

# **New Mobile Operator**

## **MNP Setup Guide**

**Version 1.1**

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# 1. Introduction

## 1.1 Audience

This guide is intended to be used by mobile operators in assisting them to establish Mobile Number Portability (MNP) with other mobile operators thus enabling subscribers of either network to switch their network provider and retain their telephone number (MSISDN).

The establishment of MNP is required by most mobile operators in order to comply with The General Conditions of Entitlement Number 18 – Number Portability (“GC18”).

Operators should not rely on this guide to determine whether or not they are required to comply with GC18.

## 1.2 Glossary

API	Application Programming Interface
CUPID	Communications Provider Identification
DNO	Donor Network Operator
GC18	General Conditions of Entitlement Number 18 – Number Portability
GUI	Graphical User Interface
MNO	Mobile Network Operator
MNP	Mobile Number Portability
MPC	Mobile Portability code
OSG	Operator Steering Group
PAC	Porting Authorisation Code
RNO	Recipient Network Operator
STFP	Secure File Transfer Protocol
SP	Service Provider

## 2 The requirement to provide Mobile Number Portability

### 2.1 Background

On 4<sup>th</sup> January 1999 Mobile Number Portability (MNP) was launched in the UK. For the first time mobile phone users were able to take their mobile number with them when changing mobile communications provider.

The process that made MNP possible took a cross industry team over 18 months to develop and although technically sound proved complex to implement throughout the Network Operators and Service Providers (SP).

The cross industry MNP group reviewed the process in mid 1999 as a result of the feedback received. It was agreed that the problems encountered since launch could not be overcome without a fundamental change to the MNP process. A small working group was set up to develop a new porting process in order to address these issues.

The new donor-led process aimed to more fully meet both customer and industry expectations by reducing the opportunities for the port action not to happen on the agreed day whilst reducing operational costs by using Internet web based solutions for communicating between SP's.

On 16 November 2006, Ofcom published a consultation – *“Review of General Condition 18 – Number Portability”* in which it noted that excessively long port lead times may discourage consumers from switching provider and therefore proposed shorter porting lead times for the Consumer process.

On 17 July 2007, Ofcom concluded its review by releasing a notification of modification to the General Condition 18 (July Decision) which required the porting lead times of the Consumer process to be reduced to 2 business days by no later than 31 March 2008. This change was put into effect on 18 March 2008. The revised Process Manual prepared by the OSG is available on the public part of the MNP OSG website (<http://www.mnposg.org.uk>)

On 17 July 2007 Ofcom published another consultation – *“Arrangements for porting phone numbers when customers switch supplier - A review of General Condition 18”* in which it considered a further reduction of the porting lead time (from 2 business days) to less than 2 hours and, in recognition of the low levels of consumer awareness of the right to port, a switch from the donor led process to a recipient led process.

On 29 November 2007, Ofcom released its concluding statement – *“Telephone number portability for consumers switching suppliers”* and a notification of modification to the General Condition 18 (November Decision) requiring the implementation of a near-instant (no more than 2 hours) recipient led Consumer porting process and establishment of a central database of ported mobile numbers for direct routing of calls to mobile numbers as soon as reasonably practicable and, in any event, by 1 September 2009.

During 2008, UKPorting managed the preparation of the recipient-led new process needed to meet this new requirement. (see <http://www.ukporting.org.uk>).

Vodafone supported by BT, Telefonica-O2, Orange and T-Mobile appealed to the Competition Appeal Tribunal against the decision of the Office of Communications (“OFCOM”) to modify Part 1 and General Condition 18 of Part 2 of the General Conditions regarding number portability, as set out in Annex 2 to

the concluding statement entitled “Telephone number portability for consumers switching suppliers” (“the Decision”), published on 29 November 2007.

In Judgement 1094 on 18 September the CAT found in favour of the appeal and remitted the whole matter to OFCOM for reconsideration. OFCOM is currently consulting all interested parties.

The current legal requirement for MNP is therefore still the version of General Condition 18 with the amendment published on 17 July 2007 to require two day porting using the donor led system. A consolidated version of GC18 is set out below.

Number portability is also under review by the European Commission in the revision of the Universal Services Directive and the European Commission is proposing that the time for porting should be limited to one day. This requirement will probably refer to the actions by the donor and allow the recipient more flexibility over the timing.

## 2.2 The current requirement

The requirement to provide Mobile Number Portability is set out in General Condition 18 of the Schedule to the Notification under Section 48(1) of the Communications Act 2003. This document is available from Ofcom at:

[http://www.ofcom.org.uk/telecoms/ioi/g\\_a\\_regime/gce/cvogc150807.pdf](http://www.ofcom.org.uk/telecoms/ioi/g_a_regime/gce/cvogc150807.pdf)

This condition is reproduced here.

### 18. NUMBER PORTABILITY

18.1 The Communications Provider shall provide Number Portability as soon as it is reasonably practicable on reasonable terms, including charges, to any of its Subscribers who so requests.

18.2 The Communications Provider shall, pursuant to a request from another Communications Provider, provide Portability (other than Paging Portability) as soon as is reasonably practicable in relation to that request on reasonable terms. In the case of Mobile Portability, where the request is for porting a total of less than 25 Telephone Numbers, the total period for providing Portability in respect of those Telephone Numbers shall not exceed two business days. Any charges for the provision of such Portability shall be made in accordance with the following principles:

- (a) subject always to the requirement of reasonableness, charges shall be cost oriented and based on the incremental costs of providing Portability unless:
  - (i) the Donor Provider and the Recipient Provider have agreed another basis for the charges, or
  - (ii) the Director has directed that another basis for charges should be used;
- (b) the Donor Provider shall make no charge in relation to System Set-Up Costs or Additional Conveyance Costs;
- (c) in respect of Mobile Portability, the Donor Provider shall make no charge or annual fee for ongoing costs relating to registration of a ported Telephone Number or a Subscriber;
- (d) charges levied by the Donor Provider shall be based on the reasonable costs incurred by it in providing Portability with respect to each Telephone Number.

