioned Decision Notice.

## 2 Definitions

**'Block Operator'** means the operator to whom the Authority allocated the number block containing the number that is being ported.

**'DDI number'** means a single number having the form of "abcdxxxx", "abcdexxx" or "abcdefxx" (known as 4+4, 5+3 and 6+2 DDI respectively) where the digits x are not used for routing in the public network. To avoid any doubts a DDI number is allocated to a single customer but represents a block of 10,000, 1,000 or 100 numbers.

**'Donor operator'** means the operator that provides service to a subscriber number before porting and includes any agents or other persons however so described acting for this operator.

**'Freephone content provider'** means any person that is party to a contract with the freephone network provider and is also the party identified by a freephone number to whom the calls are ultimately delivered. A freephone content provider pays the freephone network provider to receive calls made to freephone numbers. The calls may include normal conversational calls and calls to individual lines and call centres, and are not limited to calls to access stored content.

**'Freephone network provider'** means the operator that terminates the call to the freephone number identifying the freephone content provider.

**'Freephone number'** means a number in the 800X XXXX range.

**'Premium rate number'** means a number in the '5' range.

**'Premium rate service provider (PRSP)'** means any person that is party to a contract with the premium rate terminating operator and is also the party identified by a premium rate number to whom the calls are ultimately delivered. A PRSP receives the payments from the premium rate terminating operator. The calls consist mainly of normal conversational calls or calls to access stored content.

**'Premium rate terminating operator'** means the operator that terminates the call to the premium rate number identifying the PRSP.

**'Recipient operator'** means the operator that provides service to a subscriber number after porting and includes any sales agents or other persons however so described acting for this operator.

**'Subscriber'** means the legal holder of the active account who is not necessarily the user of the service associated with the number to be ported.

*Note (1): Where the term 'subscriber' is used in terms of the 'subscriber number' (i.e. the number to be ported), it shall be understood to also include the number in a porting request submitted by an applicant, i.e. a person without an active subscription.*

*Note (2): Where the term 'person' is used, it applies to both natural and legal persons, unless otherwise specified.*

### 3 Abbreviations

BRA	Basic Rate Access
CDR	Call Detail Record
CPP	Calling Party Pays
DDI	Direct Dial-In
GMSC	Gateway Mobile Switching Centre
MMS	Multimedia Messaging Service
NPDB	Number Portability Database
PBX	Private Branch Exchange
PRA	Primary Rate Access
PRSP	Premium Rate Service Provider
RPP	Receiving Party Pays
SMS	Short Message Service
SMSC	Short Message Service Centre
SRF	Signalling Relay Function
SRI-SM	Send Routing Information for Short Message

## 4 Transaction and process charges

Decision 5/2022 states that:

- *Each provider affected by number portability shall bear its own set-up costs;*
- *Neither the donor operator nor the recipient operator shall apply any charge to the porting subscriber for number portability;*
- *The donor operator and the block operator may charge the recipient operator for the reasonable recurring costs for:*
  - *An unsuccessful porting transaction; and/or*
  - *A successful porting transaction.*

This shall be applied as follows:

The donor may charge the recipient a single charge for each porting transaction. This charge should be based on the following costs:

- The costs of the checks necessary to respond to the Authorisation Request and the Instruction Request, and also to the Finalisation Request in the case of the fixed operators, freephone network providers and premium rate terminating operators;
- The costs of the checks necessary to respond to the Authorisation Request in the case of unsuccessful portings<sup>1</sup>;
- The manpower for operating the porting contact centre and operating the webservice; and
- The costs of applying and managing the network changes, i.e. the cost of changing data in switches and other systems.

The block operator may charge the recipient a single charge for each "subsequent" porting transaction where it has to change its onward routing settings. This charge should be based on the following costs:

- The costs of applying and managing the network changes, i.e. the cost of changing data in switches and other systems.

The following are not eligible for inclusion:

- The costs of setting up and maintaining the webservice;
- The costs of any software changes or permanent data changes made to the switches and network (they are regarded as setup costs);
- The costs of any hardware or software procured or used for the porting transactions and their maintenance (they are regarded as setup costs); and
- The preparation of new routing tables to support the porting of a DDI number because all operators bear these costs.

