Office of the
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# Number Port Service Establishment

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## 1.0 Document Control

| Doc Title | Version | Date | Detail |
|---|---|---|---|
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## 2.0 Definitions

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# 3.0 Service Establishment Process (Geo)

## *3.1 End to End Process Description*

The purpose of this section is to define the United Kingdom industry agreed process for establishing and maintaining Geographic Number Portability (GNP) between Telecommunication Operators. It is assumed that the readership of this document are Operators who have an established interconnect contract with each other, or are in the process of establishing one.

There are three main aspects to the process defined in this document..

Technical Principles - a definition of the network planning arrangements for a GNP scheme between the Operator's systems.

Service Establishment - the setting up of the GNP service from Initial Contact to the conclusion of Process Testing.

The need has been identified for a preliminary strategy setting meeting to be held between operators when they decide to initiate planning studies. This enables an implementation timetable to be agreed and provides a forum for the exchange of information about contact point details.

Service Maintenance - the ongoing maintenance of the GNP service once established

Service Operation (Order Handling) – This topic is covered in a separate standalone document. (Number Port Provisioning – Core Processes)

## *3.2 Geographic Number Portability (GNP) - General*

GNP provides a method that enables a customer of one fixed Operator (the 'Donor' Operator (DO)) to become a customer of another fixed Operator (the 'Recipient' Operator (RO)) while retaining the same telephone number. The DO will cease the line with the customer who will agree the specific services they require with the RO. This process is known as 'porting'. The DO is said to 'Export' the number to the RO, the RO is said to 'Import' the number from the DO.

GNP is established between pairs of Operators. Each Operator can act as a 'Recipient' and Import a number by asking the other Operator, acting as a 'Donor', to Export the number to them.

GNP is for a number itself and not any services associated with it. When a number is ported, any associated services will be removed from the number by the DO and will need to be re-created, as appropriate, by the RO.

GNP applies to customers who remain at the same address. Subsequent and simultaneous mobility is the functionality to support GNP for customers porting and moving address and is by bilateral agreement between Operators.

Subsequent mobility is defined as a customer, having previously ported to a new operator while remaining at the same address, subsequently changing address and keeping the ported number. The restriction to this is that the move must be contained within the area in which the DO who previously had the number would normally provide service to that number. Simultaneous mobility is when such a move occurs at the same time as a customer ports to a new operator.

Subsequent portability is when a customer, having previously ported to a new operator, then ports to a further new operator.

Subsequent portability with simultaneous mobility is a customer moving to a new recipient operator and moving address at the same time.

### *3.2.1 Geographic Area.*

The GNP service will be provided within a defined Geographic Area (GA). The definition of a GA will be dependent upon the type of Operator.

### *3.2.2 Cable TV Operators:*

The minimum GA for GNP is defined as an individual Telecoms Act boundary, which is the ITC franchise boundary with the possible addition of minor areas. Where an Operator requests a number of ITC franchises for Number Portability, an implementation plan will be agreed jointly.

The identification of individual franchise areas has been undertaken by BT to ensure a consistent national identification. There is a need to identify porting with individual ITC franchises for legal and reporting purposes and each has been given a Licensed Operator Identifier (LOPID) . The list of LOPIDs is administered by OfTel and should be available via the OfTel website http://www.oftel.gov.uk/.

### *3.2.3 National Operators:*

For National Operators the GA will be defined by a National Area Code (NAC). Where an Operator requests a number of NACs for Number Portability, an implementation plan will be

agreed jointly. Each National Operator is identified by a single LOPID. However mergers and acquisitions may result in Operators having several LOPIDs. The list of LOPIDs is administered by OfTel and should be available via the OfTel website http://www.oftel.gov.uk/.

### *3.2.4 Maps.*

The provision of maps (1:50,000 scale) showing the respective switch/exchange serving area boundaries within a GA will enable the requirement for the databuilding of Number Portability prefixes on both networks to be minimised. Note that there is a problem with the accuracy of printed maps across a full Ordnance Survey (OS) 1:50,000 sheet with respect to overlays produced from Operators' mapping systems. The exchange of mapping information in digitised format is being explored and considered. Alternatively, the use of eg postcodes or NAC boundaries may be used, by bilateral agreement, to define the extent of areas served.

## 4.0 Technical Principles

Where appropriate, references are made to relevant aspects of the High Level Service Description for Geographic Number Portability (GNP) produced by the PNO-IG Number Portability Task Group. The method currently deployed is 'Onward Routeing'.

### *4.1 Network Aspects*

#### *4.1.1 UK Numbering Scheme.*

For the purposes of GNP it is mandatory that the Operators systems will have AFN/DE ranges available for porting which have been allocated in line with UK numbering principles.

#### *4.1.2 Types of Switch tested.*

The current list of the types of switch tested generically for operation within the GNP is at Appendix B2. Other switches may be added to this list subject to satisfactory network generic GNP testing.

#### *4.1.3 Limitations of GNP.*

There are some situations where GNP cannot be made available at present, eg Out Of Area exchange lines.

#### *4.1.4 Number Area Code (NAC) Changes.*

In parts of the country where the availability of local numbers is in short supply changes in NAC and local number may be necessary. In such cases the DO and RO will co-ordinate the changes in accordance with the agreed timetable for change.

#### *4.1.5 Services not available because of technical difficulty*

It shall be noted that all of the services offered by an Operator may not be available to a ported customer. It is the responsibility of the Recipient Operator to ensure that a service is available before offering it to a customer.

#### *4.1.6 Calling Line Identification (CLI).*

Where numbers have been ported to other systems the correct CLI shall be presented for administration purposes.

The correct CLI generation and interchange for operator services use shall not be inhibited by GNP provision in either system.

Correct identification of originating system shall be possible for operator assistance calls including reversed call-charging.

### *4.2 Routeing Prefix Arrangements*

#### *4.2.1 Requirements*

On recognition that the number has been ported calls to that number shall be addressed to the Recipient System Switch Connection by means of routeing prefixes inserted at the terminating local exchange in the Donor Network.

The routeing prefix identifies the destination exchange (or smaller unit) in the recipient network. The identification of a smaller unit, e.g. RCC unit, will help to ensure that should reparenting of a unit occur there will be a reduced need for changes to the GNP prefixes.

The allocation of prefixes for each Operator will be carried out by Oftel. The Recipient Operator will assign the prefixes to the switch or smaller unit, and notify the donor system during the planning stage of the Service Establishment Process.

Where prefix changes are required to permit altered routeings, the changes shall be regarded as databuild alterations carrying the appropriate commercial ramifications.

#### *4.2.2 Prefix Structure*

The GNP prefix has a fixed length of six digits with an initial digit value of 5 to indicate the function "Number Portability".

#### *4.2.3 Number Flow.*

Number flows for onward routeing of calls shall conform with the following format:

5XXXXX 0SABCDEFGHJ

where 5XXXXX is the prefix, S = 1 or 2 and ABC is the Numbering Area Code (NAC)

### 4.3 Traffic Routeing

Calls originating in the donor System or from other networks shall be passed to a Switch Connection in the recipient System over one or more existing Points of Connection as defined by contractual routeing principles.

The re-routed call shall be addressed to a destination exchange in the Recipient System using a prefix code, see section 0.

Tromboning of calls through the donor network shall not be permitted from a local exchange which is both the call originating point and the recipient exchange, unless agreed specifically between the Operators.

To prevent call loops between systems, any call with a porting prefix arriving at the recipient processor must either be correctly terminated or else failed. No attempts should be made to pass the call back to the originating system.

Routeing Principles.

The following principles are agreed for routeing of GNP calls:

Both donor and recipient operators shall co-operate in the provision of resilient routeings for calls, as service on imported numbers depends upon routeings in both networks.

No more than two tandem exchanges to be provided on the segment of the call from the Donor Processor (DP) to the Point of Connection.

Two diverse routeings to be made available for onward routeing from the DP in order that there should be no single point of failure in the donor network except for the DP.

Where direct LE interconnection exists, use of such routes shall be permitted for GNP traffic terminating at the recipient LE, by mutual agreement.

Recipient routeing proposals for import and export will be defined in PDIs and routeing diagrams. The RO will make the initial proposal.

