

OPERATOR PORTABILITY
SPECIFICATIONS

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I. Introduction

Ministerial Order MEPAT no. 5872/99 (II Series), of February 25, confined the field of application of number portability to operator portability. The latter is a function whereby subscribers who so request can retain their number on a fixed public telephone network and the integrated services digital network (ISDN), independent of the organisation providing service, in the case of geographic numbers at a specific location, and in the case of other than geographic numbers at any location.

On February 16, 2000, the Instituto das Comunicações de Portugal (ICP) launched a public consultation on number portability. As a result of this consultation to the market, that was further reinforced by contacts with telephone service providers, ICP defined the technical solution to be used for number portability, as follows:

- *Query on Release* (QoR) in the interconnection of networks;
- Reference Database (RDB) with information concerning ported numbers

The dates of the introduction of operator portability, in the dual perspective of creating incentives for the development of competition in the telecommunications sector and offering a new function to users, under the terms of article 31, of Decree-Law no. 415/98, of December 31, were set by Ministerial Order, MES no. 12809 (II Series), of June 6, 2000 (published on June 23, 2000), as follows:

- In the fixed telephone network and the ISDN, by June 30, 2001 at the latest;

- In the mobile network, simultaneously with the entry into operations of the 3rd generation mobile service (UMTS), forecast to be January 1, 2002.

This Ministerial Order also determined that ICP is responsible, within the scope of its management and regulatory powers of the National Numbering Plan (NNP), for the promotion and development of the initiatives required for the co-ordination introduction of the function of operator portability within the established timescale.

As a result of consultation to the service providers, these providers expressed their desire that the responsibility for the development, installation, testing, operation, management and updating of the RDB should be entrusted to a third party – the Reference Entity (RE). The Reference Database should include a list of the ported numbers, the codes for routing calls to ported numbers and the transactions between providers.

The organisation that shall perform the functions of the Reference Entity was selected after a request for proposals overseen by ICP and the providers. The respective contract¹ was signed on June 25, 2001, for a three-year period².

In order to establish co-operation mechanisms between the different parties in the framework of the actions required to implement and develop Portability, a Protocol³ was signed on January 23, 2001 between ICP, Apritel and the Telecommunications Services Providers with Operator Portability obligations. In the context of this protocol a Steering Commission was set up.

¹ Available in ICP's Public Attendance Desk to all Telecommunications Services Providers with portability obligations.

² The duration of the contract will actually exceed this period by approximately 6 months, due either to the existence of an interim solution for the first months, or because the start date for counting the three-year period starts with the provisional acceptance of the definitive solution.

This commission aims to serve as an intermediary between the RE and the signatories to the Protocol. The commission is composed of 7 members, one representing ICP, 4 representing the fixed telephone service providers and 2 representing mobile telephone service providers.

The present document results from the need to specify a portability solution that is harmonised between all providers that have the responsibility to offer this function. The document reflects the results of work conducted by ICP and by the providers, whose contributions were provided via specific working groups constituted for this purpose. The following providers took part in the working groups: Brisatel, Global One, HLC, Interoute, Jazztel, Maxitel, Novis, ONI, Optimus, PT Comunicações, PT Prime, Telecel, Teleweb, TMN and in recent weeks, Oniway.

During the course of the work, various questions were identified, of greater or lesser complexity, in relation to which it was not always possible to reach a consensus. ICP, after hearing the positions of the Providers and the representatives of end users concerning the key underlying factors, chose the necessary options in light of the present regulatory framework and the need to balance the different interests involved.

This document may nonetheless be subject to alterations, whenever so justified, in light of the various interests involved, technological and market evolutions and the experience that will be meanwhile acquired. In this context, ICP will closely monitor the form in which tariffs are defined, and may intervene in order to guarantee effective competition and uphold user interests.

³ Available in ICP's Public Attendance Desk to all Telecommunications Services Providers with portability obligations.

Given the complexity of the entire process it is not possible to provide a completely automatic solution for operator portability within the timescale set in Ministerial Order no. 12809/2000 of MES of June 6.

But portability is above all the right of a user to retain his/her number when he/she moves to another provider of the same service. In this manner all providers can compete to satisfy the user's needs.

