



Office of the Director of
**Telecommunications
Regulation**

Implementing Full Mobile Number Portability in Ireland

Report on the Consultation

Document No. ODTR 01/56

July 2001

Oifig an Stiúrthóra Rialála Teileachumarsáide
Office of the Director of Telecommunications Regulation
Abbey Court, Irish Life Centre Lower Abbey Street, Dublin 1.
Telephone +353-1-804 9600 *Fax* +353-1-804 9680
Web: www.odtr.ie

1. Introduction

In May 2001, the Office of the Director of Telecommunications Regulation (ODTR) launched a consultation process in relation to Full Mobile Number Portability (FMNP). The process was based on the publication of a consultation document (ODTR 01/36) and accompanying report from Ovum Ltd., which discussed FMNP under the following headings:

- Routing responsibilities and rules (Chapter 3)
- The porting process (Chapter 4)
- Charging arrangements (Chapter 5)
- Number portability database (Chapter 6)
- Implementation timetable (Chapter 7)

As a result of the consultation process, the ODTR has made considerable progress in deciding how and when to introduce FMNP in Ireland. This Report presents the outcome of the consultation, and the conclusions of the Director of Telecommunications Regulation (the Director) following the process.

The report is largely structured in the same manner as the earlier consultation document. Each section is divided into three parts:

- A listing of the relevant questions from the consultation document, providing explanatory notes where necessary.
- A summary of the responses to these questions
- The ODTR's analysis of the issues and conclusion.

Eight organisations responded in writing to the consultation document, as listed below:

- Consumers Association of Ireland (CAI)
- Eircell
- *eircom*
- Electricity Supply Board (ESB)
- Esat Digifone
- Meteor
- NCS Pearson
- Sigma Telecom

The Director wishes to thank everybody who contributed to the consultation. With the exception of responses marked as confidential, their written comments are available for inspection at the ODTR's office in Dublin. These comments have played a major role in informing the conclusions contained in this document.

2. Summary

Of the eight responses received by the ODTR, six were supportive of the plan to implement FMNP and, apart from a few specific detailed issues, agreed with the implementation plan put forward in the Consultation Document. However, the two main mobile network operators were unsupportive, and critical of the Director's approach in conducting the consultation. These respondents were concerned about the timetable for both the consultation and for implementing FMNP. One respondent was further concerned that the cross-impacts of FMNP on on-net tariffs had not been considered. A query was also raised about the legal mandate for FMNP¹.

In short, these two network operators did not see any reason for pushing ahead with the implementation of FMNP before it is required by EU law. These respondents generally limited what they had to say about the detailed proposals in the consultation paper.

The ODTR subsequently met with all three mobile operators in early July. The main purpose of these meetings was to further explore their views on the practical issues that might inhibit the introduction of FMNP within the timescales envisaged by the ODTR. The meeting also provided the operators with a further opportunity to comment on the detailed proposals contained in the Ovum report. These meetings provided valuable clarification which has helped inform our conclusions in this report.

¹ See annex for clarification.

3. Routing responsibility and rules

A framework of routing responsibilities and rules was specified by the Director in Decision Notice D1/99 *Introducing Number Portability in Ireland*. Although D1/99 was principally concerned with the implementation of fixed network number portability it also provided a generic framework which is equally relevant to mobile number portability. In particular the originating operator, which provides the call service, has the primary routing responsibility independent of the block network².

In the Consultation Paper the Director proposed to retain most of the rules for fixed network number portability. In addition she proposed that:

- the FMNP implementation should support short message services (SMS) as well as call services to ported numbers, and
- mailbox numbers should always be ported when the corresponding mobile number is ported.

Responses to the consultation questions

Q3.1 Are there any good reasons not to use the routing rules established in D1/99 for FMNP?

Response

In general respondents considered that it would be appropriate to use the same routing rules for FMNP as for fixed network number portability. However, one respondent pointed out that the rules in D1/99 were devised before FMNP had been implemented anywhere in the world. It would thus be prudent, before committing to copying the D1/99 rules for FMNP, to compare and contrast the rules from D1/99 with the routing rules currently being used for FMNP in other countries.