### *4.4 Traffic Forecast*

GNP traffic forecasts will be incorporated into the Operator/Operator interconnect traffic forecasts. The total interconnect traffic forecasts will be exchanged by between Operators as per their interconnect agreements. The format of the GNP traffic forecast will be agreed bilaterally between the Operators.

Where GNP is implemented by calls being re-routed from a DP to a Donor Tandem Switch, the Recipient will inform the Donor of any known significant increase in the expected traffic to be transited across the point of connection, as a result of increases of traffic to ported numbers. Where possible the Recipient will inform the Donor on a per DLE basis. In this context significant is defined as a step increase of 20 Erlangs. There will be no requirement for the Recipient to inform the Donor of such changes of traffic to a Donor DLE if the Donor changes to a wholly call drop back method of implementing number portability at that DP.

The Donor will use all reasonable endeavors to provide three months notice to the Recipient and to Oftel, where an exchange area is expected to exhaust its capacity to port numbers under the GNP scheme.

### *4.5 Network Performance*

It should be noted that the performance of calls to ported numbers may not always be up to the standard of the equivalent direct call; for example there is likely to be an increase in delay/echo due to additional transmission links and switches in the connection. It is also possible that call set-up delays will be increased.

To ensure the optimum level of network performance under GNP conditions across interconnect links a requirement is that the planning arrangements between Operators have been based on bilateral acceptance of the following documents, requiring consideration for the effect of the Interim Scheme:

Technical and Operations Annex to the Interconnect Agreement.

Transmission Specification.

Electrical Specification.

Signalling Specification.

Testing Manual.

O&M Manual.

### *4.6 Network Testing of Number Portability*

A testing programme with allocation of appropriate resources shall be agreed bilaterally.

# 5.0 Geo Service Establishment Process

## *5.1 General*

The Service Establishment (SE) process assumes that the switches involved have been tested generically for operation within the GNP Scheme. The details of how the switch type and software build tests for GNP are defined and carried out are not covered within this document and will be coordinated separately between Operators in accordance with the GNP Testing Specification.

The SE process described will be run as two parallel processes for each Operator, one for Import and one for Export. These processes may or may not run synchronously and may well be completed to different time-scales. Each Operator will need to support their contractual obligations on receiving an order from the other Operator to carry out a GNP data amendment.

## *5.2 Initial Contact (Target 5 Working Days)*

### *5.2.1 Planning Request.*

The starting point for an Operator to request GNP will be by contacting the other operator, with a completed Planning Request form - Appendix B1.

There may be a need to hold an initial strategy setting meeting to establish the time-scale required for the implementation of GNP and to plan the introduction by geographic region to suit both DO and RO requirements and resource availability. The associated document '(POI) GNP Planning Meeting Discussion Document' Discdoc.doc is an optional document that can be used by bilateral agreement to facilitate this discussion.

The output of Initial Contact is an acknowledged Planning Request.

### *5.2.2 Contact Details.*

Once the Planning Request has been acknowledged both Operators should, if they haven't already done so, in parallel with the other activities detailed in this section, complete and exchange the contact details proforma – which is an Appendix to Section A of this manual, and should aim to exchange all contact details before test number details are exchanged.

## 5.3 Planning Stage (Target 30 working days)

Completion of the planning study shall take a target of 30 working days where the area under study is the size of a CATV franchise area or NAC coverage area. If the area under study is

much larger, then the time-scale for completion will be agreed between the Operators. The output from this stage will be an agreed PDI.

There is a need for each Operator to confirm during the planning stage that traffic forecasts given as part of the normal interconnect process and service reviews are still valid, or to provide updated forecasts.

Each operator will provide 1:50,000 maps showing boundary areas and GNP information to DE level (or to F level where appropriate.) Maps are not required where the Operator's switch boundary aligns with the NAC boundary.

Consistency is required in the naming of switch/exchange area names between those used on the pro formas and in the normal Interconnect processes.

Planning Stage Overview. The table below shows the typical milestones and timescales for the planning stage.

| Day | Recipient Operator | Donor Operator | Comments |
|---|---|---|---|
| 1 | | PR received | |
| 2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11 | | Generate PNI | Use pro formas in file gnppnixx.xls to exhange relevant network information (e.g. forthcoming network alterations such as number changes) between operators in the defined Geographic Area. |
| 12 | | Send PNI | |
| 13 | Receive PNI | | |
| 14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22 | Generate draft PDI | | Includes the selection of the Selected Areas within the defined Geographic Area. Can be supported by a meeting.<br><br>Test numbers not included at this stage. Use form gnppdixx.xls to detail the Prefix Data Management Amendments required. |
| 23 | Send draft PDI | | |
| 24 | | Receive draft PDI | |
| 25<br>26<br>27<br>28<br>29 | Resolve issues and agree PDI | | |
| 30 | Send agreed PDI | | No test numbers included. |

## 5.4 Allocation of Databuild Test Numbers

Operators will exchange databuild test number details within a target of 10 days of receipt of the PDI where up to 100 test numbers are required. Where more than 100 test numbers are required the time-scale will be agreed between the Operators.

The RO will then ensure the completion of the test number sheet of the agreed PDI (gnppdixx.xls) and copy it to the Donor Operator.

## 5.5 Networks Databuild and Testing (Maximum 40 working days)

This stage will only commence if an agreed GNP contract is in place.

Receipt of the agreed PDI will initiate the required network data and support system changes.

When the databuilding of both networks is completed, a joint set of tests will then be carried out to prove the routeing of calls from each network to the other. These are defined below:

The DO and RO will agree on the requirement for test numbers. Should agreement not be reached the DO will provide a test number for each combination of Donor Processor and Recipient Prefix.

The RO will provide a suitable recorded announcement for test numbers to show that the test call has terminated correctly in the Recipient Network.

The DO will export each test number to the RO and then confirm that a call to the number terminates on the Recipient Network announcement.

The RO will confirm that a call to each ported test number, from the Recipient Processor on which it now resides, is not tromboned through the Donor Network.

The RO will confirm that a call to each ported test number, from the Recipient Processor on which it now resides, terminates correctly.

Retention of test numbers following completion of Network Databuild Tests will be agreed bilaterally between the Operators.

The DO shall issue a Geographic Number Portability Certificate (contained in file SE Certificate.doc) which will confirm completion of the SE Process

The RO shall not enter GNP orders until the GNP Certificate has been signed by both the DO and the RO.

The DO shall be responsible for initiating the Certificate and offering it to the RO for signature to mark completion of the SE process.

One GNP Certificate shall be issued per PR received.

Guidance for completion of the Certificate is shown in italics on the Certificate.

Completed Certificates will be held by both the Recipient Operator and Donor Operator.

The output from this stage will be a signed GNP Certificate.

## 6.0 Service Establishment (SE) Maintenance

This section defines the processes required to maintain the (GNP) Service between licensed operators following completion of SE. It details new procedures and identifies links to existing interconnect procedures which should be operating as Business As Usual (BAU), i.e. forecasting, route provision, etc.

### *6.1 Prerequisites*

At the PNI stage the DO has provided details of planned network changes to occur within the next 6 months (exchange modernisation, re-parenting, new 10K number ranges, etc.).

The RO has clearly indicated on the master PDI (gnppdixx.xls) form their requirement for porting number ranges which have planned changes:

porting not required (number range shown as not required on PDI gnppdixx.xls).

porting required prior to the planned network change. Subject to agreed criteria being met.

porting required after the planned network change.

The SE process has been completed.

Agreed GNP arrangements have been documented in the form of PDIs (gnppdixx.xls) routeing diagrams and Certificate (SE Certificate.doc)

Note: It is intended to maintain these documents within the documentation set that defines the interconnect agreements.

### *6.2 Process Principles and Overview*

References in this section (e.g. Ref 1, Ref 2 etc.) are made to the specific processes shown in the following sections.

Business As Usual (BAU) processes will be maintained for operators to advise of network changes.

BAU processes and time-scales will be maintained for interconnect traffic forecasts, capacity profiles, new switches, interconnect route capacity and Data Management Amendments (DMAs) etc.

