



Jersey Competition Regulatory Authority

Consultation Document 2006-1

Telephone Number Portability in Jersey

24 January 2006

I. INTRODUCTION

Scope of this Consultation Paper

This consultation paper is designed as a first step in enabling the JCRA to develop a long term policy for number portability (NP) covering both mobile and fixed services. NP enables a customer to move to an alternative network provider while still retaining the original network telephone number.

The JCRA currently has a policy objective of introducing competition into the mobile sector as soon as practicable. In light of the responses to the JCRA consultation paper *Mobile Telephony in Jersey – the Way Forward*¹, and for the reasons set out below, the JCRA is of the view that NP- in the mobile context the ability of a customer to switch from one mobile network operator to another while retaining the original telephone number- is an important requirement for the development of competition in the Jersey mobile sector.

However, NP is not only relevant to the mobile sector. Other forms of NP, such as fixed-to-fixed, mobile-to-fixed, and vice-versa are also possibilities for the future. Today, we also need to address the issues involved with NP to Voice over Broadband (VoB) service providers, the introduction of new network technology, the possible development of e-commerce using mobile and broadband services, and the possible future development of E-Num². Therefore, while the most pressing case for NP, as market developments currently stand in Jersey, lies in the mobile sector, the solution adopted for NP in the mobile sector should ideally be capable of being applied, with the minimum amount of adaptation, to other types of NP.

The JCRA, therefore, wishes to consult stakeholders on the best way forward for NP in Jersey. This includes the issue of whether an intermediate solution for mobile, or more comprehensive solution suitable for use across all network types, which may be introduced in stages as required, could be the best option.

The Need for NP in the Jersey

The Jersey mobile sector can be considered to be fully mature with a penetration rate for Jersey Telecom (JT) GSM of almost 100%. JT is currently the sole provider in the sector. In such a market, a new entrant can only gain market share by attracting customers away from the incumbent through price or service differentiation or both. In these circumstances, the fact that the customer may have to change telephone number on moving to a different service provider can act as a significant disincentive to switching operators. For business users in particular, the segment that creates the largest Revenues Per User (RPU) for operators, the administrative inconvenience and costs of changing telephone numbers to gain the price or service advantage would be a major disincentive and work in favour of the incumbent operator. Thus to attract this segment of users in such markets NP becomes even more important.

¹ JCRA Consultation 2005 - 1 <http://www.jcra.je/pdf/050131%20mobile%20consultation.pdf>

² Electronic NUmber Mapping - ITU Enum pages <http://www.itu.int/osg/spu/enum/>

Number portability will become even more important with the potential for increasing competition in fixed line service, and especially as networks evolve towards Next Generation Networks (NGN) based on broadband technology. It will become necessary for users to port their fixed line numbers onto Internet Protocol (IP) networks. Such IP network based services may be provided by a range of broadband service providers as well as the fixed network infrastructure provider. JT has already announced its intention to introduce an NGN over the next few years.

All members of the European Union are required to offer number portability³ under the communications framework. In the UK, recognition of the technological changes referred to above has resulted in Ofcom consulting further on NP through its consultation *Number Portability and technology neutrality*⁴ which closed on 22 December 2005.

Timing Issues

The JCRA anticipates that at least one competing mobile network will be offering services during the third or fourth quarters of 2006. It would therefore seem appropriate to have any NP solution operational concurrently with the opening of alternative service provisions in order to help ensure effective competition. To allow sufficient time for responses to this Consultation Paper to be considered and appropriate NP arrangements to be put in place, the JCRA therefore requests responses to this Consultation Paper to be made to the JCRA no later than **5PM on 24 February 2006**. Submissions should be clearly marked "Comments on Telephone Number Portability in Jersey" and may be supplied either in hard copy or electronically, addressed (as appropriate) to:

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N.B. The JCRA reserves the right to publish on its website any submissions to this or other consultations. Any commercially sensitive information that a stakeholder may wish to submit as part of a response should therefore be clearly marked as such.

³ Universal Service and Users' Rights Directive, Article 30 - Number Portability 2002/22/EC
http://europa.eu.int/information_society/topics/telecoms/regulatory/new_rf/documents/l_10820020424en00510077.pdf

⁴ Ofcom Consultation Number Portability and technology neutrality
<http://www.ofcom.org.uk/consult/condocs/numport/np.pdf>

II OPTIONS

There are various options for achieving NP in the mobile sector, all of which are capable of being applied, with varying degrees of difficulty, to other types of NP.