ODTR Conclusions

The ODTR believes that the rules and the corresponding accounting model already established for fixed network number portability provide the best balance between the relevant economic principles of:

- Cost causation: costs should be paid by those who cause them;
- Cost minimisation: Charges should create incentives for costs to be minimised;
- Capture of externalities: All customers can bear a proportion of the costs if they all derive some benefits from portability.

The routing rules and charges provide maximum freedom for operators to initially adopt the lowest cost technical solutions but provide incentives to then move to more advanced solutions when the volume of traffic to ported numbers increases to a level where other technical solutions become more cost effective.

² In the case of calls which originate outside of Ireland, routing responsibility rests with the operator that imports the call.

The ODTR considers that the differences between mobile and fixed number portability do not affect the way in which these principles should be applied. ODTR therefore concludes that the same principles should apply.

Q3.2 Do you agree that it is desirable for eircom to provide a default routing service for other operators in respect of FMNP?

Response

Several respondents were concerned about this recommendation, and only one explicitly supported it. Some were concerned that the wording should be changed to refer to “dominant operators” rather than specifically to *eircom*. Another questioned whether there was a legal basis for the Director to require a fixed network operator to make any extra investments to support FMNP.

eircom itself stated that it did not propose to introduce the Serving Network Capability which would allow it to route directly to the correct mobile operator, although it would continue to provide a default routing service to the block operator. *eircom*'s argument is that, as a fixed network it would not benefit from FMNP, so it should be under no obligation to invest in routing facilities to support FMNP. These facilities could be expensive, requiring an All Call Query Intelligent Network solution for calls to ported numbers, and are not necessary for correct routing of fixed-to-mobile calls because the block operator would in any case have to deploy its own routing capability.

ODTR Conclusions

The ODTR realises that several aspects of this proposal may not have been explained clearly enough or have been misunderstood and therefore proposes to discuss these issues further with the operators.

After further consideration, ODTR does not propose that *eircom* should be required to provide any special routing arrangements but does see scope for *eircom* to introduce an All Call Query routing solution that would avoid routing calls via the block operator, as a voluntary commercial offering to the other operators. Such an offering may be subject to the controls associated with Significant Market Power.

The charging arrangements will allow the block operator to charge for the additional conveyance costs of handling calls that use onward routing. This will create an incentive for originating operators - including *eircom* - to adopt an All Call Query solution when the traffic volumes justify it. *eircom* will be free to offer this more direct routing solution for a small extra charge to any operator that originates calls that it then passes to *eircom*. *eircom* already offers this arrangement for calls to fixed numbers. To avoid billing complexity in the initial stages, it may be necessary to apply a proportion of the charge to all calls from operators who do not themselves use All Call Query, with the proportion reflecting the proportion of traffic to ported numbers.

Q3.3 Do you agree that it is essential to support SMS to ported numbers?

Response

All respondents agreed with this proposal. The SMS service is seen as an essential element of the mobile service offering which must be supported by the chosen FMNP solution.

ODTR Conclusion

The ODTR proposal has been accepted.

Q3.4 Do you agree that it is essential for the porting process to support parallel porting of mailbox numbers?

Views of the Respondents

There was general support for this proposal as well. One respondent, however, was concerned that the inclusion of mailbox numbers would significantly increase the size of the database required to support FMNP, and thus would lead to additional cost.

ODTR Conclusion

The ODTR proposal has been accepted. The ODTR doubts whether the inclusion of mailbox numbers will increase costs substantially since the same record in the database could be used because of the simple relationship between mobile and mailbox numbers.

Q3.5 Do you agree that it is not necessary to require fax and data numbers to be portable?