Data changes required to maintain the GNP service following network changes may be submitted by either the DO or RO by completing a change request PDI. A change request PDI consists of either:

a full PDI with the Change Request and/or the History completed and other changes clearly identified, i.e. use of coloured text or shading;

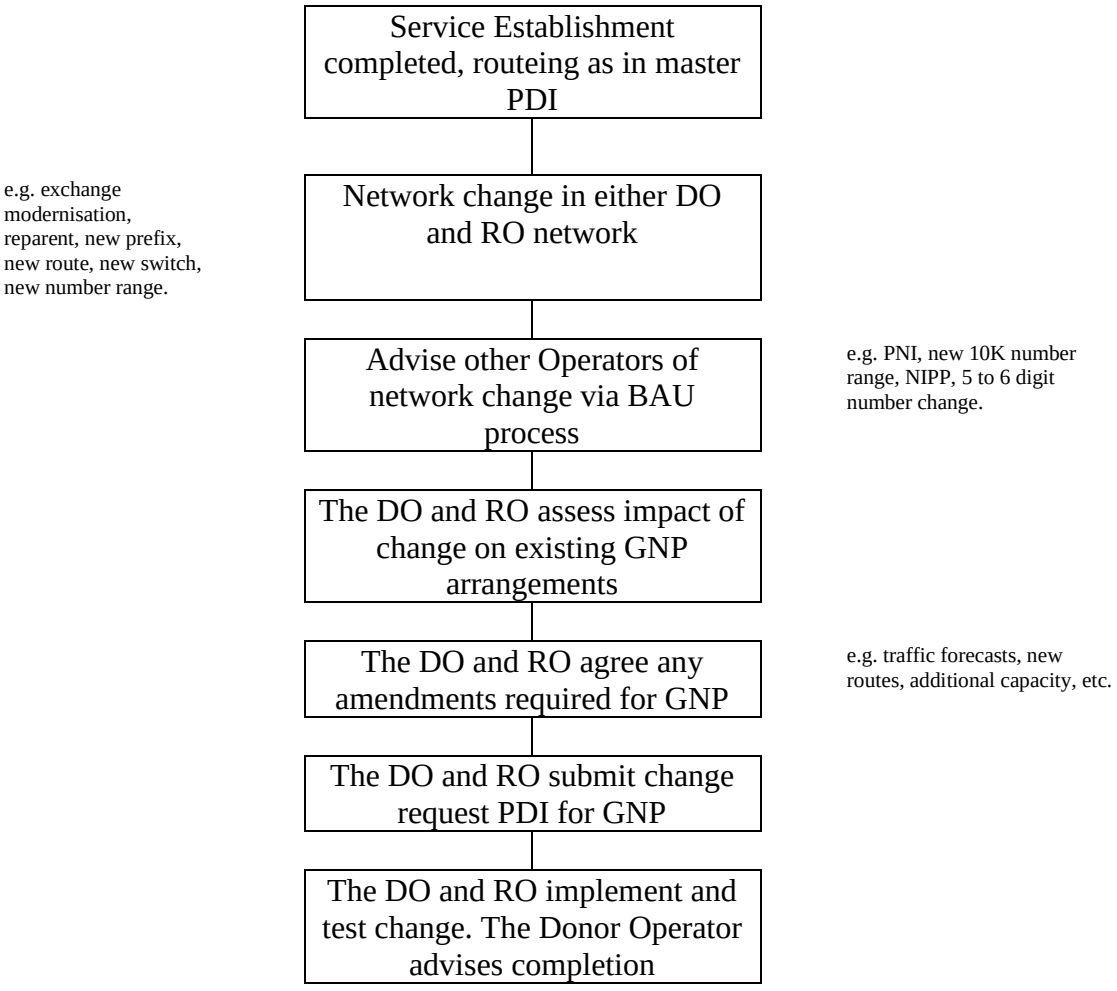
an extract of the PDI with a completed Change Request and/or History completed showing just the changes required.

If the latter path is followed a new full PDI, clearly marked 'For Records Only', shall be issued as soon as possible and in any event within three months of change completion.

The Databuild Test Number Allocation stage will be required for all GNP change requests requiring DMAs.

On completion of the change the RO shall update the master PDI (gnppdixx.xls) to include all changes as soon as possible and in any event within three months of change completion.

An overview of the process and its relationship to existing business as usual processes is shown below:



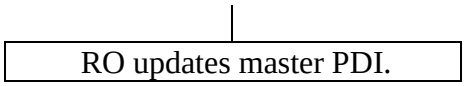



**Figure 1 - GNP Process relationship to BAU Process**

## 6.3 Responsibilities

### 6.3.1 Donor Operator

The DO is responsible for:

a, Notifying the RO of all network changes in a timely manner.
b, Ensuring that the GNP service is maintained following network changes.
c, Requesting a change to GNP routeing data where own network change impacts upon the RO's network.
d, Advising of completion of service maintenance work.

### 6.3.2 Recipient Operator

The RO is responsible for:

a, Submitting number portability change request PDI to extend the scope of the GNP databuild. For example:

to request that a new 10K number range introduced by the donor network is made available for porting.

to request that an additional GNP prefix is built within the DOs network.

b, Submitting a GNP change request PDI to re-route existing GNP traffic, e.g. to re-route an existing prefix via another interconnect route either existing or newly provided.

c, Maintaining and updating the master PDI (gnppdixx.xls) to show network changes. This must be completed for every change request within 3 months of the change.

## 6.4 Re-Parenting of a Number Range

Reference is made to the Service Maintenance Overview shown in section 0 from each of the specific processes shown.

The process will apply for all exchange modernisations and re-parenting.

The DO will advise the RO of the reparenting date, processor name and type. For reparenting's planned to take place within 6 months of the GNP planning study will be shown on the DO's PNI (gnppnixx.xls). This is defined within the Service Establishment Process. For reparenting's

planned to take place outside of the scope of Service Establishment, details will be shown in NIPP or the Operators equivalent.

Where the RO has requested, on their master PDI (gnppdixx.xls), that GNP export is provided from the number range the DO shall ensure that the service is maintained after reparenting.

Where the RO has requested, on their master PDI (gnppdixx.xls), that GNP export is provided following reparenting then the DO shall ensure that the service is provided after reparenting.

Where the RO prefixes are already built on the reparenting processor then a records only update of the master PDI (gnppdixx.xls) will be issued by the RO as soon as possible but within a 3 month period.

Reparenting of a number range may necessitate the DO or RO requesting a change of routeing to be agreed by both parties.

If such a change is agreed the DO or RO will submit a GNP change request PDI.

The RO will update the master PDI (gnppdixx.xls) to include the network change, as soon as possible but within three months of the change.

The GNP Service Maintenance process for reparenting of a number range is shown in Figure 2 Re-Parenting of a Number Range.