These ineligible costs will be borne by all subscribers.

The costs charged shall be based on the cost of efficient processes.

Where a donor operator makes a site visit or deploys staff at an exchange to interact in real-time with the staff of the recipient operator, (e.g. to support porting of a number used by a PBX or a DDI number), then the donor operator may charge its costs and may charge at one level for normal working hours and at a higher level for hours outside normal working hours.

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<sup>1</sup> The possibility to charge for unsuccessful portings as part of the Authorisation Request was introduced in March 2010. *Reference:* "Number Portability Wholesale Charges" Responses to Consultation & Decision.

Where a donor operator has accepted a porting in the Authorisation Response but subsequently the recipient operator fails to proceed to complete the porting in the times specified for the recipient operator so that the porting fails, the costs may be treated as if the porting was successful because the failure is not due to the donor operator.

In calculating the charges, an operator may:

- Use the charges set out in Table 1 without calculating exact costs; or
- Use the same charges as another operator to achieve a reciprocal arrangement between any two operators without calculating the exact costs; or
- Propose a cost based tariff where operators may calculate the costs of successful portings by multiplying the costs of all portings by the proportion of successful ones.

Operators may decide to waive charges to reduce administrative costs. This should be done in a non-discriminatory manner but charges may always be waived if the volumes of portings between two operators are similar.

NUMBER PORTABILITY TYPE	CHARGE
Unsuccessful Portings	
Personal Pre-paid	€0.75
Personal Post-paid	€1.20
Non-Personal	€1.65
Mobile Number	
Pre-paid	€1.35
Personal Post-paid	€2.25
Non-Personal Post-paid	€2.70
Single Fixed Number (non-PRA)	
Personal	€3.45
Non-Personal	€4.35
Single Fixed PRA Number	€12.45
DDI Number	€31.15
Freephone Number	€4.35
Premium Rate Number	€4.35

**Table 1. Baseline wholesale transaction charges (excluding VAT)<sup>2</sup> applicable from 1 April 2010**

<sup>2</sup> The separate transaction charges applicable for 'Personal' and 'Non-Personal' portings were introduced in March 2010. *Reference:* "Number Portability Wholesale Charges" Responses to Consultation & Decision.

## 5 Call related charges

Call related charging is affected by:

- Different termination rates and on-net discounts for different operators who are exchanging ported numbers affecting retail and interconnection charging; and
- Additional conveyance charges affecting interconnection charging.

### 5.1 Retail charging

Retail charging is normally based on CDRs that are collected and then "rated" by the application of charging rates. When a number is ported, different rates may need to be applied before and after the porting. This means that the rating systems will need to:

- Analyse whether or not the number is ported; and
- Apply different rates at different times of the porting day if the system is to be fully accurate.

The latter requirement may not be practicable especially if the rating system works in batch mode, e.g. rating all the traffic daily. Also time may be needed for the newly ported numbers to be entered into the rating system. This will especially affect fixed operators who may not do real-time rating.

In their retail charging, operators should apply the correct charging as soon as possible after a number has been ported. Where this is not practicable, operators may continue to charge at the rates that apply before the porting until midnight on the working day after the porting has taken place, i.e. the day when the Porting Announcement is broadcast on the webservice to indicate a successful porting. For example, if a porting takes place on Tuesday the operators may continue to charge at the non-ported rates until midnight on Wednesday.

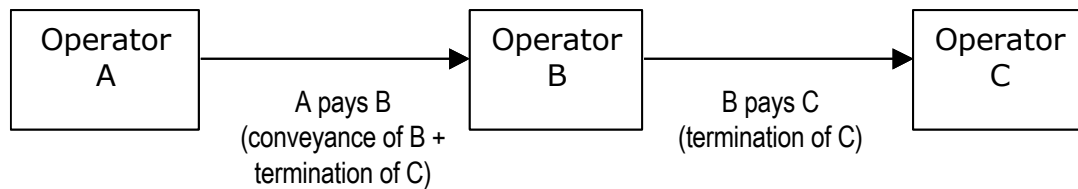
Regardless of the called party number, operators shall not charge more for a call to a ported number served on a given network than they charge for a call to a non-ported number on the same network. This principle shall also apply with regards to the rates charged to the freephone content provider and/or the PRSP for calls received on their respective freephone and/or premium rate numbers.