Response

Most respondents would prefer to have fax and data numbers included within the FMNP system. In principle, several respondents felt that FMNP should apply to all mobile numbers, rather than some being selectively excluded. It was also pointed out by a few respondents that inbound calls to fax and data numbers were likely to become more prevalent in the 3G environment, so it would be important to include these numbers within the FMNP solution at least in the future. However, one respondent considered that it would be uneconomic at present to apply FMNP to fax and data numbers, because of the low uptake of these services.

ODTR Conclusion

The ODTR accepts that any practical solution would apply to fax and data numbers as well as voice numbers and so will not exclude fax and data from any requirements.

4. The porting process

In the Consultation Paper the Director proposed three key principles for the FMNP porting process:

- a) *The process of porting should not be dependent on the retail sales process.*
- b) *The right to port a number should be established primarily by checking that the user has possession of an existing mobile phone which uses that number.*
- c) *The donor operator should accept a number portability order from the recipient operator for the purposes of both porting the number and closing the account with the customer.*

The Consultation Paper also pointed readers to some more detailed proposals which were contained in a discussion document prepared by Ovum Ltd. These concerned matters such as the times at which porting could take place, arrangements for verification and quality of service targets.

Responses to consultation questions

Q4.1 *Do you agree that the porting process for FMNP must support pre-pay as well as post-pay customers, and ought to be no more complex for the user than the current SMNP solution?*

Response

Six out of the eight respondents acknowledged the importance of allowing both pre-pay and post-pay subscribers to port their numbers. One respondent pointed out that any other solution would be to unreasonably discriminate on the basis of the customer's method of payment. However one respondent considered that there was no proven requirement for pre-pay mobile number portability, and no justification for an expensive FMNP solution to be introduced.

ODTR Conclusions

The ODTR remains of the view that number portability should apply to pre-pay and has received verbal confirmation from the European Commission that the draft European requirements include pre-pay. ODTR considers that this is a reasonable position from the perspective of the user since users may wish in future to change their charging arrangements whilst keeping the same number, and therefore a distinction based on the method of payment would be inappropriate.

Q4.2 Do you support the proposal to make the porting process independent of the retail sales system (i.e. the so-called 2-stage porting process)? Can you foresee any problems with this approach?

Response

There was a mixed response to this question. Several respondents supported the proposals as the only valid approach to achieving both post-pay and pre-pay FMNP. However, some concerns were expressed about the effect the plans might have on retailers. One respondent considered that the retailer was the main point of contact with the customer, so it was important not to bypass the retailer but to use it as a means of promoting FMNP. Another suggested that involving the retailer would be important for validation purposes and minimising the number of unauthorised ports.

ODTR Conclusions

The ODTR remains of the view that a solution is needed that is not dependent on the co-operation and participation of the retailer. Retailers such as supermarkets may not be equipped to participate effectively in number portability and retailers generally may not have an adequate incentive for involvement. The involvement of retailers has proved a major source of problems for the implementations in UK and the Netherlands.

Whilst retailers do not have to be involved, they may choose to be involved and nothing in the proposal is intended to restrict this involvement. Where retailers are owned by network operators as is commonly the case in Ireland, they may wish to be involved and there is nothing to impede this or to stop them from implementing a “one-stop process” for their customers.

Q4.3 Is there any alternative approach which nonetheless allows pre-pay customers to enjoy the benefits of FMNP?

Response

No alternative solutions were offered, although one respondent suggested that the industry should redouble its efforts to encourage pre-pay customers to register their contact details and thus avoid the problems of anonymous customers.

ODTR Conclusions

The ODTR proposal appears to be the only practical solution for pre-pay customers.

Q4.4 *Bearing in mind the simplicity (and corresponding economic benefits) of this approach, do you agree that having possession of a mobile which uses the relevant number is sufficient validation of a customer's authority to port that number?*

Response

Three respondents specifically supported the proposed approach in which authorisation to port is dependent only on having possession of the correct SIM card. One respondent specifically opposed this approach, suggesting that further security checks would be necessary. However, this respondent and a few others came up with some suggestions as to how security could be increased whilst retaining the basic approach. Ideas included:

- Incorporating security checks using a PIN;
- Maintaining a central register of the numbers of stolen mobile phones;
- Maintaining a register to catch those who constantly “hop” between service providers;
- Using an independent arbiter to resolve disputes on illegitimate porting.