Portability will thus be immediately and temporarily secured through an interim solution of a manual nature in terms of administrative procedures, until provision acceptance of the definitive solution, as established in the contract with the Reference Entity. The RE will also act as intermediary in the interim solution.

II. Definitions and abbreviations

Definitions

Working day	any day of the week from Monday to Friday, excluding national public holidays, Shrove Tuesday and Christmas Eve.
Reference Entity	independent authority that acts an intermediary in portability processes, also managing a database system that stores information concerning ported numbers, as well as the history of transactions carried out.
Portability window	3-hour period during which portability is concretised.
Coherent requests	a set of requests concerning various numbers and/or various series of geographic numbers, handled as a single request (ported in the same window) provided that they have the same address. Coherent requests are individually placed, referenced according to the total number of requests and sequential number and should be submitted within a 30-minute interval. Refusal of a single request obliges refusal of the entire coherent request and consequently termination of the process.
Simple request	request concerning a single number or number serie.

Superimposed request	request made after another request concerning the same CLI without the previous request having been cancelled.
Provider	entity that provides public-use telecommunication services in Portugal, with operator portability obligations.
Geographic Portability	function via which a FTS customer may move from one location to any other within national territory, while maintaining his/her telephone number.
Holder Provider	recipient provider that holds the number(s) or serie(s) of numbers after they have been imported from another provider.
Donor Provider	provider that attributes to its customers the numbering resources that were initially assigned to it by ICP and for which it is responsible.
Recipient Provider	provider to which the customer moves, thus <i>“importing”</i> the respective numbering resources.
Storage period	6 month period for geographic numbers and the LMS and 12 months for non-geographic numbers during which the providers may not assign the numbers that had previously been in use to new customers. The quarantine period is included in the storage period.

Quarantine period 3 month period during which, after the end of the contract, the customer may request to resume using the number in the same provider or request to transfer the number. The quarantine period expires on the same day of the month in which it began, if a working day, or otherwise on the next working day.

Abbreviations

APRITEL Association of Telecommunications Operators

RDB Reference Database

CLI *Calling Line Identification*

DDI *Direct Dial In*

RE Reference Entity

ETSI *European Telecommunications Standard Institute*

FTS Fixed Telephone Service

IN *Intelligent Network*

LMS Land Mobile Service

NIF Fiscal Identification Number

NRN	<i>Network Routing Number</i>
DAP	Direct Access Provider
DP	Donor or holder provider
HP	Holder provider
DoP	Donor Provider
NNP	National Numbering Plan
PSP	Pre-selection Provider
RP	Recipient Provider
ISDN	Integrated Services Digital Network
SIM	<i>Subscriber Identification Module</i>
SMS	<i>Short Message Service</i>
VPNS	Virtual Private Networks Service
UMTS	<i>Universal Mobile Telecommunications Systems</i>

III. Scope

The present specifications, despite the introduction of portability in the fixed and mobile telephone networks in separate dates, is applicable to both.

It should be borne in mind that the date of entry into operation of operator portability in the mobile telephone network was set at January 1, 2002, in pursuit of the terms of point 2 of the Ministerial Order of MES, no. 12809 of June 6, 2000.

This document specifies the following:

- Principles and rules to be observed in operator portability;
- Technical interface between networks (**Annex I**);
- Processes to be implemented in the Providers' systems, as the administrative basis of portability (**Annex II**);
- Interim Solution (**Annex III**).

The scope of these specifications does not cover the development of the characteristics of the Reference Entity, specifically in terms of its legal, contractual and operational aspects.

All public-use telecommunications service providers with portability obligations are obliged to comply with these specifications. In other words, providers:

- With responsibility to route telephone traffic to numbers of the NNP (see point **V.4**);
- that have been allocated numbers within the NNP, and that are then allocated in secondary allocation to its customers and thus able to be ported;

- that receive ported numbers from other providers;

IV. Portability solution

The solution adopted for the implementation of portability in Portugal, is based from the technical viewpoint of the network, on, “*Query on Release*” (QoR).