### 5.2 Interconnection charging

Whenever a call is routed differently because of portability, a portability prefix is added to the called party number. This denotes that the number has been found to be ported, and identifies the operator that is currently serving the called party.

The termination charges payable to the recipient network and the conveyance charges payable to the transit operator/s (where applicable) shall be paid by the operator from whose network the call originated, where the Calling Party Pays (CPP) principle applies. The originating operator will only pay the operator to whom the call was forwarded. The latter will in turn pay the operator to whom the call was subsequently forwarded, etc. For example, if an operator A originates a call and sends it to operator B who in turn transits the call to operator C, then the charges will be as follows: A pays B the sum of conveyance charge of B plus termination charge of operator C. B will then pay to C the termination charge of operator C. This is depicted schematically in the diagram below.





**Figure 1. Payments for conveyance**

The following diagrams (next pages) show the charging arrangements applicable before, during and upon conclusion of a porting between mobile operators with a fixed operator using onward routing and a third mobile operator using All Call Query (direct routing) for three different scenarios depending on whether the block operator is the donor operator (Scenario 1), the recipient operator (Scenario 2) or an operator other than the donor or recipient operator (Scenario 3).

"R" denotes Retail charge, "T" denotes a Termination charge, "r" denotes Recipient and "d" denotes Donor (i.e.  $R_d$  and  $R_r$  refer to the applicable retail charges for calls towards subscribers of the donor operator and recipient operator respectively;  $T_d$  and  $T_r$  refer to the termination charges applied by the donor operator and recipient operator respectively); AC refers to additional conveyance.

Figure 2 shows the three different Scenarios for charging arrangements before porting takes place.

Figure 3 then presents the three different Scenarios for charging arrangements *during* the porting process, namely after routing updates are implemented by the donor operator and the recipient operator and there is a short period where both recipient and donor SIMs are simultaneously active.

As shown in Figure 3, operators other than the donor and recipient operators would update their retail charging only after receiving the Porting Announcement. To this effect, they would still be charging  $R_d$  to their subscribers. The delay by the donor operator before deactivating the account is designed to provide other operators who are using All Call Query, which includes all other mobile operators, with sufficient time to update their routing database before the donor deactivates the account.

Lastly, Figure 4 presents the three different Scenarios for charging arrangements after all operators have implemented the necessary routing updates, following the broadcast of the Porting Announcement by the recipient operator.

