E.164 numbering plan management and assignment practices in CEPT countries

Based on a survey of CEPT Member Countries

Prepared by: CEPT/ECC Working Group Numbering & Networks

29 November 2018
FOREWORD

The ECC’s Working Group Numbering and Networks (WG NaN) is responsible for developing policies in numbering, naming and addressing and advising on technical regulatory matters to promote and support innovation and competition in electronic communications.

The landscape for electronic communications has changed fundamentally in the last decade and numbering plan administrations (NPAs) in CEPT countries have had to reconsider their policies for assigning E.164 numbering ranges for new and innovative services. The growth of the M2M/IoT market, a strong consumer preference for mobile over fixed service offerings, an increasing use of E.164 numbers on an extra-territorial basis and the rise in popularity of Over-The-Top (OTT) services as a primary means of communications are trends that have informed discussions on numbering and assignment practices in recent years.

In order to take stock and to assess the impact of these trends on national numbering plan management, the WG NaN Strategy Forum Group (SFG) proposed to WG NaN that a questionnaire should be circulated to gather relevant comparative numbering plan management information. The reaction to the survey was very positive with 22 Countries responding to the questionnaire including Austria, Bulgaria, Croatia, Denmark, Finland, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Norway, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, Switzerland and the United Kingdom. The responses to the questionnaire were gathered between February and April 2018. Follow-up information was provided by some countries until July 2018.

It was considered by the SFG that this information would prove very beneficial for many NPAs in their daily activities. Moreover, the information may also be of interest to relevant industry stakeholders within the electronic communications sector and WG NaN has therefore decided to make it publically available to all interested parties.

I hope that you find the information a useful reference that will benefit your daily work and future activities. I also hope that the publication of the findings of this comparative information on differing approaches to numbering plan management and assignment practices in the CEPT area will spark further discourse between regulators and the industry on identifying areas for further harmonisation where appropriate.

WG NaN will endeavour to periodically review the contents of this document so that it remains a relevant and useful resource for regulators and market players.

Johannes Vallesverd, Chairman WG NaN
29 November 2018
E.164 numbering plan management and assignment practices in CEPT countries – September 2018

SECTION A - CRITERIA CONSIDERED BEFORE AN APPLICATION IS PROCESSED (QUESTIONS 1 - 7)

Question 1: In your country, is an applicant for E.164 numbering resources required to complete an authorisation/registration process before numbering resources can be applied for? If yes, please briefly describe the process in the "Remarks" field below.

Summary of additional remarks in response to Question 1
- 19 respondents to Question 1 require a prior authorisation or registration from the applicant which describes the services to be provided. In most cases this is a simple notification or self-declaration procedure and, for EU Member States, is largely based on the Authorisation Directive.
- In some non-EU CEPT member countries a license is required to provide services and rights of use of numbers will only be granted to licensees.
- In some other countries there is an administrative fee for the authorisation/registration process while in most countries there is no fee.
- Some countries have different categories under which an undertaking needs to be authorised. For example, providers of public telephone services, providers which install, operate and give access to electronic communications networks that are used for the provision of such services, or providers of transmission capacity (e.g. leased lines).
- Once an undertaking is authorised/registered or licensed, they may then apply for numbering resources but must meet the eligibility criteria defined for the category of numbers in question.
- For certain categories of number (e.g. short codes) a prior authorisation/registration is not required in some countries.
- One country which answered "No" clarified that while there is no prior requirement for authorisation/registration before applying for numbers there is a notification obligation for commercial network operators and service providers intending to offer publicly accessible electronic communications services prior to offering such services. It is therefore decoupled from the numbering application procedure.

Question 2: Are there any differences in formal application criteria related to the different E.164 categories and what are the main differences? If yes, please provide details for each category below.