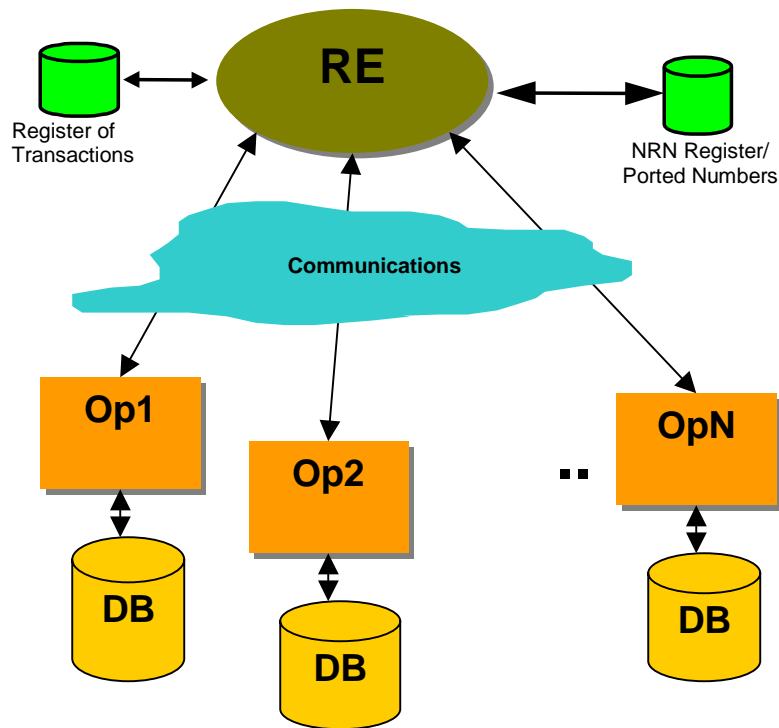
In this solution, specified in **Annex I**, there will initially be an attempt to establish a call to the donor switch, via signalling. If the number has been ported, this switch will respond (*release*) with the information that the originating network’s proprietary database should be questioned (*query*), with appropriate information concerning the routing of the call.

This proprietary database will be updated on the basis of the centralised Reference Database (RDB) managed by a third entity – the Reference Entity (RE).

The RE is the central hub in communications between Providers, supported on the basis of an infrastructure that the RE implements and manages, and is also responsible for the implementation and updating of a set of administrative procedures and associated elements, as specified in **Annex II**.

The RE is the manager of a database system that stores the information required to correctly route ported numbers and establish a historic register of the interactions recorded in regards to a specific number (number serie), that have been subject to a portability request.

In schematic terms, this can be demonstrated as follows:



From the administrative point of view, number portability implies the termination of a contract, or alteration⁴ of the existing contract with the current service provider, and a new contract or alteration⁴ of the existing contract with a new provider, to which the number is ported.

The process starts with the request to terminate or alter, under the terms defined below, the contract that the customer holds with the DP.

⁴ Instead of cessation of the contract there may be an alteration of the contract (e.g.: the customer has 2 telephone numbers covered by the same contract and only wishes to transfer one of these numbers).

Next, the customer signs a new contract with the RP, or alters⁴ the existing contract, requesting portability and providing identification.

From this moment, the recipient provider is responsible for the entire process and should proceed, as should the other providers involved, in particular the donor provider, in conformity with the terms established in the present specification, specifically in regards to:

- a) principles and rules to be observed,
- b) administrative procedures to be carried out,
- c) routing numbers to be updated.

V. Portability and the principles and rules to be observed by Providers

1. General principles and rules

- a) The entire portability process should be conducted in such a manner as to minimise the service interruption to the customer;
- b) The Providers should co-operate amongst each other in order to facilitate number portability and guarantee the respective quality, specifically via interconnection agreements and respect for the prevailing regulatory framework;
- c) The networks and systems should be subject to developments and the necessary improvements in order to accompany the evolution of portability, specifically in regards to growth of the number of requests;
- d) Providers should guarantee that the networks and support systems are prepared for number portability on the date of implementation or, for new providers, on the start date of operation of the service;
- e) The recipient provider should prepare its network and systems in advance before connecting the new customer;
- f) The recipient provider is responsible for the entire number portability process, and is responsible for the correct scaling of networks and services/systems support, in order to ensure that portability does not cause any degradation in the quality of service. The latter concern should be present from the first moment;
- g) The Providers must provide ICP with all information the latter requests in order to monitor Portability.