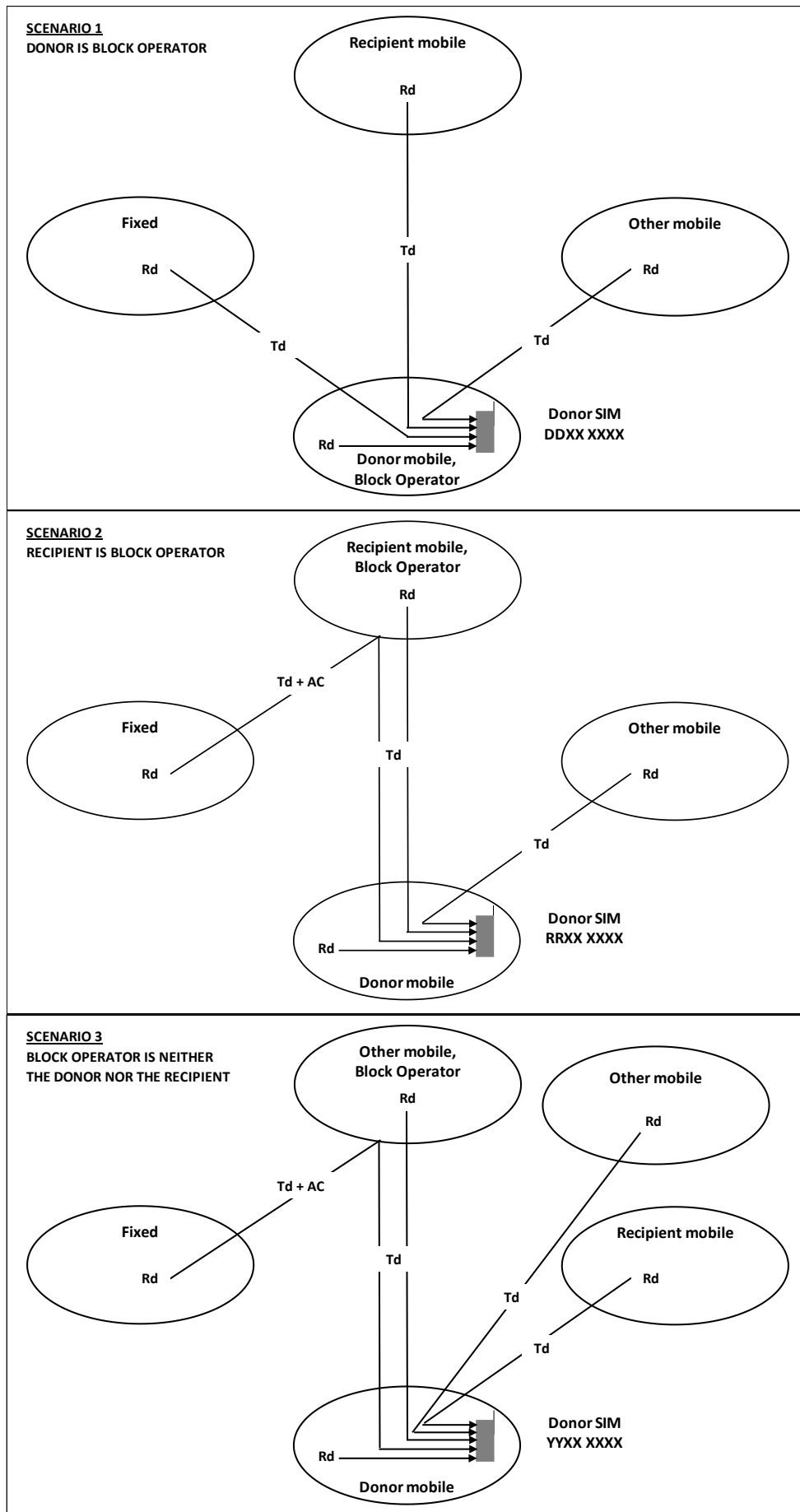


Figure 2. Scenarios 1 – 3 before porting

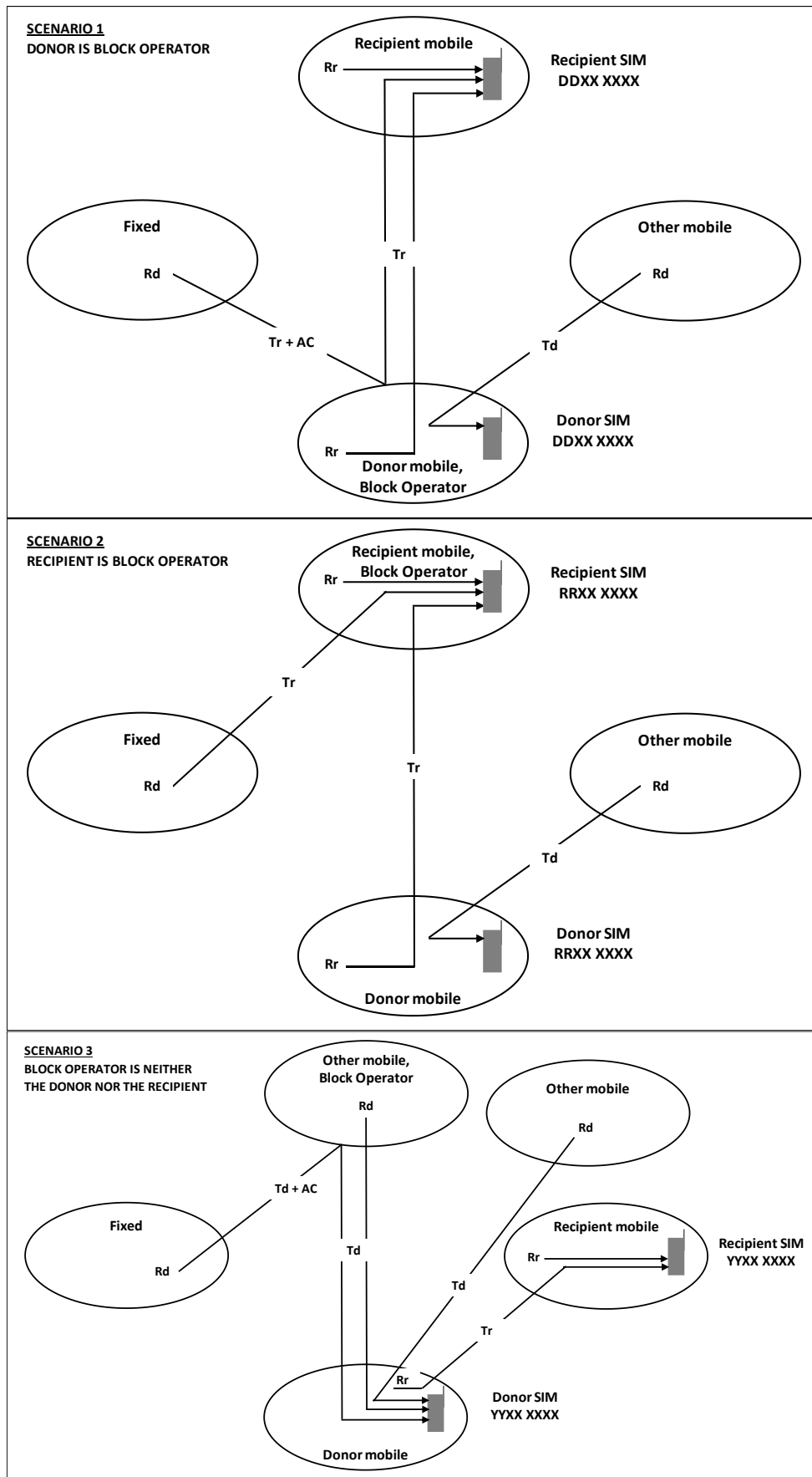


Figure 3. Scenarios 1 – 3 after routing updates by donor and recipient (Short period where both recipient and donor SIMs are active)