18.3 Where the Communications Provider provides Portability in accordance with paragraph 18.2:

- (a) the Recipient Provider; and
- (b) the Transit Provider,

shall, as appropriate, provide Portability (other than Paging Portability) on reasonable terms.

18.4 The Communications Provider shall, on the written request of the Director, provide the Director with a record of each Telephone Number in relation to which it is providing Portability, specifying the relevant Recipient Provider in each case.

18.5 For the purposes of this Condition:

- (a) "Additional Conveyance Costs" mean any costs incurred by the Donor Provider associated with resources used in:
  - (i) effecting the switch-processing required to set up each ported call; and
  - (ii) providing the switch and transmission capacity for any part of the duration of each ported call, additional to the costs of conveyance of non-ported calls from the Donor Provider's network to the Recipient Provider's network;
- (b) "Communications Provider" means a person who provides an Electronic Communications Network or an Electronic Communications Service;
- (c) "Donor Provider" means a Communications Provider whose Subscriber Numbers are in the process of being, or have been passed or ported to a Recipient Provider;
- (d) "Mobile Communications Service" means any Publicly Available Telephone Service consisting in the conveyance of Signals by means of a Public Telephone Network where every Signal that has been conveyed thereby has been, or is to be, conveyed through the agency of Wireless Telegraphy to or from a Public Telephone Network which is designed or adapted to be capable of being used in motion;
- (e) "Mobile Portability" means Portability relating to Telephone Numbers Allocated for use with Mobile Communications Services;
- (f) "Number Portability" means a facility whereby Subscribers who so request can retain their Telephone Number on a Public Telephone Network, independently of the person providing the service at the Network Termination Point of a Subscriber provided that such retention of a Telephone Number is in accordance with the National Telephone Numbering Plan;
- (g) "Paging Portability" means Portability relating to Telephone Numbers Allocated for use with Radiopaging Services;
- (h) "Point of Connection" means a point at which one Public Telephone Network is connected to another;
- (i) "Portability" means any facility which may be provided by a Communications Provider to another enabling any Subscriber who requests Number Portability to continue to be provided with any Publicly Available Telephone Service by reference to the same Telephone Number irrespective of the identity of the person providing such a service;
- (j) "Publicly Available Telephone Service":
  - (a) in relation to a service to be used with a Telephone Number for receiving calls only under the contract between the person and the provider in question, means a Public Electronic Communications Service for only receiving national and international telephone calls through a number or numbers in a national or international telephone numbering plan;
  - (b) in relation to a service to be used with a Telephone Number for originating and receiving calls and access to Emergency Organisations under the contract between the person and the provider in question, has the meaning ascribed to it under paragraph 1 of Part 1 of this Schedule;
- (k) "Radiopaging Service" means Electronic Communications Services consisting in the conveyance of Signals by means of Wireless Telegraphy where every Signal, apart from

simple acknowledgement, is ultimately transmitted from a station for Wireless Telegraphy comprised in the Communications Provider's Electronic Communications Network to a station for Wireless Telegraphy or Wireless Telegraphy Apparatus that is not comprised in that network;

- (l) "Recipient Provider" means a Communications Provider to whom Subscriber Number(s) are in the process of being, or have been passed or ported from a Donor Provider;
- (m) "Subscriber" means any person who is party to a contract with the provider of Publicly Available Telephone Services for the supply of such services in the United Kingdom;
- (n) "Subscriber Number" means the Telephone Number (or Telephone Numbers) which any Communications Provider's Public Telephone Network recognises as relating to a particular Subscriber of that Communications Provider;
- (o) "System Set-Up Costs" mean costs of the Donor Provider incurred—
  - (i) in the course of making network and system modifications, configuration and reconfiguration, including adapting or replacing software;
  - (ii) in the course of testing functionality within that provider's network and in conjunction with any Recipient Provider's network,
  - (iii) thereby establishing the technical and administrative capability to provide Portability;
- (p) "Transit Provider" means a Communications Provider providing, by agreement, Interconnection between a Donor Provider and Recipient Provider via Points of Connection with both Communications Providers.

### 3 The current arrangements for Mobile Number Portability

#### 3.1 Overview

The market is served by:

- service providers,
- mobile virtual network operators and
- mobile network operators.

Number portability is neutral as to the technology used for calls and is arranged on a bilateral basis separately by the parties concerned. It is not restricted to operators that use GSM/3G technology.

#### Call routing and termination payments

Numbers are allocated to operators in blocks, such that particular operators hold particular "number ranges". Calls are routed to the number range holder of the particular number dialled.

Pursuant to GC18, mobile numbers may be ported between operators, and hence a particular number may no longer belong to the original number range holder. However, there is no central database of ported numbers setting out which numbers are on which networks. Consequently, operators cannot route calls directly to a ported number but must instead send it to the number range holder. The number range holder then onward routes calls to ported number to the current recipient network. In effect, there are two parts to the call – originating operator to range holder operator, and range holder to recipient operator.



Termination fees relate to calls, and accordingly the rangeholder will receive the initial call and charge its termination rate to the originating operator. The rangeholder passes through the termination rate that it received on the initial call instead of the recipient operator charging its own termination rate to the rangeholder. As a consequence, if the rangeholder and recipient networks have different termination rates, the recipient network will not receive its own termination rate (which may be higher or lower than that of the rangeholder).