2. Relations between providers/customers

- a) Portability will only be provided on request of a customer; if the customer transfers to another provider and does not explicitly indicate to this new provider that he/she wishes to maintain his/her telephone number, he/she shall be assigned another number;
- b) The customer may expressly authorise that the new contract with the RP be signed with a duly identified third party. In this case the portability request to be presented to the RP must be presented by the customer of the DP;
- c) Non-compliance of the contractual obligations assumed by the customers, does not constitute grounds for loss of the right to portability;
- d) The DP cannot demand payment from its customer due to the fact that the latter wants to transfer his/her number;
- e) The customer requesting portability is obliged to identify himself/herself to the provider from which he/she is requesting that his/her number be transferred, included non-identified customers⁵ of pre-paid services;
- f) The rescission/alteration of the contract should observe the applicable operating regulations and/or the terms of the adhesion contract approved by ICP, whereby requests to rescind the contract, except in the case of pre-paid service, are to be concretised near the DP;
- g) In the case of pre-paid services, the request to rescind the contract is concretized with the portability request, to be presented to the new provider, via a document signed by the customer;
- h) In pre-paid services the DP may require that the document specified in the previous paragraph be submitted to it;

⁵ The pre-paid customer is considered to be identified when such identification is duly confirmed in his/her service provider.

- i) The moment on which the rescission/alteration of the contract will take effect is associated to the portability window, resulting from the agreement between the DP and the RP, and may occur:
 - i. For the FTS, before the term of the time period defined in the respective regulations, providing that the customer makes all payments to which he/she is contractually obliged;
 - ii. For the LMS, in signed contracts, within the contractually specified deadlines, applying the same principle defined for the FTS (possibility of cessation of the service before the term of the contract, providing that the customer makes all payments to which he/she is contractually obliged;);
- j) In pre-paid services rescission always take effect simultaneously with the agreed portability window, providing that the customer makes all payments to which he/she is contractually obliged;
- k) The RP should always question the customer requesting portability concerning a possible portability request in progress;
- l) In the situation of a portability request in progress, when the customer that has that number contacts a provider – either the DP in order to return to this provider with the number; or to another provider in order to also make a portability request, the provider contacted, without prejudice to the contractual questions involved, should immediately inform the customer that he/she must cancel his/her request in the previous provider (the presumable RP). This change of decision by the customer may give rise to two situations:
 - i. There is sufficient time in relation to the point-of-no-return for the action that the RP should carry out – immediately cancel (until the next working day) after the customer's request or reception of confirmation from the DP, or non renovation of the request after rejection/error;

- ii. In the event that the condition identified in the previous point cannot be guaranteed, portability shall be carried out, and it will therefore be necessary to initiate a new portability request;
- m) When the RP receives a portability request it should ask the requesting customer the date of de-activation of his/her number in the previous provider, in order to guarantee the portability request by the RP in due time, during the quarantine period;
- n) When the RP receives a portability request from a customer with a contract signed with the DP, it should ask the requesting customer the dates of rescission and term of the contract with the DP in order to guarantee compliance with the minimum notice stipulated for rescission of this contract;
- o) Instances of merger/acquisition or change of company name of corporate customers are not, in the scope of portability, considered to be alteration of contract ownership;
- p) After the number is ported, the provider that “exported” the number (donor/holder) will no longer bill the customer (except for the final invoice), as the customer now pertains to the RP;
- q) The RP must inform the customer that the data supplied by the latter may be made available to the DP;
- r) The RP must inform the customer with a minimum 24 hours prior notice of the portability window, during which there may be an interruption in the service;