Numbers for fixed-line services (including with geographical significance)
In general, the formal application criteria are similar for most numbering ranges but in the majority of CEPT countries numbers are associated with services and the service description given during the authorisation/registration/licensing process will be considered for the different numbering types applied for. For example fixed line numbers are assigned only to undertakings offering a fixed line service. There are different approaches to considering applications for numbers for fixed line services depending on future plans for the evolution of the national numbering plan. For example, in one country “traditional” fixed line operators will no longer be assigned fixed line numbers unless there are justifiable reasons to do so. In another country users of fixed network services formerly limited to geographic National Dialling Codes (NDCs) may use them countrywide. In addition one numbering range with no geographical significance is available for corporate networks operating offices in different NDCs. Other requirements for applying for numbers for fixed-line services include:
- Evidence of having a valid interconnect agreement with another undertaking.
- Billing details need to be provided when applications are received for numbers which are subject to an assignment/usage fee.
- A description of the technical solution proposed to provide the service to ensure the fixed characteristic of the
service (e.g. Location of Network Termination Point or details of the National Signalling Point Code (NSPC) of the switch on which the numbers would be provisioned) in the geographic area defined by the prefix defined in National Numbering Plan.

- An assertion from the applicant that the numbers will be put in service within a given timeframe (e.g. within 12 months).
- A demonstration/assertion that certain obligations will be met (e.g. Number Portability).

Mobile Numbers

With mobile numbers, the approach is similar in that the service description given during the authorisation/registration/licensing process will be considered while additional considerations will also be taken into account. For example:

- The applicant needs to be a MNO with a radio frequency license for the provision of mobile services or an MVNO which has concluded an agreement with an MNO to use licensed frequencies. The spectrum (frequencies) used and the licensee of the spectrum assignment may need to be provided in the application.
- Such conditions may also apply to an application for an E.212 Mobile Network Code (MNC) in some countries.
- An assertion from the applicant that the numbers will be put in service within a given timeframe (e.g. within 12 months).
- A demonstration/assertion that certain obligations will be met (e.g. Number Portability, Provision of caller location information for emergency calls).

M2M numbers

In the majority of CEPT countries no dedicated numbering range for M2M has been specified and in many cases fixed and/or mobile numbers are used. In such cases the relevant eligibility criteria for those specific numbering types would apply. In addition, the following requirements may also apply in some CEPT countries:

- In at least one country, providers of M2M services are considered as end-users of the numbers and are therefore not subject to an authorisation/registration/licensing regime to be eligible for numbers.
- In another country the same conditions apply as for mobile numbers with an additional obligation to notify the NPA regarding the extra-territorial use of the numbers if such use is intended.

Other non-geographical numbers

In response to this particular category of numbers a broad range of requirements for different non-geographic numbering types was provided:

- Numbers for Freephone and Premium Rate Services (PRS) are subject to the same authorisation/registration/licensing regime. In many CEPT countries the regime for PRS numbers is more onerous to ensure an adequate level of consumer protection. For example, full name, address and date of birth of each company director, certificate of incorporation, trading name etc. must be provided.
- In some CEPT countries non-geographic numbers such as short codes may be allocated to authorised undertakings on behalf of content providers (e.g. 116xyz for services of social value). Other short codes (e.g. for SMS/MMS value-added services) may be assigned directly to the content providers and the application criteria may differ.
- In other CEPT countries, such short codes may be assigned directly to the content provider.
- In many CEPT countries tariff principles such as maximum fees apply to certain numbering ranges within the non-geographic category (e.g. Freephone should be free to the caller and PRS numbering ranges may have maximum tariff ceilings per range).
- In at least one country a numbering range for nomadic services requires the applicant to be registered for the provision of a nomadic phone service.

Are there any other formal criteria to be aware of?

- In at least one country numbering assignees need to be registered with the national Police.
- In another country, applicants for number blocks for short-term mass calling services and applicants for call-by-call numbers (only companies) have to prove their ability to provide such services.
- Applications for 116 short codes for harmonised services of social value require a supporting authorisation from the competent Ministry.
- The following links to additional requirements were provided by two countries.
**Question 3:** Is an applicant for E.164 numbering resources required to have physical presence in your country?

![Diagram showing distribution of physical presence requirements among CEPT countries.]

**Summary of additional remarks in response to Question 3**

Only three CEPT countries require a physical presence to qualify for an assignment of E.164 numbers whereas seven countries require only a point of contact. It is possible to apply for numbers in 12 CEPT countries without having any kind of presence in those countries. In all cases the requirements for each numbering type applied for would be applicable to foreign applicants.