At the retail level the cost of calling a ported number remains the tariff applicable to the number block rather than the normal tariff for calling the recipient operator.

### Porting Process

The porting process is "donor led" and the subscriber needs to obtain a Porting Authorisation Code (PAC) from the donor (their current service provider/operator) and present this code to their new service provider/operator- the recipient before its number can be ported.

The PACs are allocated and managed by Syniverse on behalf of the operators. The recipient and donor service providers authorise and arrange the porting through the Syniverse system.

The porting at the network level is handled through bilateral communications between the network operators concerned.

The whole process takes two days after a PAC has been obtained. The process is described in more detail later in this document.

## **3.2 The OSG**

The administration of the current mobile number portability system is managed by operators through the Operators Steering Group (OSG), which is a non-incorporated body that meets approximately every 4-6 weeks and has an independent chairman. For historical reasons the OSG is not incorporated. There is no intention of changing the status of the OSG unless there is a clear benefit in doing so. This situation is only likely to arise if major new procurements have to be undertaken.

Service providers do not participate in the OSG but are involved in porting and are able to use the Syniverse system.

The OSG is controlled by its Administrative Committee and has a website with more information: <http://www.mnposg.org.uk/>.

The Administrative Committee is made up of two types of Member:

- Executive Members - those members that paid for/bought in to the current system<sup>1</sup>:
  - Hutchison 3G
  - O2

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<sup>1</sup> The contract with Syniverse for the PAC system is a multi-party contract with the Executive Members

- Everything Everywhere
- Vodafone
- Participating Members – those new members that have joined the system and contribute to the costs of the system through annual fees and per port charges<sup>2</sup>

The Administrative Committee takes decisions on the management of the current system through majority vote, with both Executive and Participating Members voting (Participating Members are represented by a number of delegates that increases in line with membership). Meetings of the Administrative Committee are chaired by an independent chairman. The OSG also has a Production Manager and additional support services are provided by the Federation of Communications Services (FCS).

Beneath the Administrative Committee sit two working groups that meet regularly to "manage" the practicalities of porting between the different parties:

- OSG Operational Review Group (ORG), which handles day-to-day planning issues, practical problems and disputes
- OSG Operational Technical Group (OTG), which revises and improves the process taking inputs from the ORG

The costs of the managing MNP are shared with all the OSG members through a formula laid down in the OSG Constitution. There is also a process within the OSG for all members to agree any changes to how MNP operate..

### 3.3 More detailed description of the porting process

The industry agreed MNP Porting Process is defined in the "MNP Porting Process Manual" and is available on the OSG website. All MNOs are expected to adhere to this process when conducting MNP.

The same porting process is used for:

- Porting of numbers between SPs that use the same MNO
- Porting of numbers between SPs that use different MNOs

The MNP process may or may not be used for the transfer of numbers between NOs where the SP remains the same. SPs are free to administer such transfers according to their own internal processes.

The porting of numbers in the UK can be considered in two parts.

- Firstly, the agreement between MNOs or SPs that a MSISDN is eligible to port and on what date that MSISDN shall port then
- secondly, the actual port cutover on the port day.

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<sup>2</sup> In order to open the system to new members some modifications were made which were paid for by both Executive Members, and initial Participating Members

The subscriber first needs to contact their existing service provider (the DSP) in order to authenticate themselves and obtain a PAC. Contact may be by telephone, letter or email but the DSP is entitled to insist on a written porting authorisation request with the customer's signature before issuing a PAC, if it is their current business policy to require the customer's signature for confirmation of a termination request.

The different conditions under which a DSP can refuse to provide a PAC code are:

1. The MSISDN is not held by a customer of the DSP
2. The MSISDN has been terminated
3. The account holder is deceased
4. The DSP has already issued a PAC that is still valid.
5. The customer fails to provide adequate identification that he or she is the legitimate account holder.

The DSP must advise:

- Post-pay subscribers of any early termination charge payable
- Prepay customers that any existing unused credit will be lost when the number is ported.

The DSP will access the Syniverse system, which generates a PAC which is issued to the subscriber. The PAC consists of 3 letters followed by six digits. The 3 letters will identify the DSP, and the digits will identify the individual port-out request. A PAC is valid from the date that it is generated for a period of 30 calendar days, including bank holidays.

During the PAC validity period, the DSP may take whatever steps are necessary (including barring continued use of service) to manage bad debt prior to the number being ported. However they may not refuse to issue a PAC because of bad debt.

A single PAC may be used with up to 25 separate telephone numbers.

The issue of the PAC is normally taken as notice to the DSP that the contract will be terminated and the PAC date is normally used to calculate any early termination charges.

The subscriber then chooses their new service provider (RSP) and requests a new account with number porting, signs the necessary contractual documents and gives the RSP the following information:

- Number(s) to be ported
- PAC
- RNO identity

The RSP enters the PAC/number pairing into the Syniverse system together with the desired port date and the system checks the validity of the pairing. If the pairing is valid, the RSP is free to issue the customer a new handset or SIM, since the DSP is obliged to action the port-out request.

The RSP can cancel or amend the porting details on the MNP web system, on request by the customer, at any point up to the time the porting details are processed by the DSP. Once the DSP has “read” the porting details and locked the entry, RSP access to the entry on the web system is “locked out”.

The DSP “polls” the MNP web system daily to identify numbers that have received port-out requests. The DSP should use all reasonable endeavours to lock the read PACs by 0500 hours and, in any event, by no later than 1500 hours on the day prior to the porting day.

On or before the port date the RSP sets up a new subscription for the porting MSISDN on the RNO to be active on the agreed porting date. The RSP should ensure that the porting customer is in possession of an appropriate SIM and handset before the porting date. The number should be active by 1100 on the porting day.