ODTR Conclusions

This is clearly a very important and central issue. The ODTR has recommended the CLI-based approach because it appears to be the only solution that will support a simple and fast porting procedure for customers that will be at least as good as SMNP. Any alternative approach relying on paper validation could apply only to subscription customers (not to pre-pay) and would inevitably make the process much slower.

The ODTR wishes to explore the issues in further detail and is therefore planning to discuss the validation process at the earliest industry meetings in August. The ODTR would welcome any further suggestions on how the security and integrity of the systems could be improved without making them slower or more complex.

Q4.5 *Can you think of any situations where proceeding on this basis might cause problems?*

Response

Fraud was the principal concern of most respondents. There was some feeling that being able to port numbers simply through possession of the SIM card might increase the number of cases of fraud. None of the respondents gave specific examples in support of their concerns. Another respondent was concerned that moves to crack down on fraud might make it hard for genuine customers to port their numbers in cases where their phones are either lost or stolen.

ODTR Conclusion

The ODTR is somewhat disappointed that respondents have not been able to offer more detailed answers that could be analysed in detail, but hopes that the meetings proposed above can explore these issues further.

Q4.6 Do you agree that the porting process can and should be handled independently of any outstanding debts, contract obligations or SIM-locking that the customer may have in place with the donor operator?

Response

There was widespread support for this proposal. A characteristic response stated that owing money and/or being unable to use a specific handset are problems independent of number portability. Nonetheless, a number of respondents are concerned about the increasing scale of bad debt in the mobile phone industry and are keen to ensure that FMNP does not add to the problem. Possible solutions include the creation of a debt register or some industry standard for porting numbers of customers which are in debt.

ODTR Conclusion

The ODTR proposal has been accepted. The ODTR shares the operators' concern about the problem of bad debts and would be supportive of any solutions aimed at addressing these problems, but remains of the view that they should be treated separately from number portability.

Q4.7 Do you feel any restrictions need be placed on the date and time for which porting is requested? If so please state them.

Response

Most respondents felt that there is no need to restrict the times at which porting could occur, although one suggested that porting during the operators' working hours should be sufficient. Another pointed out that some downtime ought to be expected in order to provide a system maintenance window.

ODTR Conclusion

The ODTR would welcome a more detailed proposal from the operators but is concerned to ensure that the practical needs of customers are met.

Q4.8 What is your opinion on the other process proposals which Ovum has made in detail in the discussion document and which are presented in this section?

Response

Most respondents either made no comment or gave only a general response to this question. However one operator was fully supportive of the Ovum proposals, while another respondent proposed that the porting process could be controlled more effectively and at a lower cost through the use of a third party administrator. This

respondent, not an operator, suggested that a central independent ordering and validation system would provide adequate validation and allow fast porting. There was also a suggestion that the use of SMS messages might be an effective way to confirm successful porting.

ODTR Conclusion

The ODTR would welcome any further proposals that will lead to the system being as good as possible for the users and operators. It expects that the operators would not be keen to establish a central ordering and validation system since plans to establish such a system for fixed portability have been withdrawn.

5. Charging arrangements

In the Consultation paper the Director reviewed the charging arrangements for fixed network number portability which she made in Decision Notice 99/01. She concluded that the existing requirements form an appropriate framework for FMNP charging, and accordingly proposed to retain the same requirements for FMNP.

Responses to consultation questions

Q5.1 Are you aware of any difficulties that may arise in applying the charging arrangements of document ODTR 99/01 for FMNP? If so, please identify them and suggest any solutions you can envisage.