**Question 4:** Does an applicant need to have an organisation/company number or tax number/tax number for foreign companies or similar? If yes please provide details in the “Remarks” field below.

![Diagram showing distribution of organisation/company number/tax number requirements among CEPT countries.]

**Summary of additional remarks in response to Question 4**

Nine countries do not request a company number or tax number/tax number for foreign companies in the numbering application procedures while 12 countries do have some requirements. Some respondents did state that a company number or tax number/tax number for foreign companies is requested during the authorisation/registration/licensing process but not specifically during the numbering application process. One respondent stated that such requirements apply to EU/EEA Member States while another respondent stated that the requirement only applies to non EU/EEA countries. At least two respondents clarified that for a foreign company, a company registration number from the applicant’s home country is required. Another country stated that the requirement is not specific to numbering but a more general requirement to any business operating within that particular country for company law and tax purposes.
**Question 5:** For CEPT countries that are EU/EEA member states, is it sufficient that the provider is registered in another EU/EEA country?

![Diagram showing responses to Question 5]

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td>No, a point of contact (e.g. legal representative) is still required</td>
<td>13</td>
</tr>
<tr>
<td>No, physical presence is still required</td>
<td>5</td>
</tr>
<tr>
<td>Not applicable</td>
<td>4</td>
</tr>
<tr>
<td>Six countries still require a point of contact while two countries still require a physical presence. In a further four countries, EU/EEA membership is sufficient for applicants to apply for numbers without having a contact point or physical presence.</td>
<td></td>
</tr>
</tbody>
</table>

**Summary of additional remarks in response to Question 5**

This question is a follow up to Question 3. Six countries still require a point of contact while two countries still require a physical presence. In a further four countries, EU/EEA membership is sufficient for applicants to apply for numbers without having a contact point or physical presence.

**Question 6:** What is the process for making an application for E.164 numbering resources?

![Diagram showing responses to Question 6]

<table>
<thead>
<tr>
<th>Process</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill in a form and submit electronically</td>
<td>13</td>
</tr>
<tr>
<td>Fill in a hard copy form and submit by post</td>
<td>10</td>
</tr>
<tr>
<td>Fill a form online and submit electronically</td>
<td>5</td>
</tr>
<tr>
<td>Other (please provide details in the “Remarks” field below)</td>
<td>10</td>
</tr>
<tr>
<td>- Many of the respondents selected multiple methods describing the process for making an application for E.164 numbering resources. There would appear to be a trend of moving to electronic formats using email and also the submission of online forms in order to reduce the bureaucratic burden.</td>
<td></td>
</tr>
<tr>
<td>- One respondent is currently in the process of developing an online numbering application system while another respondent clarified that the application form may be completed and sent electronically to facilitate processing but that the original hard copy must still be sent to the NPA.</td>
<td></td>
</tr>
<tr>
<td>- Some relevant national authorities still facilitate forms to be completed or submitted in person at the authority’s office. Two respondents also stated that the process may vary for the different categories of numbers. For example, geographic numbers can be applied for in electronic format but this may not apply to other numbering types.</td>
<td></td>
</tr>
<tr>
<td>- In one country, there is no specific form for applying for numbers so the process is more informal.</td>
<td></td>
</tr>
</tbody>
</table>

**Summary of additional remarks in response to Question 6**

**Question 7:** Can an end-user apply directly for E.164 resources? If yes to any of the categories below, please provide additional information in the “Remarks” field.

![Diagram showing responses to Question 7]
Summary of additional remarks in response to Question 7

- This question was put to the respondent for each category of numbers i.e. Numbering for fixed services, mobile, M2M and non-geographic hence the large number of responses reported in the chart above. In almost all cases it is not possible for an end-user to apply for numbers. A few cases were reported where it is possible and these all fall under the non-geographic numbering category.
- In some countries it is possible for an end-user to apply for an individual freephone, shared cost or premium rate number. 5-digit short codes (for valued added services) can be applied for by end-users in at least one country and applications for 6-digit numbers beginning 116xyz may be applied for by end-users in at least two countries.
- It should be noted that the eligibility criteria and conditions of use would still apply.