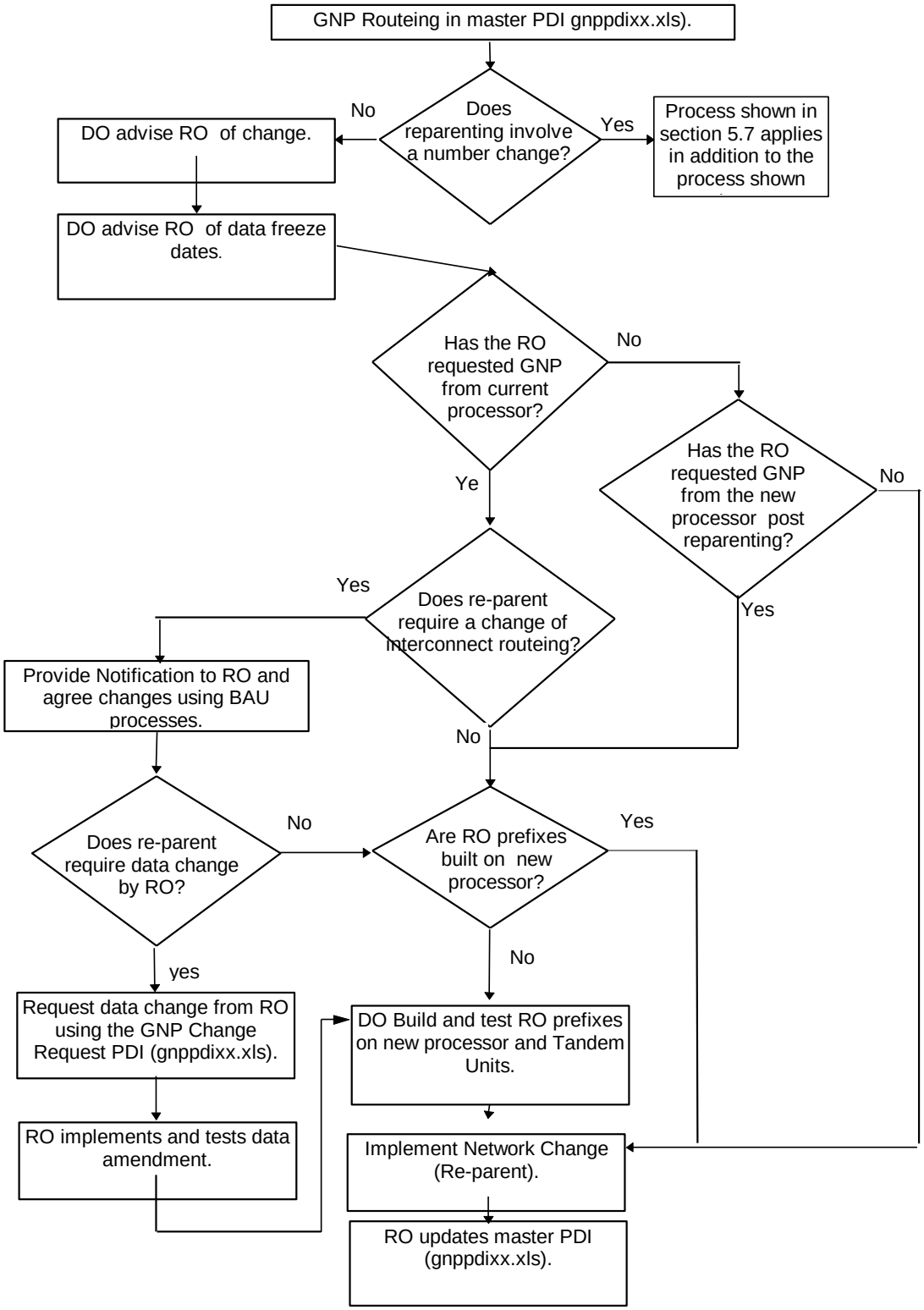



*Figure 2 Re-Parenting of a Number Range*

*6.5 Donor or Recipient Operator Requests Re-Routeing of a Number Portability Prefix or Requests a New Prefix*

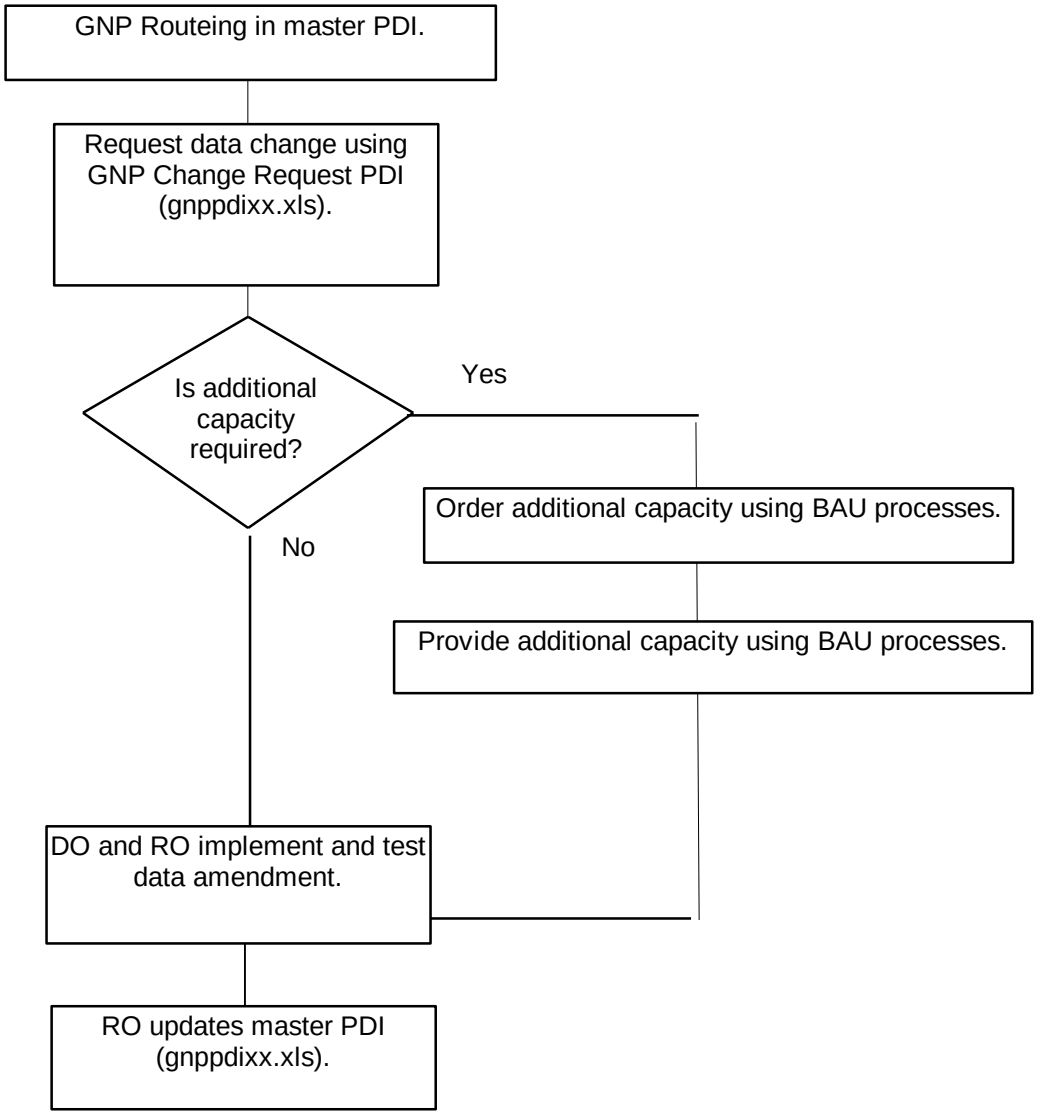



Figure 3 Donor or Recipient Operator Requests Re-Routeing of a Number Portability Prefix or Requests a New Prefix

6.6 Donor Operator Introduces A New Number Range (10k Range)

DO will provide advance information to all operators for the introduction of a new 10K number range. This will be included on the master PNI (gnppnixx.xls) form if known at the time of the

planning study. Thereafter notification will be provided via the existing new range notification process.

On receipt of notification of a new 10K number range the RO shall determine their requirement.

The RO shall also determine whether or not databuild will be required for DO to export the 10K number range. Where databuild is required the RO will submit a GNP Change Request PDI (gnppdixx.xls). Where databuild is not required the RO will update the master PDI. The DO may need to update support systems.

The GNP Service Maintenance process for the introduction of a new 10K number range is shown in Figure 4 DO introduces a new 10K Number Range.