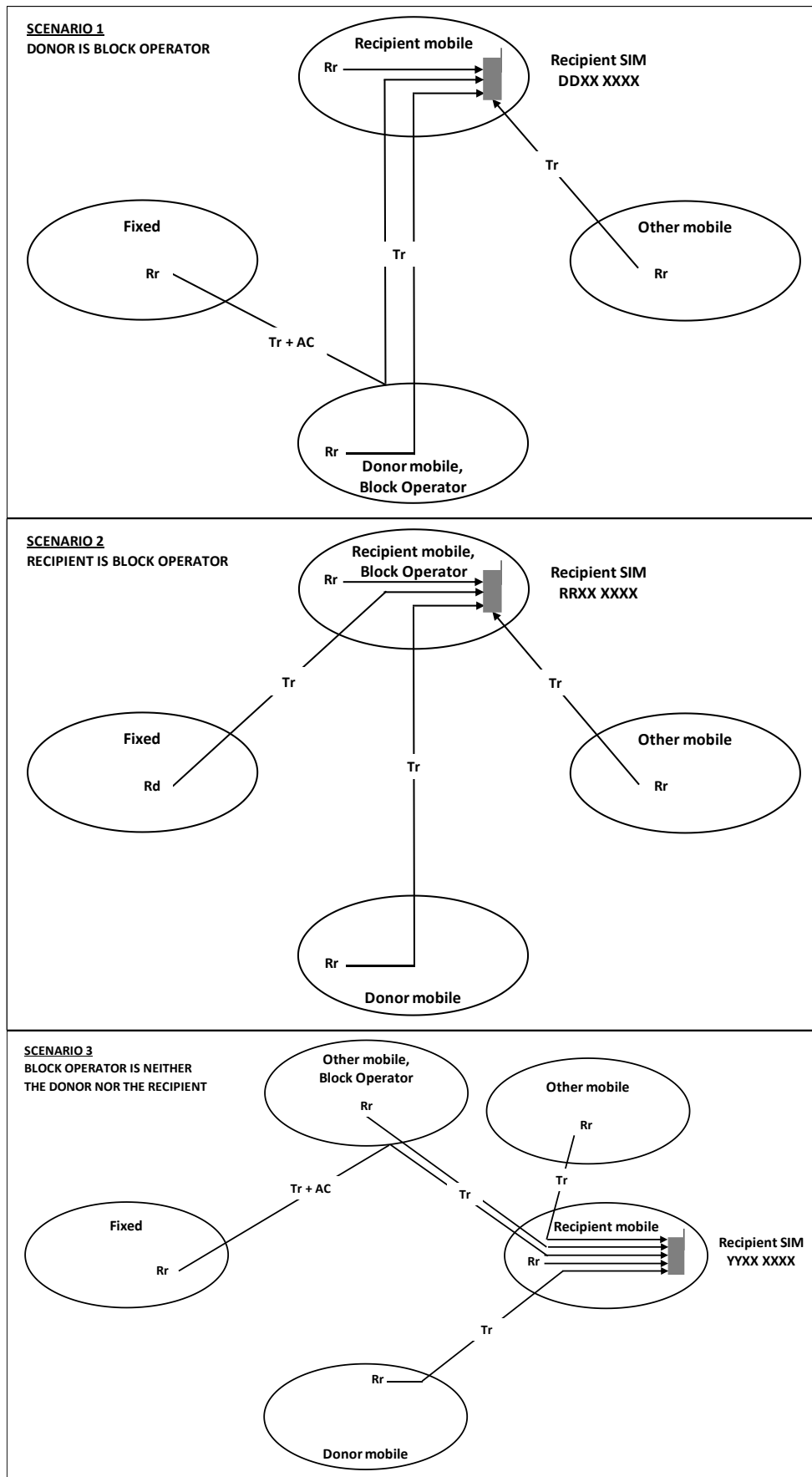


Figure 4. Scenario 1 – 3 after routing updates by all operators

Each terminating operator shall charge its own termination charge for calls that are terminated on its own network. Thus as soon as a number is ported in, the recipient operator shall charge its own termination charge for terminating calls to that number.

Each block operator needs to change the charge applicable to the fixed operator depending on the scenario. For example, in Scenario 1 where the block operator is also the donor operator, the block operator needs to change from charging its own termination charge to charging the termination charge of the recipient operator plus the additional conveyance charge. There will be a time lag while the charging systems are updated.

The block operator will need to ensure that it can charge differently for ported out numbers and this will mean that its charging system must analyse individual numbers. When there are three or more operators of the same type who are porting numbers between each other, the charging system will both have to know that the number is ported and also know which operator it is ported to.

In their interconnection charging, block and donor operators should apply the correct charging as soon as possible after a number has been ported. Where this is not practicable, operators may continue to charge at the rates that apply before the porting until midnight on the working day after the porting has taken place, i.e. the day when the message of the successful porting is broadcast on the webservice. For example, if a porting takes place on Tuesday they may continue to charge at the non-ported rates until midnight on Wednesday.

Where  $T_r > T_d$  in Scenarios 1 and 3 and where  $T_r > T_d + AC$  in Scenario 2, a block operator will lose money per minute for onward routed calls in the period between the porting and the updating of the charging. Where  $T_r < T_d$  in Scenarios 1 and 3 and where  $T_r < T_d + AC$  in Scenario 2, a block operator will gain money per minute for onward routed calls in the period between the porting and the updating of the charging. Where the volume of portings is balanced the gains and losses will approximately cancel out. Where there is imbalance they will not.

A block operator may charge an additional conveyance charge for onward routing. This charge shall be based on the following costs:

- The costs of the GMSC (when block operator is a mobile operator) or gateway switch (when block operator is a fixed operator), and one inter-operator transmission link treated under the cost accounting methods applicable as agreed with MCA;
- The marginal costs of using any SRF and number portability database but not the capital costs as they are part of the setup; and
- Relevant overheads.