Response

Respondents disagreed with the ODTR's proposals on a number of points of detail, but most were overall in favour of the proposals. The need for consistency between fixed and mobile number portability was emphasised by one, whilst another stressed the need for standardising the charges, although it was not clear if this applied to charges between operators or charges to end customers.

The following points of detail were raised by respondents:

- Conveyance charges should be neither waived nor averaged, for doing so undermines the incentives for the originating operator to route calls efficiently.
- Consumers should not be charged for FMNP.
- The charging proposals may create difficulties for billing calls through transit networks to ported numbers.

One respondent, however, had a fundamental difference of opinion on the charging principles. It argued that the basic charging principles of cost causation, cost minimisation and distribution of benefits all point to a system in which the costs of FMNP are recovered from the mobile operators. In its view, fixed network operators should be able to pass on to the mobile operators any costs which they incur because of FMNP. Furthermore, any increased costs of the mobile operators should not be passed back to the fixed network operators through higher mobile termination charges.

ODTR Conclusions

The main comment is that the mobile market is separate to the fixed market and that benefits of mobile number portability accrue to mobile users and therefore it is unfair to make the users of originating fixed networks pay the additional conveyance costs.

The ODTR does not accept this view because of the extent of the economic externalities for the end users. In particular:

- The mobile penetration rates in Ireland are high and still growing and therefore most users are users of both fixed and mobile networks so that most fixed callers are also beneficiaries of increased competition in mobile services;

- Some of the cost savings of number portability, i.e. not needing to change entries in address books when mobile users change network, accrue to fixed users.

The benefits of increased competition in lowering prices should also work through to the charges for calls to mobiles as well as calls from mobiles.

The ODTR does not consider that the introduction of FMNP is unfair on fixed operators since they will be able to pass on any additional costs as appropriate, through charges to customers or other operators.

6. Number portability database

A national reference database to support number portability primarily records the relationship between the ported number and the identity of the network that is currently serving that number. In Decision Notice D1/99 the ODTR accepted the merits of using an independent national reference database and decided it should be connected to the reference databases of the operators using a common communications infrastructure. For simplicity the Director proposed extending the existing database by inclusion of numbers ported under FMNP.

Responses to consultation questions

Q6.1 Are you aware of any difficulties that may arise from extending the existing fixed network number portability database by inclusion of FMNP porting information? If you would prefer a different solution please specify it and provide reasons for your preference.

Response

Although some respondents considered this was the best approach, a number were concerned that the current number portability database might not be fit for the purpose of supporting FMNP. They felt the system is designed for low volume porting and, if FMNP were to be added to it, the volumes are likely to be too large to handle. In particular the current system uses manual updates. For FMNP they felt an on-line database with automatic updates would be required. Respondents were divided as to whether the costs of such a solution would be prohibitive.

ODTR Conclusions

The practicability of extending the existing system to include mobile portability needs further discussion with both the fixed and mobile operators and with the database management company - Portco. ODTR is primarily concerned to achieve a simple effective and low cost solution and will accept any solution that meets these objectives. It does not expect that an extension of the existing system would be a major problem or unduly expensive.

7. Implementation timetable

- In the Consultation paper the Director proposed the following timetable for implementation of FMNP:
- October 2001 at latest, for completing the functional specifications of both FMNP routing rules and the porting process;
- Live implementation of FMNP as soon as possible and in any case no later than Q4/2002.

Responses to consultation questions

Q7.1 What scope do you think there might be for an implementation target date earlier than October 2002?

Response

There was a great divergence of views over this question. One respondent thought that the timetable being proposed was “practical and achievable”; another that small improvements in this timetable could be achieved; whilst a third concluded that it was “not grounded in reality” and that there was no possibility of implementation by October 2002. Perhaps the most telling responses came from those who said:

- It depends on the final solution which the industry agrees to;
- It requires a climate of co-operation, which doesn’t presently exist.

There was also concern about the work-load caused by the currency change to the Euro at the start of 2002.