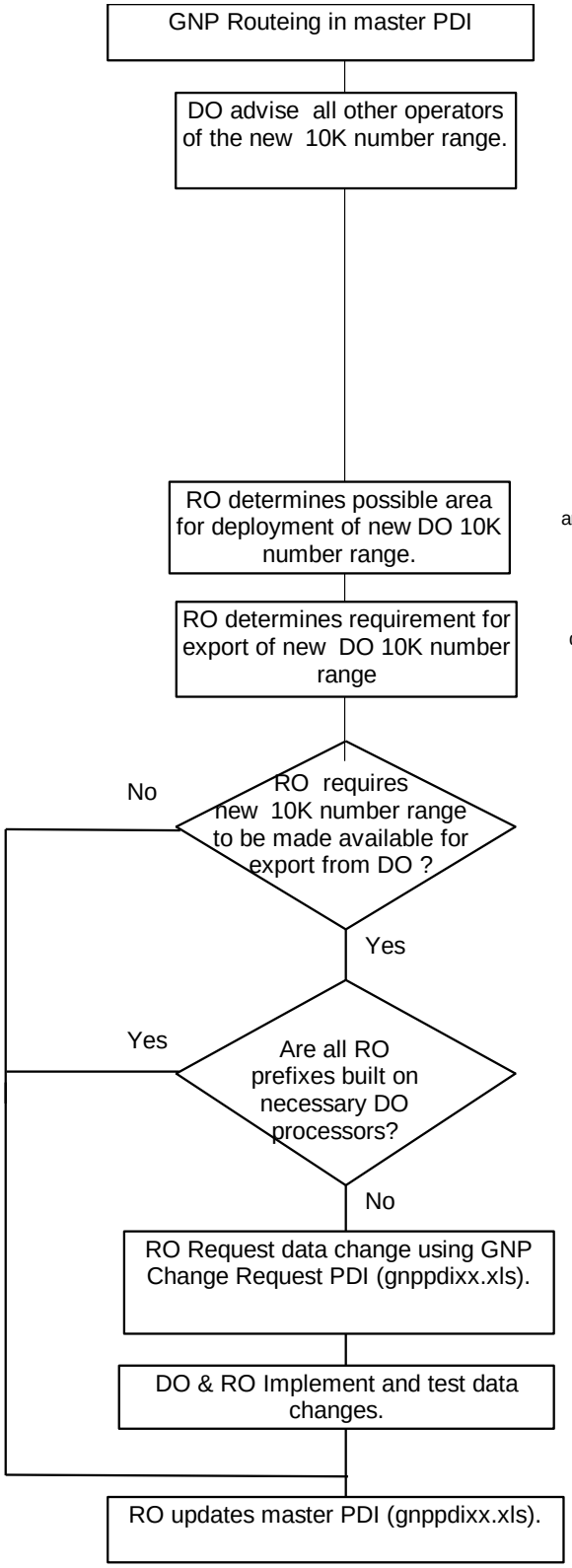

GNP Routeing in master PDI
PDI and Certificate (gnpcert.doc)
DO advise all other operators of the new 10K number range.
The following information is provided:
- new 10K number range
- initial exchange area deployed
- Processor name
- Processor type
- date for introduction of new 10K number
The DO must additionally provide a map showing the geographic area for the new number range where this is different to the maps exchanged during Service Establishment
RO determines possible area for deployment of new DO 10K number range.
The new 10K number range may be deployed onto any concentrator unit served from the host processor.
RO determines requirement for export of new DO 10K number range
Requirement identified by mapping possible areas for deployment of the new number range to the Operators licensed area.
No
RO requires new 10K number range to be made available for export from DO ?
Yes
Yes
Are all RO prefixes built on necessary DO processors?
No
RO Request data change using GNP Change Request PDI (gnppdixx.xls).
DO & RO Implement and test data changes.
RO updates master PDI (gnppdixx.xls).

Figure 4 DO introduces a new 10K Number Range

## 6.7 Recipient Operator Requests Change To Exported Customer(s) Prefix

No Operator should intend to use this procedure at the time of establishing Number Portability. It is only provided for use where no other options are feasible.

It is likely to be a manual process and thus error prone

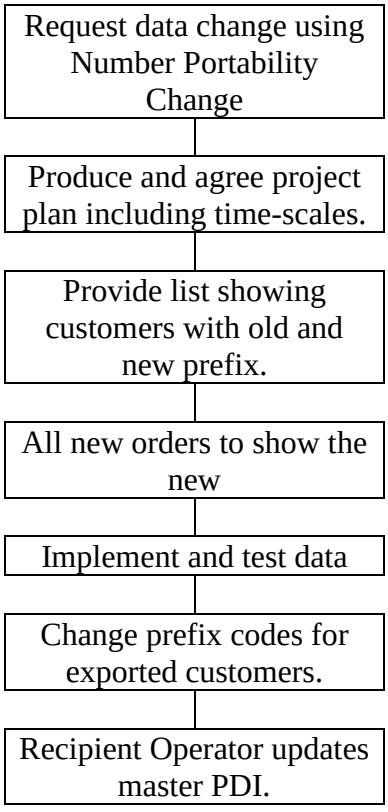



Figure 5 - Recipient Operator requests change to Exported Customer(s) Prefix.

## 7.0 INTRODUCTION OF A NEW SWITCH

The introduction of new switches into areas with an existing number portability service agreement could involve many different scenarios. These will depend on the reason for introducing the new switch and the way number portability has been established.
Examples include:

- New Interconnect required.
- Re-parenting prefixes from the existing switch to the new switch.
- Moving working ported lines between switches (i.e. changing prefixes per customer).

All possible permutations/combinations are too numerous to analyse in detail but the main areas to be considered are shown below:

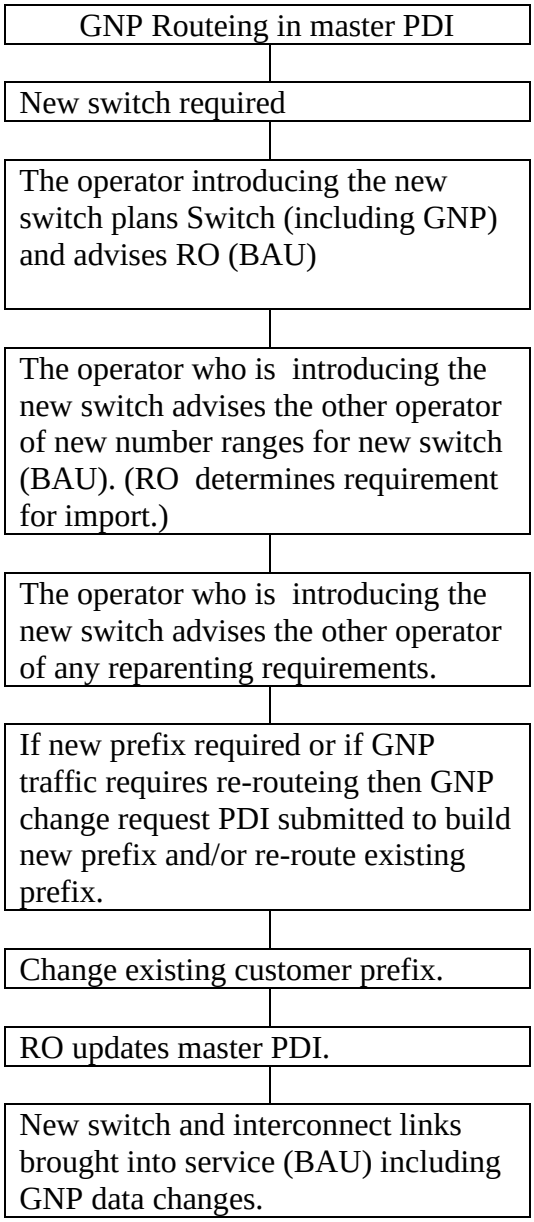



Figure 6 - Introduction of a New Switch

## 8.0 PROVISION OF A NEW INTERCONNECT LINK

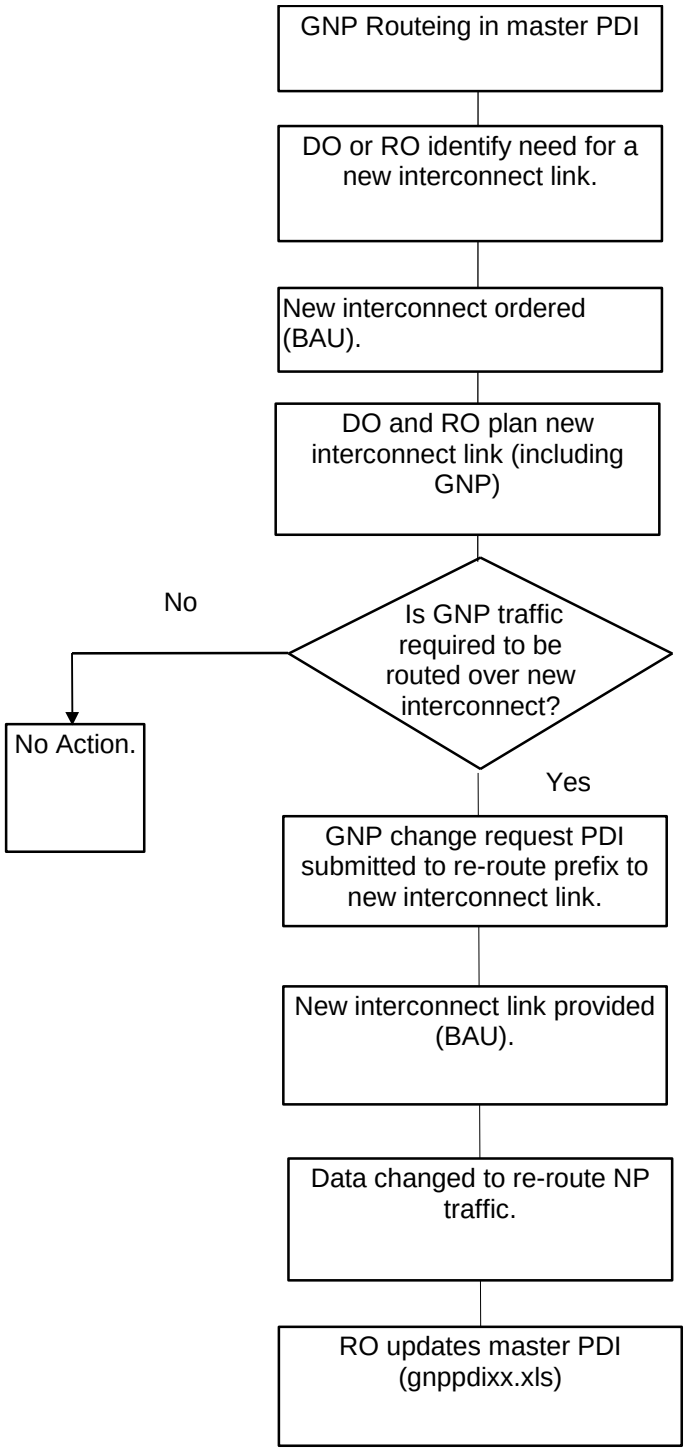



Figure 7 - Provision of a New Interconnect Link.

## 9.0 ALTERNATIVE SERVICE ESTABLISHMENT AND MAINTENANCE PROCESSES.

Two alternative Service Establishment and Maintenance Processes have been developed. They both encompass the Technical Principles of this document and the GNP HLSD, and may be used by bilateral agreement between pairs of Operators. In the absence of any such agreement then the Service Establishment and Maintenance Processes as detailed in this document shall be the default processes that shall be used.

Note however that there may be an overriding need as imposed by the EU ND and subsequent legislation and Licence conditions to complete these arrangements in reduced timescales.

GNP Fast Track Process – GNP FTP Process.doc

GNP Prefix On Demand – GNP PoD Process.doc

Each of these alternative Processes has been documented independently of this section of the GNPE2EPM.

10.0 GNP APPENDICES

10.1 App B1-GNP Planning Request Form

10.2 App B2-GNP Switch Types

10.3 App B3-GNP SE & M Issues

10.4 App B4-GNP Generic FTP Input

10.5 App B5-GNP FTP Process

10.6 App B6-GNP PoD Process

10.7 App B7-GNP-HLSD

10.8 App B8-GNP PDI

10.9 App B9-GNP PNI

10.10 App B10-GNP Guidance Notes for completing SE Certificate

10.11 App B11-GNP SE Certificate

# 12.0 Service Establishment Process (Non-Geo)

## 12.1 General

The Service Establishment process is detailed from the Recipients point of view (except where the Range Holder / Host has specific tasks). If service is to be established in both directions concurrently it shall be remembered that two processes are run with each Communications Provider acting in turn as both Recipient and Range Holder / Host. The Recipient Communications Provider always drives the process.

The Service Establishment process is divided into a number of stages:

Prerequisites

Initial Contact (exchange of Communications Provider contacts and contracts)

Planning (route planning, forecasting, preparation for testing)

Network Databuild (Communications Providers build OLO porting prefixes and Non-Geographic Number ranges)

Engineering Testing (end-to-end engineering testing)

Operational Readiness Testing (end-to-end administration and porting tests)

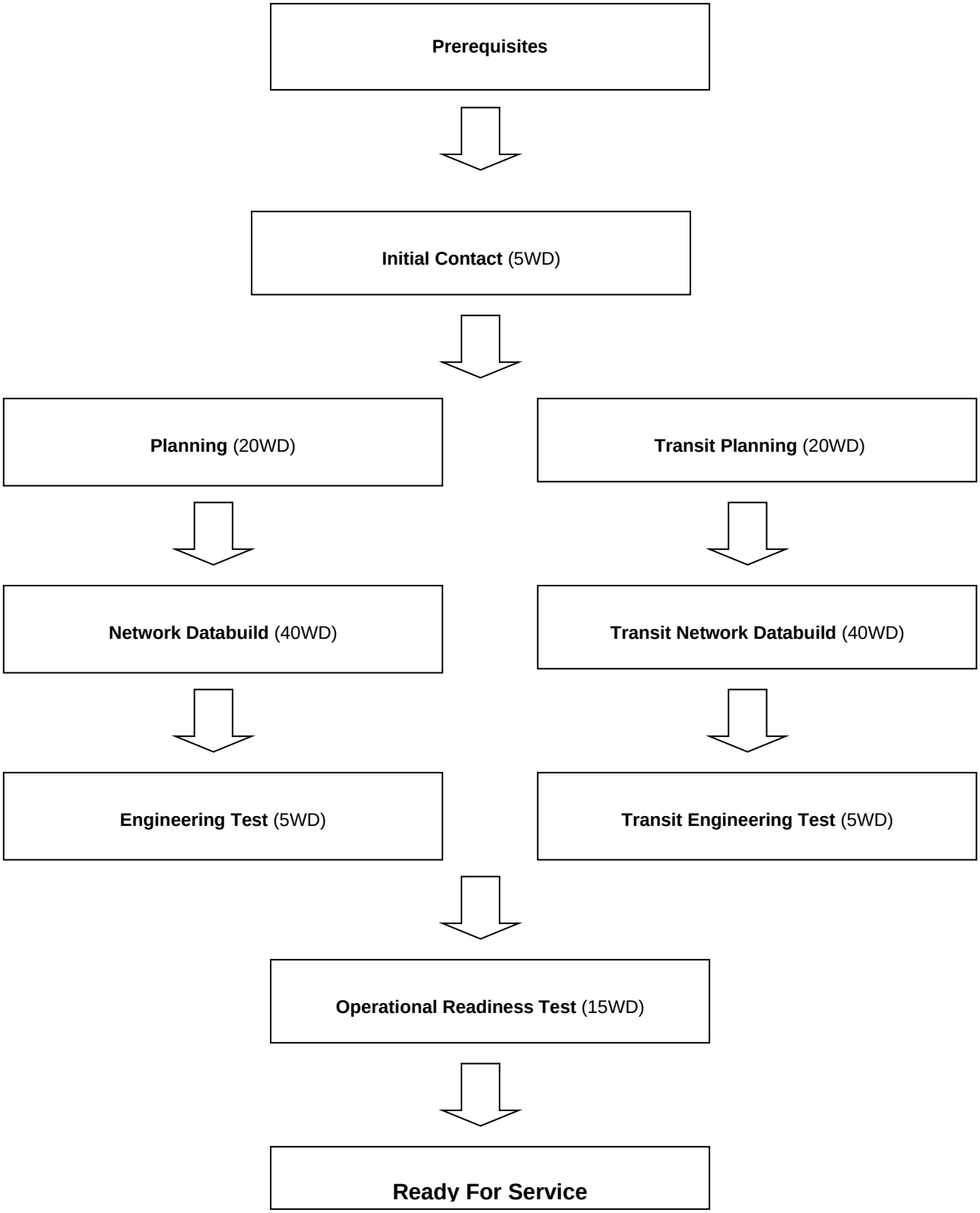



Figure 8 – Service Establishment Process Flow

### 12.2 Prerequisites

Before commencing Non-Geographic Number Portability Service Establishment certain criteria must be met. A Communications Provider must:

Provide an Electronic Communications Network

Operate a current Non-Geographic Numbering Service

Have a Number Portability Prefix Code from Ofcom (see below)

Follow the process documented in this manual

A Number Portability Prefix Code for Non-Geographic Number Portability is obtained from Ofcom. The number is in the format 504XXX for porting directly with another Communications Provider and 505XXX for porting through a Transit Communications Provider.

### 12.3 Initial Contact

The target timescale for this stage is five working days.