On or before the port date the DSP initiates the port-out of the number from the DNO and gives the DNO the following information:

- Number(s) to be ported
- RNO identity
- porting date

The DNO validates the MSISDN to confirm that it is supported by an active current subscription and notifies the DSP of any invalid porting numbers.

The DNO provides the block operator (ONO) with the following data:

- Number(s) to be ported
- RNO
- porting date

The ONO validates the “ownership” of the porting MSISDN, and rejects any requests submitted by an operator that is not the DNO for the number being ported.

The ONO modifies the residual subscription to re-route traffic to the RNO during the period 1100 to 1400 on the porting day, and confirms the modification of the residual subscription to the DNO and the RNO.

Upon confirmation that the residual subscription has been modified, the DNO terminates the current subscription for the porting MSISDN between 1600 and the end of the porting day (i.e. no later than 2400 hours).

The communications between the DNO, ONO and RNO use Excel files that are exchanged using SFTP or ISDN.

The following figure illustrates the porting process.

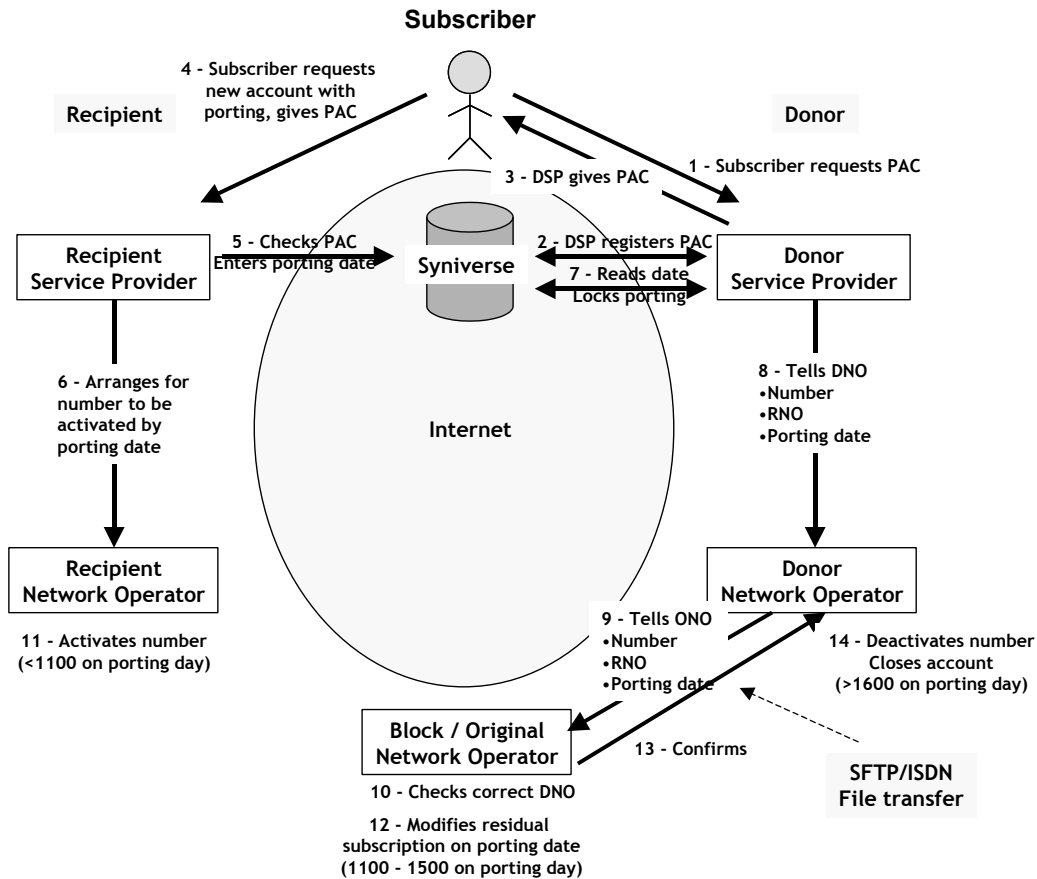


Figure 1: Porting process

## 4 The steps to establishing mobile number portability

What you need to do depends on the services that you plan to offer, how you will provide them and what relationships you have with other operators.

We explain first what you need to do if you are going to become a full network operator in your own right. We then explain what you will need to do if you are only going to be a service provider, ie a reseller of airtime on a separate operator's network. The role of MVNO falls in between these two depending on exactly what functions you undertake yourselves and what is done for you by a network operator.

We are now stating that each MNO / MVNO will have a Business As usual process (BAU) (as instructed by OFCOM) and the new MNO / MVNO needs to provide relevant information if stated in the BAU process. This will lay emphasis on the BAU processes & align everyone to follow the same.

Overview of the connections and relationships

The following diagram shows the interconnections and relationships between a new mobile network operator and the existing mobile network operators and service providers, and Syniverse, which runs the PAC system. The diagram distinguishes the primary methods of communication - GUI, SFTP etc.