SECTION B - UTILISATION THRESHOLDS, ACTIVATION TIMEFRAME, RECYCLING AND QUARANTINE (QUESTIONS 8 - 14)

**Question 8:** When an application for E.164 numbering resources is received from an entity with existing assignments, do you analyse the resource utilisation of any previously assigned ranges before making a decision? Utilisation threshold is defined as the amount of numbers that are in use within a range, out of the total previous assigned ranges to the same applicant within the category.

Summary of additional remarks in response to Question 8

Question 8 was a straight “yes” or “no” question with further analysis in Question 9. 15 of 22 respondents analyse the resource utilisation of any previously assigned ranges before making a decision.

**Question 9:** If yes to Question 8, can you briefly describe the utilisation thresholds (in %) that need to be achieved for the different categories of E.164 numbers? Please provide the utilisation threshold for each category of E.164 numbers.

**Typical resource utilisation thresholds**

- Most respondents who answered “yes” to Question 8 have set resource thresholds for all numbering types that range between 50 and 75% with one respondent stating that the threshold is greater than or equal to 75%. For mobile numbers, the threshold is set at 80% in at least one country.
- One respondent stated that numerical utilisation thresholds are not set but the utilisation rate of existing number assignments is taken into account when assessing applications, along with other information such as forecasted number use, business plan etc.
- Similarly, another respondent stated that utilisation thresholds are not specified but that whenever an application for additional number blocks is received, an assessment is carried out to take into consideration free capacity of previously assigned number blocks (both in percentage and absolute terms) and/or justifications given by the applicant for the requested assignment of additional numbering ranges.
- Another respondent stated that 30% of numbers must be used within the first six months after the assignment is made.

**Question 10:** Based on your response to Question 8, where are these utilisation thresholds defined?

![Pie chart showing utilisation thresholds definitions](image)

**Summary of additional remarks in response to Question 10**
- Utilisation thresholds are formally defined in regulations in 12 CEPT countries.
- In at least two CEPT countries, the utilisation threshold is not formalised but has been set internally for guidance.
- 2 further CEPT countries define utilisation thresholds in application guidelines and in the application form respectively.

**Question 11:** Do you require an assignee to activate/provision the assigned numbering resource within a certain period of time? If yes, can you describe the rules in the "Remarks" field below?

![Pie chart showing number of respondents](image)

**Summary of additional remarks in response to Question 11**
- 20 respondents stated that assignees must activate assigned numbering resources within a given timeframe.
- The most common timeframe given was 6 months or 180 days (7 countries) with one respondent clarifying that at least one number from a newly-assigned block must be in service within 6 months and another respondent clarifying that the newly-assigned range needs to be provisioned on the networks within 6 months.
- Six respondents require numbers to be activated within one year (or 12 months). One respondent also has a requirement that the NPA must be notified within 30 days after activation. Another respondent clarified that if...
the numbering range is question has been transferred from another operator it must be activated within three months.

- Two respondents allow two years for the activation of newly-assigned numbering resources with one of these respondents clarifying that not less than 75% of the range needs to be in use within this timeframe.
- Two further respondents require numbering resources to be activated within three months (or 90 days).
- Yet another respondent provided their definition of what is meant by “in use” stating that a number is being used when it is properly activated in a public telecommunications network and upon dialling the number the service related to the number is provided or the function of the number is carried out. When no use is planned within twelve months of the assignment date or the date on which the number was last used, numbers must be returned to the NPA.
- One respondent requires numbering resources to be activated within nine months noting that additional assignments to the same assignee do not have this requirement.
- Another respondent has more specific requirements regarding activation stating that there are no timeframes applicable for the assignee to assign numbers to end-users, however maximum timeframes are applicable for configuration purposes with other service providers as follows: (a) 50 working days for applications related to new numbers/number blocks; (b) 22 working days for applications related to additional number blocks; and (c) 35 working days for applications related to short codes. Extensions to these timeframes may be requested by the applicant and these requests will be considered by the NPA on a case-by-case basis.
- Other respondents noted that they have different activation times for different categories of numbers. For example:
  - Short codes should be activated within three months (or one year in the case of another respondent).
  - Harmonised short codes for services of social value within 180 days.
  - Numbers for short-term mass calling services, numbers for directory enquiries and call connect services within 90 days (one respondent).
- The following additional information was provided by one respondent: When issuing a decision assigning numbering resources, the application must contain the information that the NPA requires to maintain an official register of beneficiaries of decisions assigning numbering resources and to oversee the use of numbering resources, in this case: - a project that includes a plan of the assessment of needs for the next three years, if the applicant is requesting a larger block of numbers.