The starting point for a Recipient Communications Provider to request NGNP Service Establishment is by contacting the appropriate authority within the other Communications Provider (Range Holder / Host).

The NGNP Establishment Request (PE) form*(App A)* will be used to exchange contact information between Communications Providers. On receipt of a PE form, the Range Holder / Host will send the Recipient a PE form detailing the Range Holder / Host contact details. The Range Holder / Host shall indicate on form PE whether porting should be established in both directions. The Range Holder / Host shall respond to the Recipient within 5 working days.

As part of the contractual process of establishing a porting service the Range Holder / Host will determine the method of delivering ported calls (direct or transited). Where a NGNP Transit Communications Provider is to be used the Range Holder / Host will notify the Recipient of their choice of Transit Communications Provider on the PE form.

To ensure sufficient resources the Range Holder / Host may require forecasts from the Recipient, on an ongoing basis, of volumes of numbers to be ported. This should be considered within the contractual arrangements.

NGNP contracts shall be signed prior to Planning, or at a later stage as agreed by both parties.

### 12.4 Contact Register

Once initial contact has been completed, the Communications Providers should exchange Contact Registers (Appendix B). These forms should be kept up to date and reissued to all Communications Providers with whom a Communications Provider has established service as and when the details change.

### 12.5 Planning Stage

The target timescale for this stage is twenty working days.

The Recipient will need to prepare the following information for the Portability Planning (PP) form (*App C*):

Forecasts of ported traffic per number type.

Forecasts of numbers to be ported (if required by the Range Holder / Host)

A draft routing plan for ported traffic [including Points of Interconnect (POI)]

Planning contact information

A note of the Number Portability Prefix Code (504XXX or 505XXX)

The Range Holder / Host will need to prepare the following information for the Portability Planning (PP) form (and attachments):

A Databuild test Number per Number Portability Prefix Code (will be retained by the recipient for any future tests)

Test numbers for engineering tests

Test numbers for Operational Readiness Testing (ORT)

A draft routing plan for ported traffic (including Points of Interconnect, POI)

Planning contact information

The Planning stage commences when the Recipient sends the Range Holder / Host the Portability Planning form (PP), forecasts and routing plan.

A Transit Communications Provider, if used, shall need the following:

A Databuild request

A signed contract

An agreed routing plan

A Forecast of traffic volumes

A note of the Number Portability Prefix Code for Transit (505XXX)

A planning meeting (which may benefit from including the Transit Communications Provider) is organised by the Recipient, as required, via the Service Establishment contact shown on the PE form. Communications Providers should ensure that a person with technical authority is in attendance. The planning meeting will finalise details. The PP may be changed at this meeting. The date(s) for Engineering Test should be agreed at the planning meeting.

All parties shall work toward agreeing a plan that meets the twenty-day target. The PP form, with attachments, is agreed when signed-off by both parties. The Recipient shall allocate a unique reference to the agreed plan. This completes the planning stage.

### 12.6 Network Databuild

The target timescale for this stage is forty working days.

The Databuild stage commences when both parties sign the PP form.

The Range Holder / Host will build the Recipients Number Portability Prefix Code into the Range Holder / Host network.

The Recipient will carry out databuild and any other tasks as necessary to allow porting in of the Range Holder / Host's numbers.

The Range Holder / Host will confirm that databuild is complete by re-sending the PP form with the appropriate Section B fields completed.

Any databuild by the Transit Communications Provider will happen concurrently with the above and should be similarly signed off.

### 12.7 Engineering Test

Once the databuild is completed, a set of tests described in the Service Establishment Test Schedule shall be carried out to prove the routing of calls between the networks. Schedule is located at the following url: http://www.magrathea-telecom.co.uk/industry_porting.htm

A Transit Communications Provider will test only that a call that is received from the Range Holder / Host (with the appropriate Number Portability Prefix Code) is delivered correctly to the Recipient Communications Provider.

Successful completion of the tests constitutes the end of the Test stage. Both Communications Providers need to sign-off the Databuild and Test Certificate. Failure to pass the tests listed in the Service Establishment Test Schedule may require the need for retest, possibly extending beyond the five days allowed for Testing.

### 12.8 Operational Readiness Testing

The target timescale for this stage is fifteen working days.

Communications Providers should not enter Operational Readiness Testing without first having successfully tested their internal systems and processes. Operational Readiness Testing should not be seen as a method of training the porting desk.

The Recipient will determine the extent of the testing, after discussion with the Range Holder / Host Communications Provider. The purpose of this testing is to ensure that order handling and repair can successfully be supported between the two Communications Provider (see ***13***)

A standard Operational Readiness Test is illustrated in section *13*.

A separate set of process tests will be carried out for each direction of porting.

The test numbers must be delivered to a test announcement to enable ports to be checked.

Each Communications Provider, as a Range Holder / Host, will also test and confirm that their support processes properly recognise the porting-out of a number. Similarly, each Communications Provider, as a Recipient, will also test and confirm that their support processes properly recognise the porting-in of a number.

The test schedule for the Process Testing is defined in ***13.10***. Process testing should usually take 15 working days, however, failure to meet in full the success criteria defined in ***13.9*** will require additional tests, possibly extending beyond the original 15 working days.

Upon successful completion of Operational Readiness Testing the Recipient will issue the Range Holder / Host with a certificate of conformance (shown at Appendix L).

A Transit Communications Provider shall not be involved in Operational Readiness Testing.

### 12.9 Ready for Service

Once the Databuild and Test and Operational Readiness Testing certificates have been signed-off by both Communications Providers, Non-Geographic Number Portability is ready for service.

### *12.10 Service Establishment Checklist*

| NGNP SERVICE ESTABLISHMENT CHECKLIST | | |
|---|---|---|
| Action | Notes | √ |
| **PREREQUISITES** | | |
| Read NGNP process Manual | | |
| Select Direct or Transit Porting | | |
| Apply to Ofcom for Number Portability Prefix Code(s) | | |
| **INITIAL CONTACT** | | |
| Send Contracts to Communications Provider∅ | | |
| Send Planning Request to Communications Provider | Form PE | |
| Receive Planning Request from Communications Provider | Form PE | |
| Receive signed contracts from Communications Provider∅ | | |
| **PLANNING** | | |
| Arrange Planning Meeting with Communications Provider | | |
| Send Contact Register to Communications Provider | Form PC | |
| Receive Contact Register from Communications Provider | Form PC | |
| Establish traffic forecast per no type | | |
| Ensure routing plan is current | | |
| Set up test numbers | | |
| Send Planning Information to Communications Provider | Form PP | |
| Send Test Numbers to Communications Provider | | |
| Send Traffic forecast to Communications Provider | | |
| Send routing plan to Communications Provider | | |
| Receive Planning Information from Communications Provider | Form PP | |
| Receive Test Numbers from Communications Provider | | |
| Receive Traffic forecast from Communications Provider | | |
| Receive routing plan from Communications Provider | | |
| Attend Planning Meeting with Communications Provider | | |

| | | |
|---|---|---|
| Agree and sign off PP | | |
| Agree databuild and test dates with Communications Provider | | |
| **NETWORKS DATABUILD** | | |
| Perform Databuild | | |
| Send Databuild Acknowledgement to Communications Provider | Form PP | |
| Receive Databuild Acknowledgement from Communications Provider | Form PP | |
| **ENGINEERING TEST** | | |
| Test Porting Capability with Communications Provider (reciprocal) | | |
| Send Engineering Test Certificate to Communications Provider | | |
| Receive Engineering Test Certificate from Communications Provider | | |
| **OPERATIONAL READINESS TESTING** | | |
| Perform ORT with Communications Provider | | |
| Send ORT certificates to Communications Provider | | |
| Receive ORT certificate from Communications Provider | | |
| **READY FOR SERVICE** | | |

**Figure 9 - Service Establishment Checklist**

## 13.0 Operational Readiness Test Schedule

### *13.1 Purpose*

This section describes a test schedule for the evaluation of the Non-Geographic Number Portability Order Handling Process as defined by this End-to-End Process Manual.