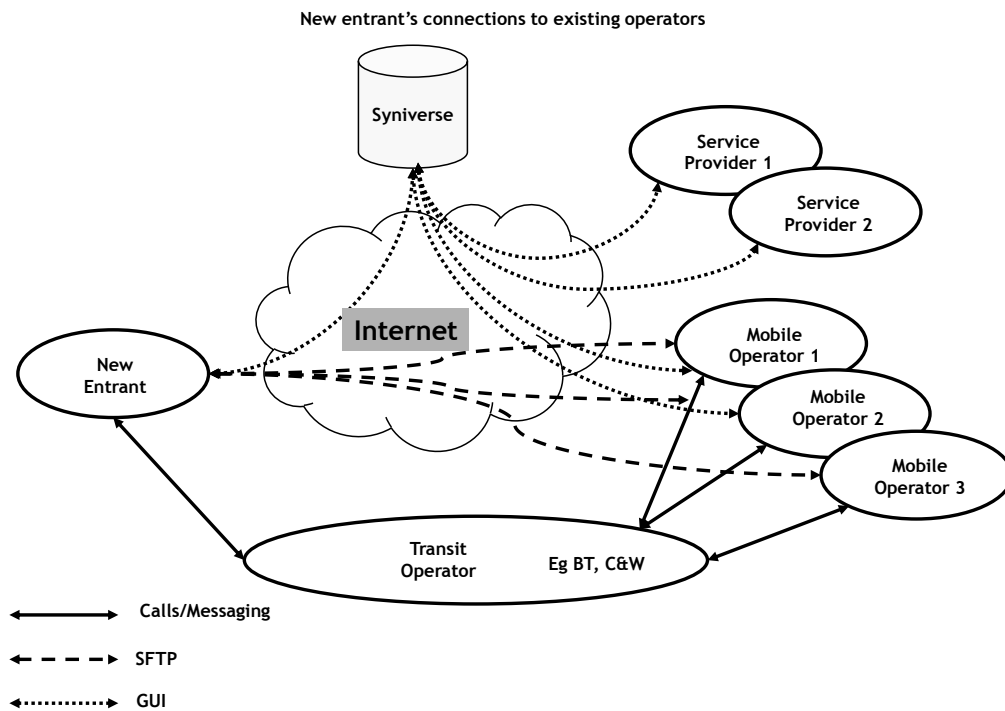


Figure 2: Overview of connections and relationships

#### 4.1 Number portability for a full network operator

The following assumes that you are already undertaking those activities that are needed to provide a mobile service without number portability, such as:

- Obtaining any spectrum licences needed from Ofcom
- Obtaining any necessary planning permission for masts or ducts
- Obtaining some mobile E.164 numbers in the 07 range for your subscribers from Ofcom's Numbering Unit
- Obtaining a Communications Provider Identity ("CUPID") code from Ofcom's Numbering Unit, which is used by industry members to identify CPs.
- Establishing your network
- Establishing interconnection for calls for example via BT or C&W including establishing your call termination rates
- Establishing interconnection for SMS via an SMS hub including establishing your call termination rates

- Establishing access to emergency services - this is a pre-requisite for having the right to mobile number portability. In the case of cellular mobile services this involves providing the cell location information as well as completing the call. In the case of VoIP, at present this involves providing a flag to warn the attendant at the emergency centre to ask the caller's location.

The contact for obtaining numbers at Ofcom's Numbering Unit is Carole Baker 020 7783 4188; [carole.baker@ofcom.org.uk](mailto:carole.baker@ofcom.org.uk) .

To implement number portability, you need to do the following:

- Join the OSG (takes 1-2 months) and pay the relevant membership fees
- Negotiate a contract for number portability and call termination with each other mobile network operator (MNO) - there are currently over a dozen operators. Each operator has its own template contract.
- Establish a contract with Syniverse for access to PACs and complete testing with Syniverse
- Establish and test SFTP communications with each other MNO for the messages sent during the porting process after the use of the PAC. In the case of O2, Orange and Vodafone it may also be necessary to use ISDN at least for the near future until these MNOs implement SFTP.
- Exchange SIMs for testing with each other MNO
- Undertake and complete signalling testing with each other MNO
- Undertake and complete voice call testing with each other MNO
- Undertake and complete end-to-end testing with each other MNO.

These actions are not all sequential and in the case of a new network some will be undertaken in parallel.

## **4.2 Number portability for a service provider that uses another operator's network**

If you plan to act only as a service provider, or if you plan to operate your network "behind" another mobile network so that you use, on a commercial basis, the arrangements that they have already established with other operators, then there is much less to do to establish mobile number portability and you do not need to join the OSG.

The main tasks that you need to do are:

- Demonstrate to the MNP Production Manager that you have an agreement with one or more MNOs allowing you to resell services on their network. This can be in the form a letter from the account manager of the MNO stating that an agreement is in place;
- Demonstrate to the MNP Production Manager that adequate training has been or is about to be undertaken in the use of the Syniverse system. This can also be in the form of a letter from the MNO;

- Establish connectivity with Syniverse allowing access to the MNP system for the generation of PACs and complete testing with Syniverse;

The MNP Production Manager is Alex McKillop who will introduce you to Syniverse and confirm that you are entitled to use their system.

Contact: Tel: 07976 894 504; alex.mckillop@mnp.clara.co.uk

### **4.3 Joining the OSG (MNOs only)**

The process for joining the OSG is laid down in the OSG Constitution.

The new entrant needs to provide some basic information about its service and plans to the OSG Chairman using an Application Form (see Annex). Upon completion of this Application form, and if the Membership Criteria are fulfilled, the Chairman then recommends the application to the Administrative Committee and the members of the Administrative Committee vote on the application.

The main concern of the members is that the new entrant is properly entitled to mobile number portability. This entitlement is based on:

- Having obtained an allocation of mobile numbers from Ofcom
- Having clear plans for the provision of access to emergency services (because this qualifies them as a provider of PATS and hence brings them under the obligation to provide number portability).

The members of the OSG accept that a new entrant may wish to join before its network is fully established and that its plans may not be finalised when it joins.

If the Application Form can be completed satisfactorily the process should take approximately one to two months.

Once the positive vote has been achieved the new entrant needs to pay its joining fee through the FCS.