New entrants to the Jersey mobile market and Jersey Telecom have both 2G and 3G licences. It is reasonable to assume that such networks will be based on intelligent network (IN) technology with mobile networks supporting Customised Application Mobile Enhanced Logic (CAMEL). In the mobile sector there is an expectation that NP may be required across all combinations of 2G and 3G network configurations involving both prepaid and contract allocated numbers.

Call Relay

The current solution deployed among mobile operators in the UK is the Signalling Relay Function (SRF). In this solution, which is based on the current interoperability offered on the ITU Signalling System 7 (SS7), calls are directed first to the network holding the original number block (the donor network) which in some cases passes the call onward to the receiving network. This is a fairly simple solution but does have certain drawbacks. Some of the ongoing issues with this solution include resources management, network tromboning, loss of functionality between networks (i.e. between a 2G and 3G network) and the distribution of data among a number of providers.

Distributed Lateral Data Exchange

Another solution is the Lateral/Peer-to-Peer Approach whereby service providers communicate directly with each other, in either a standard or non-standard manner to exchange numbering and routing data. With the non-standard approach, individual commercial bilateral agreements are contracted between service providers, who must then know and manage the terms of each agreement. Such agreements cover exchange of customer data, validation of customer data, and notification of executed ports. A standard approach to communicating with each other network can begin to simplify some of the above, but either way, the approach may become complicated as new service providers enter the market. This solution may be implemented with either onward routing or call drop back switching procedures.

Centralized Databases

More comprehensive NP solutions use some form of a centralized database (CDB) (such as the E-Num approach) or number clearinghouse (supporting ported numbers) to determine routing. With CDB systems operators implement an all call query (ACQ) for routing calls off the home network. A CDB type solution has been implemented in a number of EU jurisdictions⁵ including Malta⁶, an island with similar mobile

⁵ For example, Ireland and Norway - 8th Report on the Implementation of the Telecommunications Regulatory Package
http://europa.eu.int/information_society/topics/telecoms/implementation/annual_report/8threport/index_en.htm

⁶ Introducing Number Portability in Malta - A Report on Consultation and Decision 2005
<http://www.mca.org.mt/library/show.asp?id=624&lc=1>

population to Jersey, which also introduced an interim solution in 2005.

One of the main advantages of such a system is that it can be operated by a neutral trusted third party and costs can therefore be equitably shared among users of the service. A further advantage of this type of service is that it is technology neutral and can thus be used to port numbers between any network type.

Given the relatively small size of the Jersey numbering space compared to other jurisdictions (such as the UK) a CDB solution would appear to be both realistic and workable in the local market.

This approach can also assist in resolution of porting issues through facilities offered by the database administrator. Connection is made from the facilities of each participating operator, in some cases additional interfacing middleware software will be required, typically supplied by the database service provider.

Q 1. The JCRA invites comments on NP options for Jersey and the likely costs and benefits to both providers and consumers.

Q 2. The JCRA invites comments on the issues of technology independent solutions for number portability in Jersey

Q 3. The JCRA invites comments on the principle of a third party providing an NP solution for Jersey operators.

Q4. The JCRA invites comments on the appropriate timescales for the introduction of mobile NP and NP for other types of NP

III PORTING PROCESS

In order to promote competition it is necessary to make the porting process for consumers as convenient as possible. Consumers can be discouraged if the process is complex or lengthy and generally prefer to be able to hand the process over to the service providers. Porting can be initiated by either a donor or receiving network. Beginning a request from the donor network (donor initiated porting process) may introduce a barrier to competition since consumers may feel uncomfortable in rejecting an existing contract. Thus, in order to make the process easier for consumers, the porting procedure should be handled by the receiving network. In this way, once a consumer has decided to switch to an alternative supplier, then the process is handled by the new service provider's staff.

Porting should be completed as quickly as possible in order to offer the best service to the consumer, therefore a consistent procedure should be adopted by all participating networks that is both transparent and logical.

The time for porting a number includes a dependency on the speed with which the donor network reacts to the request. In advanced CDB or clearing-house solutions, the time required is not constrained to any large degree by the technology; therefore it is the network specific process and the adopted porting protocols that dictate the speed

of the transaction. In some jurisdictions, such transactions can be completed with a very short time⁷, while elsewhere the process can take up to several weeks. Delay clearly works in favour of the donor network since it will have more time available to enable it to retain the consumer. Delays can also be a function of the porting solution adopted in the jurisdiction. There is also a consideration of a customer ‘cooling-off’ period during which time the user may withdraw the porting request.