3. Services

- a) During the portability window, the customer requesting portability shall be guaranteed, as far as possible, access to emergency services with exception of non-geographic services. This responsibility lies with the RP;
- b) Number portability, although maintaining the service, subjects the customer to the commercial terms for this service provided by the RP. The same criterion applies to subsequent portability, namely the return to the DP, with exception to the terms of paragraph i) of the present point of this document, or subsequently by ICP;
- c) Number portability must be supplied for the same service, even when supported by different technologies (e.g. PSTN/ISDN);
- d) Portability of a non-geographic number does not oblige portability of the associated geographic number. In the event that the customer wishes this to occur, the simultaneous portability of non-geographic numbers and respective associated geographic numbers, obliges maintenance of this relationship with the RP;
- e) After a number is ported from one operator to another, as a subsequent act, and as a result of the provider's commercial offer and the customer's wishes, geographic portability may take place within the geographic area to which the number pertains;
- f) CLI must be maintained in all calls originated in the ported number;
- g) The services whose numbers may be ported are as follows: Fixed Telephone Service, Land Mobile Service, Freephone Service (800), Shared Cost Calls Services (808,809), Universal Access Service (707); in the future, on a case by case basis, other services may be considered;
- h) Numbers may not be ported in the following situations:
 - I. Public pay phones;
 - II. Temporary access;

III. VPNS (705);

IV. Calling Card (882)

- i) Access to the Short Message Service (SMS) must be guaranteed after a number is ported;
- j) The HP must provide users with a free notice of the inactive number during the quarantine period;
- k) The DP must provide users with a free notice of the inactive number during the period between the recovery of the number and the end of the storage period;
- l) Faults detected during or after a number is ported, must be handled in accordance with the terms defined in ETSI's TR 101 698;
- m) The possibility that a service provider (e.g. audiotext) may change its support provider while maintaining the number, being upheld, lies beyond the terms of the present specifications.

4. Routing of Calls

- a) **Annex I** details the scenarios relative to the responsibility of routing a call to a ported number. This responsibility lies with the originating provider – including the indirect access provider when selected – except in the following situations:
 - i. Re-routing of a call, of responsibility of the provider where the routing is activated;
 - ii. A call made with a calling card, of responsibility of the provider that offers the service. If the provider does not have its own switched network, it may transfer this responsibility to the provider of the support service;

- iii. A call with *IN* translation (the ported number is the “physical” number), of responsibility of the provider that offers the *IN* service. If the provider does not have its own switched network, it may transfer this responsibility to the provider of the support service;
- b) The responsibility of routing an incoming international call to a ported number, lies with the 1st fixed or mobile network. In the event that this network does not have the capacity to read the adopted signalling protocol, this obligation may be guaranteed by a subsequent network, via a commercial agreement;
- c) The NRN will have the format $DP_1P_2P_3C_1C_2C_3$, where D is the service code (portability), $P_1P_2P_3$ is the provider code assigned by ICP, and $C_1C_2C_3$ is the switch code defined by the respective provider;
- d) The aforementioned provider code, observes the format $0xy$ (where $x \neq 0$).

5. Processes

- a) **Annex II** details the support processes for portability, including definitions of procedures, deadlines, dates, windows, reject reasons, errors etc. that must be observed;
- b) Given their importance, the definition of the following parameters is herein provided, as follows:
- i. Portability window: 3 portability windows have been defined (9.00-12.00; 14.00-17.00; 18.00-21.00); the RP must propose 3 windows, obligatorily covering two consecutive working days (the order of the windows indicators the provider's preference). The DP is obliged to accept one of the windows proposed;
 - ii. Deadline for submitting the portability request: The RP must submit the portability request to the DP, during the following timescale:
 - Between 20 and 8 working days, before the 1st chronologically ordered portability window, for FTS and non-geographic numbers,
 - Between 20 and 5 working days, before the 1st chronologically ordered portability window, amongst the windows proposed, for LMS numbers.
 - iii. Reject reasons: the DP may refuse portability requests on the reasons specified in the following table:

Reject reasons	Notes
Contract ownership/identification does not match	Except for non-identified pre-paid
Rescission/alteration of contract is missing	

Number inactive in HP	Excluding quarantine period
Address does not match the installation address	Only for geographic numbers
Change of telephone number is pending	
National Defence considerations	
SIM does not exist	LMS only
SIM does not match MSISDN	LMS only
SIM lost/missing	LMS only
Number in the storage period	
Number is not portable (HP is obliged to explain this explicitly in the remarks field)	Numbers of public pay phones, of temporary accesses, and others to be defined

- c) New processes may be introduced and/or existing processes may be altered, whenever considered necessary. The Providers will be previously consulted for this purpose;
- d) LMS providers (in this case until the introduction of portability in the mobile telephone networks) and indirect access providers, are only obliged to implement a minimum set of processes, i.e. NRN synchronisation processes and urgent NRN alteration processes, without prejudice to the implementation of other additional processes for their convenience or due to regulatory requirements.