The new entrant may then start to attend Participating Member meetings and the OTG/ORG meetings and establish portability with the other operators.

### **4.4 Negotiating contracts with the other MNOs (MNOs only)**

Membership of the OSG will gain an operator access to the Syniverse system, necessary for the provision and processing of PACs to/from customers. However, in order to establish porting and ensure the routing of calls to ported numbers, new members must also establish contracts with each of the other MNOs (not all the service providers).

Each MNO has developed a template contract but there is the possibility that you will wish to negotiate individual arrangements based on the template. Attempts were made in the past to establish a common template for all operators but they were unsuccessful.

The need for the individual contracts arises because:



- The operators need to make mutual undertakings to port numbers and to onward route calls where they are the block operator/number range holder.
- The recipient operator needs to pay the block operator for onward routing the call. The charge for this is regulated by Ofcom and is currently 0.1 ppm<sup>3</sup>.
- The block operator/number range holder needs to agree to pass through termination charges to the recipient network.

The contact points for the contracts are given in Annex C.

Experience has shown that this is a time consuming procedure and will probably take at least 3 months.

#### **4.5 Establishing a contract with Syniverse and undertaking testing (MNOs)**

Only MNOs are required to enter into a contractual relationship with Syniverse in establishing MNP. SPs may be set up on the MNP system once they have demonstrated a contractual relationship with their MNO(s) in accordance with section 4.3 above.

In order to follow the MNP process, MNOs will need to be set up on the Syniverse System. Once set up on this system MNOs may access it via the GUI or the API. Each of these may be arranged by the MNP Production Manager. A separate system is available for testing, training and production. The Syniverse System facilitates the agreement between the parties involved in a port that the port is eligible to take place and the date that it shall take place.

Once membership of the OSG has been established the new MNO may approach Syniverse and request to be set up on the system as a new MNO. This will result in template contracts being provided for review and the issuing of test documentation.

The phone number for Syniverse is 0175 3811 833.

#### **4.6 SFTP communications and testing (MNOs only)**

##### **4.6.1 SFTP**

The Porting files transferred between MNOs on the port day as shown in Figure 1: *Porting Process*, are transferred using SFTP. The particular implementation of SFTP is provided on the OSG website at the following address:

<http://www.mnposg.org.uk/OTG/Documents/SFTP/>

Connectivity to each of the other MNOs may be established once keys and passwords are exchanged. Depending on availability of test resources establishing connectivity with all the MNOs should be able to be completed in 6 weeks.

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<sup>3</sup> See <http://www.ofcom.org.uk/consult/condocs/deter/deter.pdf>

#### 4.6.2 ISDN

Three operators (O2, Orange and Vodafone) still exchange files using ISDN rather than SFTP.

## 5 The costs of implementing number portability

The following provides a summary of the costs.

### 5.1 Payments to other MNOs (MNOs only)

There are no charges or payments for establishing portability with the other operators or for negotiating and arranging the contracts.

Participating members are required to pay a monthly minimum charge to Syniverse of around £400 to be active on the MNP system as an MNO.

For each completed port paid for by a participating member, Syniverse withholds £0.075 which becomes payable to the Executive Members

For each call minute of calls to ported numbers, the recipient operator pays the block operator 0.1 ppm for onward routing the call. Hence, where you port in customers, you will receive the block operator's termination rate – 0.1ppm (see further 5.4 below).

normal interconnection charges apply in respect of calls (voice and video), SMS and MMS.

Service providers do not have to make any payments directly to other MNOs but may be charged by their supporting MNO for any charges that the MNO has to pay or may be credited for any charges that it receives as a result of the service provider's portings.

### 5.2 Payments to OSG (MNOs only)

The following summarises the costs of joining OSG as a Participating Member.

Each new participating member has to pay its share of the All Members' Capital Expenditure (see Schedule 2 Article 3). This is the cost of upgrading the Syniverse system to enable it to support new entrants. This payment is shared amongst existing members who have already paid for the work concerned. The current (end 2008) level of this charge is £4109.81+ VAT.

Each new participating member has to pay its share of the ongoing OSG costs from the date of joining. These costs are currently approximately £475+VAT per month.

Payments to the OSG are made to FCS and FCS will produce the necessary invoices. Payments are made once or twice a year and adjustments are made between the budgets and the actual expenditure at the end of the year.

### 5.3 Payments to Syniverse (MNOs)

Each new MNO will have to pay Syniverse for the use of the MNP system. SPs do not have to pay Syniverse as their use of the system is covered by the payments made by their host MNO.

The initial one-off System Accession Charge is of the order of £4,000.

This covers the establishment of secure GUI access and initial basic training.

In establishing the connectivity with Syniverse MNOs may obtain testing and consultancy services from Syniverse at an additional charge to be agreed with Syniverse.

Once porting has commenced, the MNO is charged £0.25 per port subject to a minimum of £400 per month.

### 5.4 Interconnection charges

At the interconnection level, the call termination charge paid to the recipient operator remains the call termination charge applicable to the number block rather than the call termination charge of the recipient operator.

### 5.5 Retail charges

At the retail level the cost of calling a ported number remains the tariff applicable to the number block rather than the normal tariff for calling the recipient operator.

### 5.6 Payments

The following diagram provides a summary of the different payments and how they are made.