Q 5. The JCRA invites comments on the appropriate method for originating porting requests and the porting administrative procedure.

Q 6 The JCRA invites comments on the appropriate timescale within which porting requests should be completed in order to promote competition and to provide an acceptable level of service to consumers.

If recipient network initiated porting is adopted, then there is a need to authorize the port by correctly identifying the originator of the request in order to avoid fraud. This may require validation of the requested number port by accessing customer data which may be held on either the central NP database in the event that that database is used as a validating source for financial transactions, which may be the case with certain advanced e-commerce services, or with the donor network. Authentication may be carried out through a number of methods including electronic query, letter or manually. The identity of the user must be verified using one of these means, or in some cases, the user may provide valid proof, for example, photo identification and a bill from the existing provider either in hard copy or electronically.

Q 7. The JCRA invites comments on the process of validation that should be adopted to originate a recipient network port.

IV PORTING COSTS

Whichever solution is adopted, clearly there is a cost to providing NP because of the extra functionality introduced into call setup requirements and administration. The costs to operators is somewhat mitigated by gaining or retaining the ported number, nevertheless there is both a setup cost and an ongoing cost as a result of the increased functionality. The question is: who should bear the costs?

There is an initial cost in setting up a centralized system that is spread between the database development and interfacing costs for each participating operator. Thereafter there are ongoing costs associated with the administration of the system and the extra switching and networking costs necessary for ported numbers. The extent of the setup costs will depend on the solution adopted and the method of implementation.

It is possible to recover some costs for the setup of the port from the user, however, this cost has to be kept low in order not to discourage users from moving network. Porting setup charges to users varies with jurisdiction across the EC from €0 to about

⁷ In Ireland 2 hours is stipulated - ECC Report 31 – Implementation of Number Portability in CEPT Countries

€30⁸. It has been found that higher charges are a discouragement to number porting but charges of up to about one month's base rental seem to be accepted by users. Consequently, in order to encourage porting, costs need to be kept low to the porting user but that can mean recovery costs are made on other network or service elements.

Porting costs may be shared between participating operators regardless of the porting model adopted. Using a centralized database the costs can be determined relatively simply. There is a consideration to be made as to whether the incumbent operator, likely to be the greatest donor of ported numbers, should necessarily pay the largest proportion of porting costs. Requiring the incumbent operator to pay the larger portion has been proposed⁹ based upon the supposition that the incumbent operator has been benefiting from its monopoly for some time and that in order to increase competition it should be prepared, at least initially, to bear the greater portion of costs. On that basis certain authorities¹⁰ have limited the level of cost recovery by donor networks with Significant Market Power.

Tariff transparency is also an issue if different networks have different call charge regimes. This should not be too difficult to surmount in Jersey, since the operators are all in a relatively small geographic region and carrier costs between operators are unlikely to vary greatly for local terminations. This may become more important for numbers ported between different network types, such as 2G to 3G. In some jurisdictions the regulatory authority has required that operators provide information announcements in cases where NP introduces differential charging.

Q 8. The JCRA invites comments on the appropriate distribution of costs for setting up an NP solution.

Q 9. The JCRA invites comments on the appropriate level of charging that consumers should pay to port their number to another service provider.

Q 10. The JCRA invites comments on the distribution of porting costs between donor and recipient networks.

Q 11. The JCRA invites comments on tariff transparency and the appropriate methods of alerting consumers when ported numbers are likely to attract differential charges.

V. OTHER ISSUES

Q 12. The JCRA invites comments on any other issues that they consider relevant to NP in Jersey.

⁸ ECC Report 31 – Implementation of Number Portability in CEPT Countries
<http://www.ero.dk/documentation/docs/doc98/official/pdf/ECCREP031.PDF>

⁹ Study on the Cost Allocation for Number Portability, Carrier Selection and Carrier Pre-Selection Final Report for DGXIII of the European Commission by Europe Economics & Arcome (1999)
<http://europa.eu.int/ISPO/infosoc/telecompolicy/en/costall1.pdf>

¹⁰ Second Interim Report On The Effect Of Number Portability On National Number Administration & Management – ECTRA 2000