6. Numbering resources

- a) Recipient providers are obliged to use the ported numbers in an efficient manner;

- b) Portability condition – a number is able to be ported until the end of the quarantine period, i.e. until 3 months after the cessation of the contract between the holder provider and the customer;
- c) The storage period, of 6 months for geographic numbers and the LMS and 12 months for non-geographic numbers, includes the quarantine period;
- d) The donor provider maintains ownership of the numbers primarily assigned by ICP, for which it is responsible, independently of the proportion of these numbers that have been ported to other providers, i.e. number portability does not affect the assignment of numbers;
- e) Numbers that are not assigned in secondary assignment by the providers to their customers, cannot be subject to portability, since this contravenes the principles and criteria of the NNP;
- f) Through the concept of “*coherent request*” it is possible to simultaneously transfer several numbers and/or series of geographic numbers;
- g) The recovery of a number by the DoP, should be carried out via the number return process, providing that the quarantine period has been complied with after deactivation. In pre-paid numbers de-activation should take place in accordance with the criteria used by each provider in the deactivation of their customers, in compliance with the prevailing legal framework;
- h) Following the number return process, the number is once more in possession of the DoP, that should guarantee compliance with the storage period until the number is re-used.

7. Access to telecommunications infrastructures in buildings

- a) The terms of Decree-Law no. 59/2000, of April 19 should be observed;
- b) In the event that it is necessary to conduct joint/simultaneous work, there should be an agreement between providers in order to minimise the impact on the service provider to customers;
- c) Any faults caused by works that have to be carried out in customers' installations, are the responsibility of the provider that conducts such works.

8. Incurred costs

- a) The costs of establishment of systems related to the introduction of new items and/or modifications in the networks and systems of each operator and other procedures associated to the implementation of portability should be supported by each operator in its network and systems;
- b) The holder operator may charge the operator to which the user ported his/her number (recipient operator) for the administrative costs resulting from the ported number, taking into consideration:
 - i. For operators and service providers with significant market power in the national interconnection market, such prices should be compatible with the principle of cost orientation. In respect, specifically, of the principle of transparency, these prices should be discriminated in the respective reference interconnection offer proposals;
 - ii. For operators and service providers without significant market power , such prices should be reasonable, in conformity with the fundamental principles and rules defined in the relevant

legislation, specifically considering that any practises that contravene competitive conditions are inadmissible;

- c) Any additional transmission cost, if reasonable, may be charged by the holder operator to the originating operator. If such costs are negligible they should be borne by the entities which incur such costs.

9. Tariffs

- a) The price of a call to a ported number is defined by the billing provider⁶, in conformity with operating regulations and other applicable requirements;
- b) When the price of a call from a specific point of origin is higher in the case of a ported number, as compared to the situation before the number was ported, the originating provider should inform the end user in an adequate manner.

10. Other aspects

- a) Pre-selection

The removal of pre-selection by the DAP, is indicated by the PSP in the framework of pre-selection.

- b) Lawful interception of calls

⁶ The billing provider is that in which network the call is originated, namely the indirect access provider when selected.

If a number, subject to a portability process, is under surveillance by the competent authorities, in accordance with the power of lawful interception of communications, the DP is obliged to inform the authority that ordered the interception to take place, immediately after confirmation of the portability window, that the said number shall be ported, and the date and name of the provider that will receive the number.

c) Unbundled access to the local loop

Unbundling access to the local loop, and its possible impact on the provision of portability, is not contemplated by the present document.

d) Personal data

The providers involved must respect the legal requirements concerning the confidentiality of personal data.

e) Code of conduct

In the scope of Operator Portability and in order to improve the provision of this function, harmonised procedures between the various providers may be incorporated within a code of conduct, in respect of the prevailing legal framework.

Further reference

ETSI TR 101 698 *Administrative support of service provider portability for geographic and non-geographic numbers*