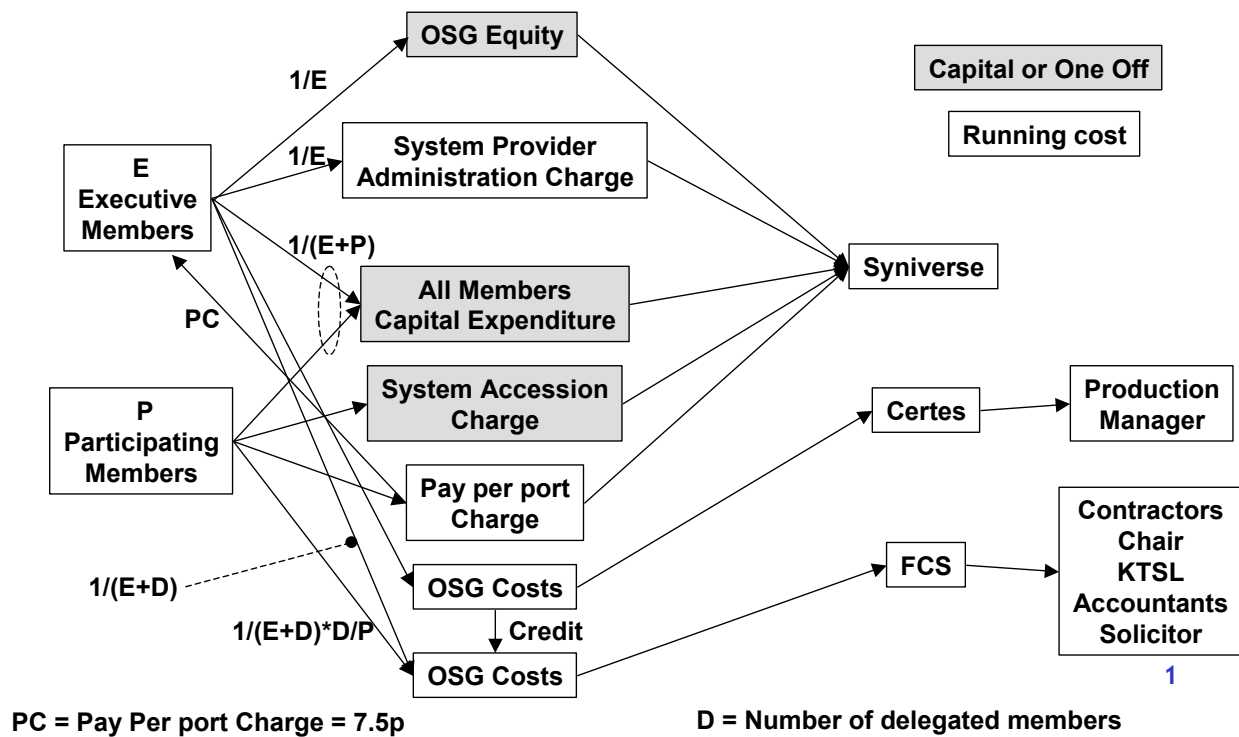


Figure 3: Overview of payments

## 6 On-going involvement

New entrants may wish to participate actively in the on-going activities related to number portability.

## **6.1 OSG PMWG**

Participating Members are represented at meetings of the Administrative Committee by delegates, who represent the agreed view of Participating Members and vote on their behalf. Joining the OSG entitles a Participating Member to join the Participating Members Working Group (PMWG). This group holds monthly phone conferences among Participating Members in order that they can agree their feedback on agenda items and instruct their chosen Delegated Members.

New members should ask to be added to the email exploder for the PMWG.

## **6.2 ORG**

Membership of the ORG is open to SPs and MNOs. For MNOs, membership is obtained automatically with OSG membership. For SPs membership is obtained through application to the MNP Production Manager.

This group is made up of individuals that carry out porting activities on behalf of the customer. The monthly meetings serve as a place to raise any operational issues that may arise. Where issues arise in the ORG that are unable to be resolved, the OSG AC may be asked to intervene.

New members should ask to be added to the email exploder for the ORG.

## **6.3 OTG**

Membership of the OTG is open to MNOs and is automatically obtained with membership to the OSG.

This group is responsible for ensuring the technical platforms that support the porting process are in order. Currently there are no major the issues the OTG are working on.

New members should ask to be added to the email exploder for the OTG.

## Annex A: Emergency access requirements

The requirements for access to the emergency services are contained in GC 4 on Emergency Call Numbers as follows:

- 4.1 *The Communications Provider shall ensure that any End-User can access Emergency Organisations by using the emergency call numbers “112” and “999 or 112” at no charge and, in the case of a Pay Telephone, without having to use coins or cards.*
- 4.2 *The Communications Provider shall, to the extent technically feasible, make Caller Location Information for all calls to the emergency call numbers “112” and “999 or 112” available to the Emergency Organisations handling those calls.*
- 4.3 *For the purposes of this Condition,*
  - (a) *“Caller Location Information” means any data or information processed in an Electronic Communications Network indicating the geographic position of the terminal equipment of a person initiating a call;*

In the VoIP Statement dated 5 Dec 2007, Ofcom gives its views on location information as follows:

- 5.39 Regarding the requirement, to the extent technically feasible, to make caller location information for all calls to 999 / 112 available to the emergency organisations handling those calls, at present Ofcom considers the technically feasible solution is for the VoIP providers concerned to provide the registered address of their VoIP customers to the ESDB, accompanied by a VoIP flag to alert the emergency call handling operator to ask the caller to confirm their location.
- 5.40 Where a VoIP service is mainly used in a nomadic way or is **mobile and it would be unhelpful for the emergency services call handler to have the registered address because the caller is unlikely to be there, we consider the test of “to the extent technically feasible” may be met by providing a VoIP flag only for all 999 / 112 calls.** That would alert the emergency call handling operator to ask the caller for their location. An example would be a mobile business VoIP service used at separate premises from the company’s registered address / PBX.
- 5.41 We must stress that the solutions in 5.29 and 5.30 are drafted in the current environment and we expect the meaning of “technically feasible” to change as technology progresses. We strongly encourage and expect industry to strive to agree and implement a standardised solution for providing automatic caller location information and CLI for type 2 and type 4 VoIP services, for example in the context of the NICC’s work.
- 5.42 We will continue to monitor technical progress. We expect to conduct a formal review in early 2009 with a view identifying new “technically feasible” standards and setting a deadline for meeting them.
- 5.43 Ofcom considers “technically feasible” may include costs to the extent that the caller location information solution must be feasible, or reasonable. In considering what is reasonable, Ofcom will place particular weight on the importance of providing 999 / 112 access for public safety.