### *13.2 Scope*

This schedule provides Communications Providers with experience of various porting scenarios that may occur and will test the administrative processes between the two Networks. The actual porting functionality is also tested, by means of a 'real' port; giving Communications Providers the chance to fully test their porting and accounting capabilities. Communications Providers may elect to add or subtract tests as necessary. At the end of the process each Communications Provider will be awarded a certificate to say that they have completed ORT. This certificate is intended to assure other Communications Providers that the holder has completed ORT at least once. This certificate is not a guarantee of any level or quality of service.

### *13.3 Testing*

Although testing needs to be performed in each direction, with each Communications Provider acting in turn as Range Holder / Host and Recipient, testing in both directions need not be carried out simultaneously.

A total of three accounts will be available for use during testing. Orders will be generated against these accounts using the details provided and adding appropriate information as required by the test schedule.

Communication Providers will agree what number ranges (03, 08 or 09) will be used for the ORT.

To help prove the whole Order Handling Process some Orders will be deliberately changed to induce certain faults. These changes are clearly marked in the text on the test schedule.

### *13.4 Timescale*

The account order flow has been based on a 19-day period, consisting of 15 working days, and 4 weekend days. The table showing the account flow has been designed to start on a Monday. There are no specific dates included; these can be entered by Communications Providers as appropriate.

### *13.5 Review*

At the end of the testing and, if necessary, at appropriate points throughout, the results will be compared with the expected results and agreement will be reached on the nature and ownership of any problems encountered. The overall success criteria are defined at 0.

### *13.6 Test Details*

Testing will be performed using up to a maximum of three accounts. The Range Holder / Host will provide the following details on the the Non-Geographic Number Portability Establishment Request Form (PE)

13.7 App.B - Non-Geographic Number Contact Register Form (PC)

13.8 App.C - Non-Geographic Number Portability Planning Form (PP)

13.9 App.D - Non-Geographic Number Portability Order Forecast Form (PG)

13.10 App.E - Non-Geographic Number Portability Order Form (PO)

13.11 App.F - Notes on Non-Geographic Portability Order Form

13.12 App.G - Non Geographic Number Portability – Bulk Port Order Form (PB)

13.13 App.H - Non-Geographic Number Portability - Porting Failure Form (PF)

13.14 App.J - Non-Geographic Number Portability - PAP Form (PA)

13.15 App.K - Non-Geographic Number Portability Certificate - Engineering Testing

13.16 App.L - Non-Geographic Number Portability Certificate - Operational Readiness Testing

13.17 App.M – New CLoA (Customer Letter of Authorisation)

13.18 App.N - NGNP Industry Agreed SLAs

13.19 App.P - NGNP Service Establishment Test Schedule

13.20 App.R-Non-Geo SE ORT-Test Matrix-v1

Telephone number(s)

Customer's account number

Customer's name (it is suggested that this be in a format that will be acceptable for raising faults)

Customer's address (can be the same for all accounts)

Various test scenarios have been agreed to prove that each Communications Provider will be able to correctly process orders as per the End to End process. It is recognised that it would be impractical to test every possible scenario for order handling that can exist; however, the aim of these tests is to simulate the majority of the scenarios that may be encountered in normal day-to-day operation of the order handling process.

Once the testing schedule has been completed successfully, all accounts must be returned to the Range Holder / Host.

If in any of the scenarios actual errors are encountered then the scenario should be changed to take account of these i.e. if a provide order is sent with an error, the order should be rejected even if the ORT grid states that the order should be accepted.

Orders should be acknowledged using the normal timescales for response. The Accepts/Rejects in the ORT test script are for guidance only; each order should be validated using normal practices.

After the successful porting of account 1 the Recipient Communications Provider will pass details of the new account to the Range Holder / Host so that Return to Range Holder / Host orders can be completed.

If Premium Rate Service (PRS) numbers will be ported between the two Communications Providers it is recommended that test account 1 is used. This test account reflects issues that may occur in day-to-day PRS porting.

### *13.21 Account 1 - Single Number*

Provide sent on day 1 with no errors and untimed. The port is dated for day 6. Accepted by day 2. Port takes place on morning of day 6 after 00:00 and before 04:00.

On day 9, a Return to Range Holder / Host is sent with no errors, dated for day 14. Accepted by day 10. Ports back on morning of day 14 after 00:00 and before 04:00 to Range Holder / Host.

**Purpose**: To prove that a Provide Order (dated) and a Return to Range Holder / Host (dated) can be successful.

Account 2 - Multiple Numbers

Multiple Number Provide sent on Day 1, timed at 09:00 and dated for Day 6. Accepted by day 3.

**Induced Error**: The Range Holder / Host instead of building a Port actually ceases the number for Day 7 at 09:00.

Gaining Communications Provider checks the success of the Port on Day 7 to find the number faulty. The Gaining Communications Provider sends a Porting Failure (PF) form to the Range Holder / Host, requesting Emergency Restoration of the number (also making a courtesy phone call first). The Range Holder / Host must respond to the request within one hour of receiving the form.

After restoration the Gaining Communications Provider submits a change request timed at 09:00 for Day 9. Accepted by Day 8, number ports on Day 9.

On Day 10 the Gaining Communications Provider sends a Cease request, accepted by Day 15.

**Purpose:** To prove that the Gaining Communications Provider can order multiple numbers, at a specific time. The Gaining Communications Provider proves that they know how to use the

Emergency Restore process using the PF form and is able to place a multiple cease. (Note the PF would normally request a translation check before going to Emergency Restore, but in the case where restoration of service is paramount it is accepted practice to by-pass the translation check and go straight to Emergency Restore.)

### *13.22 Account 3 - Single Number*

Provide sent on day 2 with no errors and untimed. The port is dated for day 9. Accepted by day 3. Change sent on day 6 moving port to day 12. Accepted by day 7. Cancel request sent on Day 10. Accepted by Day 11.

**Purpose:** To prove that a dated port can be changed and cancelled before the day of port correctly

### *13.23 Success Criteria*

Entry criteria

That there is an existing interconnect or transit agreement between the two Communications Providers

Successful completion of the Databuild and Test stage of NGNP Service Establishment

Appropriate details as discussed in paragraphs 0 and 0 have been exchanged.

General exit Criteria. As a minimum, the agreed tests (as specified in **Error! Reference source not found.**) must have been carried out. This implies the following:

| | |
|---|---|
| 1 | A NGNP number can be ported to another Communications Provider and the call received at the new destination number (whether directly or indirectly connected): A standard Provide order can be submitted and accepted by 17:00 on the third working day from the original order date.<br>A call of an acceptable quality, can be made to the ported destination after the scheduled port date |

| | |
|---|---|
| 2 | An order can be Emergency Restored after port date: A multiple timed Provide order can be submitted and accepted by 17:00 on the third working day from the original order date. A PF form can be used correctly and responded to within one hour and that service can be Emergency Restored.<br>A change order can be submitted after ER. An acknowledgement of the order can be returned by the same time, next working day. The changes are carried out and a call of an acceptable quality can be made to the ported destination numbers after the scheduled port date.<br>A cease order can be submitted and successfully completed. Returning the number to the Range Holder / Host. |
| 3 | An order can be changed prior to port date: A standard Provide order can be submitted and accepted by 17:00 on the third working day from the original order date.<br>A change order can be sent without errors. An acknowledgement of the order can be returned by the same time, next working day.<br>A cancel order can be sent without errors. An acknowledgement of the order can be returned by the same time, next working day. |

Figure 10 - ORT Success criteria

### *13.24 Operational Readiness Testing – Test Matrix(App R)*

## 14.0 Non- Geo Appendices

14.1 App.A - Non-Geographic Number Portability Establishment Request Form (PE)

14.2 App.B - Non-Geographic Number Contact Register Form (PC)

14.3 App.C - Non-Geographic Number Portability Planning Form (PP)

14.4 App.D - Non-Geographic Number Portability Order Forecast Form (PG)

14.5 App.E - Non-Geographic Number Portability Order Form (PO)

14.6 App.F - Notes on Non-Geographic Portability Order Form

14.7 App.G - Non Geographic Number Portability – Bulk Port Order Form (PB)

14.8 App.H - Non-Geographic Number Portability - Porting Failure Form (PF)

14.9 App.J - Non-Geographic Number Portability - PAP Form (PA)

14.10 App.K - Non-Geographic Number Portability Certificate - Engineering Testing

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14.12 App.M – New CLoA (Customer Letter of Authorisation)

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