**Question 12:** Is there a requirement on assignees to recycle numbers?

**Summary of additional remarks in response to Question 12**

Question 12 was a straight “yes” or “no” question with further analysis in Questions 13 and 14. 10 of 22 respondents have requirements for assignees to recycle numbers.

**Question 13:** If yes to Question 12, can you describe the rules, e.g. what criteria are used to determine if a number is not in use and can be reclaimed?

**Question 14:** If yes to Question 12, how long is the period of quarantine before a number can be provided to a new subscriber?
As per the responses to Question 12, 10 respondents have recycling policies. Here is a summary of the information received including on the recycling rules (Question 13) and the period of quarantine defined (Question 14):

- The recycling of numbers is good numbering plan management policy as it leads to more efficient use. In this regard at least six respondents stated that they do not have specific requirements around recycling other than the overall general requirement to manage their assigned numbering resources efficiently. In this regard, one respondent considered implementing specific recycling measures but found that the industry was in general compliant with the obligation to manage the resource efficiently.
- Some respondents stated that when a subscriber ceases to use a number, the number in question can be reassigned by the block owner to another subscriber after a period of at least three months. Therefore the number is effectively “quarantined” for 3 months. In the case of ported numbers which are ceased, they are returned to the block owner.
- Another respondent stated that if a number is ported to another operator’s network and is not used anymore, the operator in whose network the number has been ported to can return the number directly to the primary operator.
- One of the above respondents also noted that industry players have different practices. For example, mobile service providers with a high penetration of prepaid customers typically have shorter recycling timeframes in order to maximise efficient use. Another respondent stated that mobile prepaid service providers are obliged to recycle numbers when there has neither been outgoing nor incoming traffic on the number for 24 months.
- Another respondent stated that the quarantine is for a period of 13 months within which time the number shall not be assigned to anyone other than the previous end-user. The quarantine period may be waived if the previous end-user and the new end-user both consent to this in writing, and the holder for the number shall make such end-users aware.
- Other respondents have different timeframes for quarantine ranging from two months (or 60 days) to six months depending on the category of numbers. Some also have provisions that allow the waiving of the quarantine period.

SECTION C - NUMBERING FEES, POLICIES FOR “GOLDEN NUMBERS, NUMBER TRADING, TARIFF PRINCIPLES AND TERMINATION RATES (QUESTIONS 15-26)

Question 15: Do you charge an assignment fee and/or a usage fee for numbering resources?

Summary of additional remarks in response to Question 15

From the responses received, it is clear that only three countries do not impose a fee for numbers while 19 countries do impose an application fee, usage fee or both on assignees. One of the respondents who answered “No” does impose a usage fee on short numbers only. It should be noted that in some countries where fees are not directly imposed the cost of administering the numbering plan is indirectly covered by a levy on the industry as a whole to cover the cost of regulation. Some additional clarifying remarks were provided in response to Question 15:

- One respondent stated that annual usage fees are applicable solely for carrier selection codes and numbers utilised for fixed and mobile telephony services.
- Another respondent only imposes fees for certain geographic numbers in area codes experiencing the greatest
E.164 numbering plan management and assignment practices in CEPT countries – September 2018

Question 16: If yes to Question 15, what is the basis for calculating the fees?

Summary of additional remarks in response to Question 16

- Ten respondents to this question were clear on the basis for calculating fees i.e. based on scarcity, cost-oriented or market-based approach. 10 respondents have a different approach based on a combination of cost/scarcity and market value.
- One respondent stated that fees were revised in 2016 and the primary objective of the exercise was based on a cost neutral approach while at the same time encouraging more resource efficient usage.
- Another respondent stated that the fees should reflect the need to ensure an actual and effective use of numbering resources.
- Yet another respondent stated that the fees are based on scarcity as well as the application of the number. For example, the fees for premium rate numbers are higher than for geographic numbers.
- It should be noted that scarcity covers both short numbers (fewer digits means fewer numbers are available for assignment) and numbering categories that experience high demand irrespective of digit length. One respondent stated that there is an additional fee based on scarcity based on number length and also on economically valuable numbers that are easily to remember. (e.g. numbers with many of the same digits, e.g. 02000 have a higher fee than for example 05348).
- Two respondents use some form of benchmarking in setting the numbering fees while one of these respondents also considers the overall cost of regulation in calculating fees.
- Another respondent specifically includes the actual cost of assigning the number stating that a one-time application fee should cover all the expenses associated with the individually attributable public act (i.e. the assignment) which takes into account time, material, legal and functional supervisory costs.