Operators may either:

- calculate these costs of additional conveyance and charge a cost-based charge; or
- agree to waive the additional conveyance charges.

### **5.3 Interconnection charging (freephone)**

The following extends the provisions in the Report on further Consultation and Decision: "A Framework for Freephone Services in the 800 range", which was published by the MCA in August 2008 (inclusive of subsequent updates).

According to this Framework, there are two different types of freephone numbers:

- Numbers (e.g. 8000 range) that are free to the caller from both fixed and mobile; and
- Numbers (e.g. 8003, 8004, 8006, 8007, 8009 ranges) that are free to the caller from fixed but where callers from mobile pay a call charge not exceeding that for a call to a local fixed number.

#### **5.3.1 Interconnection Charges for calls to freephone numbers that are free to the caller (e.g. 8000 range for both fixed and mobile callers; other 800X ranges for fixed callers)**

As established in Decision 2.1 of the above mentioned Framework, the MCA had determined that for calls to freephone numbers that are free to the caller (i.e. all calls to the 8000 range and calls from fixed networks to numbers from other 800X ranges), the terminating operator (freephone network provider) shall pay the originating operator one of the following for call origination, in accordance with the Receiving Party Pays principle.

- A charge equal to the originating operator's interconnection termination rate, unless the originating operator's origination rate is regulated in which case the originating rate applies (default option); or
- A charge agreed by negotiation with the originating operator.

If a transit operator is present, then the terminating operator (freephone network provider) shall pay the transit operator one of the following:

- For calls to the 800X and 8000 range originating from a fixed network: A charge equal to the applicable termination rate for calls that terminate on fixed networks (default option); or
- For calls to the 8000 range originating from a mobile network: A charge equal to the applicable termination rate for calls that terminate on mobile networks (default option); or
- A charge agreed by negotiation with the transit operator.

A negotiated rate shall apply between the transit operator and originating operator.

In the case of ported freephone numbers where the block operator carries out onward routing, this formulation shall apply to the block operator in the same way that it applies to a transit operator.

The revenue flows applicable in the case of calls described in this section are reversed to those normally applicable in conventional calls. To this effect the originating operator shall not receive any retail revenues from its subscriber, and the transit operator shall be paid its interconnection charge directly by the terminating operator. Thus the originating operator is incentivised to adopt a direct routing solution.

**5.3.2 Interconnection Charges for mobile calls to freephone numbers (e.g. 8003, 8004, 8006, 8007, 8009 ranges) that are charged at a rate not exceeding that for a call to a local fixed number**

As established in Decision 2.2 of the above mentioned Framework, the MCA also determined that for calls to freephone numbers in the 8003, 8004, 8006, 8007 and 8009 ranges originating from mobile networks where the mobile operator is allowed to charge the caller, the originating mobile operator shall pay the terminating operator (freephone network provider) one of the following:

- a charge that is equal to the applicable termination rate for calls that terminate on fixed networks (default option).
- a charge agreed by negotiation with the terminating operator.

If a transit operator is present, then the transit operator shall pay the terminating operator (freephone network provider) one of the following:

- a charge that is equal to the applicable termination rate for calls that terminate on fixed networks (default option).
- A charge agreed by negotiation with the terminating operator (freephone network provider).

A negotiated rate shall apply between the transit operator and originating operator.

In the case of ported freephone numbers where the block operator carries out onward routing, this formulation shall apply to the block operator in the same way that it applies to a transit operator.

## **6 SMS related charges**

If all mobile operators in Malta use direct routing, then there will be no additional conveyance charge to apply for SMSs originated in Malta.

In principle, there could be an additional conveyance charge payable for use of the SMSC/NPDB for handling a SRI-SM query from operators outside Malta, but the operators have agreed to waive the charge at present. This arrangement could be changed in the longer term.

## **7 MMS related charges**

MMS uses the Internet for the conveyance of messages.

The operators have agreed to waive any possible additional conveyance charges relating to MMS at present. This arrangement could be changed in the longer term.