ODTR Conclusions

The ODTR recognises the practical problems of shortages of resources and the need to achieve a fast, reliable and cost-effective solution that is at least as good as SMNP from the perspective of the user. ODTR will discuss the detailed timing issues further with the operators, while maintaining the objective of completing implementation during Q4 2002. In order to meet this objective, the ODTR plans to begin industry meetings in August.

8. Glossary and Explanation of Terms Used

Block operator:	The mobile network operator ³ which was originally allocated the number block containing the number to be ported. Calls are routed to the block network unless or until the called number is identified as a ported number.
CLI:	Calling line identification.
Donor operator:	The mobile network operator from which the customer requests to port his/her number. In the first instance of porting the donor operator will be equivalent to the block operator. For subsequent portings the donor operator and the block operator may be different.
FMNP:	Full Mobile Number Portability – in which the subscriber’s complete national telephone number remains unchanged when he/she changes operator.
Originating operator:	The operator with which the calling subscriber initiates the call (i.e. the operator which receives call revenue from the calling party).
Recipient operator:	The mobile network operator to which the customer requests to port his/her number.
SIM:	Subscriber identity module.
SMNP:	Subscriber Mobile Number Portability – in which only the subscriber number part (i.e. excluding the 08X code) – of the subscriber’s national telephone number remains unchanged when he/she changes operator.
SMS:	Short message service.

³ Throughout this document the term “mobile network operator” is taken to include support for both network operation and service provision functions. Although these two elements can be logically separated, in practice they are normally performed by the same organisation.

Annex: Clarification of legal background on FMNP

The issue of legal mandate was raised in responses to this and earlier consultations on FMNP, and was again raised by one operator during post-consultation meetings. This operator had also corresponded with the Office on the issue and in the interests of transparency to all, the Director believes it is important to provide an outline of the ODTR's position.

Decision Notice D1/01 introduced alterations to numbering systems and set up working groups to agree practical implementation aspects of FMNP. The ODTR considers it reasonable and prudent to establish a specification and timetable (with industry input) for implementing FMNP in the future, with Q4/2002 as an indicative date for FMNP introduction. (It did not in fact mandate operators to introduce FMNP). The question of a legal basis which could be used to make FMNP compulsory at this stage would obviously only arise if operators chose not to co-operate.

The following factors bear on the legal position:

- Article 25 of the draft Universal Service and Users' Right Directive, currently being discussed at EC level, contains a specific mandate for FMNP. The ODTR understands that both the European Parliament and the Council have now approved the principle of FMNP in their first readings of the Directive.
- Following a consultation in late 2000 based on an Ovum cost-benefit analysis for FMNP, the ODTR demonstrated that FMNP would bring significant benefits to the economy as a whole.
- Given the demonstrated economic benefit, the reality that the Directive is likely to be adopted by mid-2002 at latest and the obvious requirement for early planning, the ODTR believes that the overall approach to implementing FMNP in Ireland and the Q4/2002 target is entirely reasonable.
- Separate to the anticipated future transposition of the Directive into Irish legislation, FMNP could also be formalised on the basis of entirely new legislation or by way of licence amendment. In the latter case, the annex to Directive 97/13 would support licence amendments related to the "effective and efficient use of the numbering capacity" (point 2.4) and "the allocation of numbering rights (compliance with national numbering schemes)" (point 4.1).
- Depending on the circumstances, points 2.3 (competition) and 4.6 (significant market power) might well also be relevant.

Our approach going forward is therefore to call on operators to co-operate fully by engaging meaningfully in industry meetings. The ODTR believes that a reasonable target for the industry is to discuss and fully specify FMNP requirements by October 2001. In this context, the Director has chosen at this stage not to publish a Decision Notice. This report outlines the ODTR conclusions, noting where there is agreement on the way forward and outlining proposals for handling other issues. The ODTR will facilitate further industry discussion of the detailed Ovum proposals within the industry working groups, with the aim of developing the most efficient and effective FMNP system possible, so as to meet the needs of the consumer while minimising the cost to industry.