Question 17: If yes to Question 15, do all numbering categories have the same fee? If no, please provide details of the different categories and the associated one-time/annual fees in the "Remarks" field below.

Summary of additional remarks in response to Question 17
Only one respondent stated that the same fees apply to all numbering categories. The vast majority (19 respondents) have different fees and these are calculated taking into account various characteristics associated with the specific category of number.

The following additional remarks were made:
- One respondent stated that all fixed and mobile numbers have the same fee. No fees currently apply for numbering resources allocated for special tariff services and services accessible via short codes, except for carrier selection codes.
- Three respondents explained the reasoning for the fee structure. For example, economically valuable numbers have higher fees such as freephone and premium rate numbers. In the case of short numbers (where scarcity is greatest) the price is proportionate to the length of the number and certain categories (e.g. NSPC, ISPC, MNC) have higher fees.
- Another respondent stated that the fee for non-geographic numbers is higher than for geographic or mobile numbers.
- Yet another respondent stated that they charge an annual usage fee only for certain geographic numbers (in area codes experiencing the greatest level of scarcity)
- In some countries the one-time application fee is the same for all categories but the usage fee varies across the different categories.
- One country has a higher application fee if the administrative effort in assessing the application is abnormally high.
- 7 respondents provided a summary or a detailed breakdown of the fee schedule which is not reproduced here as the information is not comparative.
- Two respondents provided public links to their respective fee schedules:

**Question 18:** Case Study: In order to illustrate and compare the level of fees across the CEPT area, please calculate an estimate of the “annual fee per number” (in eurocents) that would be charged to an existing assignee for both geographic/fixed and mobile numbers in the table below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Category</th>
<th>Number length</th>
<th>Fee per single no. (eurocents)</th>
<th>Fee per 1m block (euros €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Mobile</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Mobile</td>
<td>9 digits</td>
<td>€0.08</td>
<td>€80,000</td>
</tr>
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<td></td>
<td>Fixed</td>
<td>8 digits</td>
<td>€0.12</td>
<td>€120,000</td>
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<tr>
<td>Croatia</td>
<td>Mobile</td>
<td>9 digits</td>
<td>€0.04</td>
<td>€44,471</td>
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<td></td>
<td>Fixed</td>
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<td>€302,327</td>
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<td>Denmark</td>
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<td>€268,500</td>
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<td></td>
<td>Fixed</td>
<td>10 digits</td>
<td>€0.025</td>
<td>€25,000</td>
</tr>
</tbody>
</table>

1 These figures have been calculated and presented for illustrative purposes only. The actual fees may vary from country to country as the calculation may be more complex than that used for this simple comparison.