Thus according to 5.40, the requirement is satisfied for mobile services by the provision of a VoIP flag.

## Annex B: The OSG

### OSG

The OSG funds the MNP Production Manager through an arrangement with the FCS.

**Alex McKillop** is the MNP Production Manager and is employed 12 days a month through an arrangement with the Executive Members and the FCS.

Contact: Tel: 07976 894 504; alex.mckillop@mnp.clara.co.uk

### Federation of Communication Services (FCS)

The FCS provides banking and secretariat services to the OSG. This includes receiving OSG annual membership fees and making payments on behalf of the OSG.

#### Contacts:

Name	Position	Mobile	Fixed	Email
Jacqui Brookes	CEO	07850 208884	020 8249 6363	jbrookes@fcs.org.uk
Michael Eagle	General Manager	07841 370332	020 8249 6390	michael@fcs.org.uk
Christine Warwick	Administrator		020 8249 6363	CWarwick@fcs.org.uk

## Annex C: Contact points for contracts with other MNOs

Ian Hayhoe	O2 (UK) Limited, 260 Bath Road, Slough, Berkshire SL1 4DX	<a href="mailto:ian.hayhoe@o2.com">ian.hayhoe@o2.com</a>
Gulistan Moledina	Everything Everywhere, Hatfield Business Park, Hertfordshire, AL10 9BW	<a href="mailto:gulistan.moledina@ee.co.uk">gulistan.moledina@ee.co.uk</a>
Justin Hornby	Vodafone Ltd The Courtyard 2-4 London Road Newbury Berkshire RG14 1JX	<a href="mailto:justin.hornby@vodafone.com">justin.hornby@vodafone.com</a>
Kushal Sareen	Hutchison 3G UK Limited, Star House, 20 Grenfell Road, Maidenhead, SL6 1EH	<a href="mailto:Kushal.sareen@three.co.uk">Kushal.sareen@three.co.uk</a>
Shaun Moon	PPGA Newcastle Central TEL EXCH Carlilol Square Newcastle Upon Tyne NE1 1BB	<a href="mailto:Shaun.moon@bt.com">Shaun.moon@bt.com</a>
Mark Hay	Hay Systems Ltd Watermark, Alba Campus, Livingston, EH54 7EG	<a href="mailto:Mark.hay@haysystems.com">Mark.hay@haysystems.com</a>

## Annex D: OSG Application Form

### Mobile Number Portability Operator Steering Group

### Application for Membership

Class of Membership applied for (Participating or Executive):	
Trading name if different from company name:	
Company Name:	
Company registration number:	
Contact name:	
Contact address:	
Contact telephone:	
Contact email:	
Name under which number allocations have been granted by Ofcom:	
Number blocks allocated by Ofcom for Mobile Services:	

A copy of the Ofcom numbering allocations letter and statement should be attached. The Ofcom contact is Carol Baker on 0207 783 4188.



I confirm that the company above, of which I am an authorised officer, offers or plans to offer Mobile Communications Services as defined in General Condition 18 and that those subscribers who are or will be able to make out-going calls are or will be able to access Emergency Organisations by dialling 999 and 112 and that in accordance with GC4 and Ofcom's guidance if VoIP is used a "flag" will be provided to indicate that the caller should be asked for their location.

Date:	Signature:
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I understand that if any of the information about my company provided above or the Additional Information below is subsequently found to be incorrect or misleading then the company's membership may be terminated, the ability to port numbers cancelled and all membership fees forfeited.

## Additional Information

Please answer the following questions:

Are you already providing mobile services using the number block(s) allocated to you by Ofcom?

If you are already providing mobile services, are you providing access to Emergency Organisations by dialling 999 and 112?

If you are already providing access to Emergency Organisations, please provide information on how the calls are routed and how they reach the emergency services? Please use a diagram if you wish.

(A sample answer is: "Our switch has a direct interconnection to the BT transit switch at XXXX, emergency calls are routed over this link to BT and BT delivers them to its Emergency Call Centre.)

If you are not already providing access to Emergency Organisations, please provide information on your plans for how the calls will be routed and how they will reach the emergency services? Please use a diagram if you wish.

What location information for these calls do you provide or plan to provide to emergency centres? (If you use VoIP Ofcom's current guidance is to provide a "flag" to indicate that the caller should be asked for their location<sup>4</sup>.)

How do you propose to interconnect to other mobile networks to receive calls to numbers that are ported to your network and to onward route calls to numbers that are ported from your network to other networks?

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<sup>4</sup> See Ofcom Statement of 5 Dec 2007 section 5.40.

If you plan to provide SMS services, how do you propose to interconnect to other mobile networks to receive SMS to numbers that are ported to your network and to route SMSs to numbers that are ported from your network to other networks?

Have you already obtained a mobile portability code from Ofcom? If so, what is the code?

Please indicate if you wish the additional information on this page to remain confidential to yourselves and the OSG secretariat at this stage. If you do not make an indication then the information will be considered to be available to all OSG Members. Please note that the information on call and SMS routing is likely to need to be shared with other operators before porting can start in practice.