2 Germany imposes an application fee only so there is no annual fee. For a block of fixed-line numbers the fee ranges from €30 - €33. Each additional application results in a fee increase ranging from €5.20 - €7.50. The application fee for a block of mobile numbers (or M2M numbers) is €335.
<table>
<thead>
<tr>
<th>Country</th>
<th>Mobile</th>
<th>Fixed</th>
<th>Mobile</th>
<th>Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hungary</strong></td>
<td>9 digits</td>
<td>€0.22</td>
<td>8 digits</td>
<td>€0.22</td>
</tr>
<tr>
<td><strong>Ireland</strong></td>
<td>Not applicable</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>Mobile 10 digits</td>
<td>€0.0111</td>
<td>Fixed 10 digits</td>
<td>€0.0111</td>
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<tr>
<td><strong>Malta</strong></td>
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<td>€0.07</td>
<td>Fixed 8 digits</td>
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<td><strong>Norway</strong></td>
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</tr>
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<td><strong>Latvia</strong></td>
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<td>€0.06</td>
<td>Fixed 8 digits</td>
<td>€0.06</td>
</tr>
<tr>
<td><strong>Poland</strong></td>
<td>Mobile 9 digits</td>
<td>€0.12</td>
<td>Fixed 9 digits</td>
<td>€0.08</td>
</tr>
<tr>
<td><strong>Portugal</strong></td>
<td>Mobile 9 digits</td>
<td>€0.02</td>
<td>Fixed 9 digits</td>
<td>€0.02</td>
</tr>
<tr>
<td><strong>Romania</strong></td>
<td>Mobile 9 digits</td>
<td>€0.0075</td>
<td>Fixed 9 digits</td>
<td>€0.0075</td>
</tr>
<tr>
<td><strong>Russian Federation</strong></td>
<td>Mobile 10 digits</td>
<td>€0.70</td>
<td>Fixed 10 digits</td>
<td>€0.70</td>
</tr>
<tr>
<td><strong>Slovak Republic</strong></td>
<td>Mobile 6 digits</td>
<td>€0.007</td>
<td>Fixed 7/8 digits</td>
<td>€0.002</td>
</tr>
<tr>
<td><strong>Slovenia</strong></td>
<td>Mobile 4-6 digits</td>
<td>€0.0228</td>
<td>Fixed 7 digits</td>
<td>€0.0228</td>
</tr>
<tr>
<td><strong>Switzerland</strong></td>
<td>Mobile 9 digits</td>
<td>€0.017</td>
<td>Fixed 9 digits</td>
<td>€0.017</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>Mobile 10 digits</td>
<td>Not applicable</td>
<td>Fixed</td>
<td>€0.113</td>
</tr>
</tbody>
</table>

**Question 19:** Do you reduce the annual fees for ranges were there are ported out numbers? If no, do you have other arrangements in order to reduce or compensate for ranges with ported-in/ported-out numbers? Please describe in the "Remarks" field below.

**Summary of additional remarks in response to Question 19**
- This question was not applicable to countries that do not impose usage fees for numbers (four respondents).
- The vast majority (15 respondents) who do impose usage fees do not have measures in place to compensate assignees for ranges with ported-in/ported-out numbers.
- One respondent stated that the service provider that receives numbers through number portability should pay

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3 In the UK, charges only apply to numbers in certain geographic areas as a conservation measure where the risk of exhaustion is high.
the original assignee of the block containing these numbers the amount corresponding to the annual fees.
- Another respondent stated that, for mobile and fixed numbers, the NPA asks service providers annually the number of their active subscribers and invoices according to this number.
- Yet another respondent has a similar approach where the usage fee is calculated per month on the basis of assigned, ported-in and ported-out numbers. Fees are billed quarterly.
- A respondent stated that since annual fees are applicable on a per allocated number block basis, ported numbers do not have any effect.
- Finally, one respondent stated that a procedure is in place where compensation can be made via bilateral agreements between service providers without any intervention from the NPA.

**Question 20:** Do you assign numbering ranges that contain ported-out numbers that are active, e.g. from ranges that have previously been assigned, used and withdrawn or handed back to NPA? If yes, please describe the process and rules which apply in the “Remarks” field below.

**Summary of additional remarks in response to Question 20**

- The majority of respondents assign numbering ranges that may contain ported out numbers. In many cases these ranges are assigned under the same conditions as numbering ranges without ported-out numbers.
- In cases where a service provider ceases operations, the NPA may reassign the affected numbering ranges to another service provider. In many cases these ranges will contain ported-out numbers.
- At least three respondents have a policy of assigning such ranges to the service provider to whom most of the numbers have been ported to.
- Another respondent stated that in specific cases the NPA has the power to reassign a number block containing ported-out numbers without the consent of the original assignee.
- Yet another respondent stated that in the assignment decision for a reassigned block it is stipulated that the range contains ported-out numbers, and the ported numbers are either mentioned explicitly in the decision, or the provider is requested to refer to the National Reference Database.
- One respondent stated that a numbering range can only be withdrawn if there was no ported-out numbers in it.
- Finally, one respondent has an exceptional case for ported-out numbers. If the number provider (operator to whom numbers are primarily assigned) ceases to provide services or ceases to exist, the NPA can reassign the ported-out numbers to the recipient’s operator if consent is given. In the event that the recipient operator does not give consent within 8 days, ported-out numbers shall be withdrawn.

**Question 21:** Do you classify any numbers within your numbering plan as “golden numbers” (e.g. easily remembered numbers which may be more attractive to end-users)? If yes, please provide details in the "Remarks" field below.
Question 22: If yes to Question 21, do you have a specific fee policy for the assignment of "golden numbers"? If yes, please provide details in the "Remarks" field below.

Summary of additional remarks in response to Questions 21 and 22
- All but one respondent stated that they do not classify any numbers in their national numbering plans as “golden numbers”.
- One respondent who answered “No” stated that there was one exception namely 5-digit numbers that are assigned directly to end users. In response to Question 22, this respondent stated that the 5-digit range containing the most attractive numbers has a fee of approximately €12,800 per year. The least attractive has a fee of approximately €280 per year. This is in addition to the administration fee (approximately €210 per year) which is the same for all the numbers in the 5-digit range.
- Another respondent who answered “Yes” referred to some earlier class of mobile numbers that are significantly shorter in length compared to the mobile numbers available now which could be considered as having a higher economic value. This respondent, in response to Question 22, stated that there is no additional fee and that it is not possible to apply for such numbers anymore.

Question 23: Do you have any evidence suggesting that providers charge end-users extra for golden numbers? If yes, please provide details in the “Remarks” field below.

Summary of additional remarks in response to Question 23
- Despite the fact that there is no formal designation of “Golden Numbers” within the vast majority of respondents’ respective national numbering plans, nine respondents have evidence suggesting that service providers do charge end-users extra for attractive numbers.
- At least six respondents are aware that service providers within their jurisdictions advertise numbers which are attractive (i.e. that contain a number of identical digits or groups of identical digits) at a premium on their websites.
- Only one respondent, who is aware of the practice, explicitly stated that it is not allowed and plans to initiate administrative procedures.

Question 24: Do you have a policy for number trading of golden numbers between end users? If yes, please provide details in the "Remarks" field below.
Summary of additional remarks in response to Question 24
- 20 respondents answered that they do not have a policy for number trading between end-users.
- One such respondent stated that, for now, there has not been a need as "second hand market" activity is quite limited.
- Another respondent who described a unique range of mobile numbers in response to Question 21 stated that such number cannot be sold or moved to another user under any circumstances.
- One respondent who answered “Yes” to this question stated that the policy is that the practice of number trading it is not allowed.

Question 25: Do you attach tariff principles as part of the conditions of use for a number range? If yes, to what numbering ranges do these conditions apply and please describe the tariff principle (e.g. the retail charge should not exceed the cost of a call to a geographic number) in the "Remarks" field below.

Summary of additional remarks in response to Question 25
- Respondents who answered “Yes” to this questions stated that the following categories of number are subject to tariff principles:
  - Freephone numbers and 116xyz harmonised services of social value (i.e. free to the caller).
  - Premium rate numbers. In the case of these types of numbers in at least one country the tariffs are industry agreed rather than being set by the regulator.
  - Some numbers such as personal numbers, shared cost numbers and certain short codes have a tariff principle that the cost of calling those numbers shall not exceed the cost of calling to geographic and/ or mobile numbers. This type of tariff principle is present in at least two CEPT countries.
  - In at least one country, a tariff principle (free to the caller) applies to a numbering range used to access prepaid calling card services.
  - In at least three countries, numbering ranges and short code ranges for certain value added and premium rate services have tariff principles applying maximum rates which can be charged for communicating with these numbers.
  - One respondent stated that there are ongoing regulatory discussions on setting tariffs principles for calls (both at retail and wholesale level) to special non-geographic numbers, including 5-digit short codes, which have been overpriced for the last 20 years.
  - Another respondent stated that they have tariff principles for ‘charging in the originating network’: i.e. the setting of a fee for a service by the communications service provider who charges the calling
subscriber for the service. Fixed-line, mobile numbers, numbers for private networks and location-independent numbers are charged in the originating network. The retail charge for private networks and location-independent numbers should be the same as a call to a geographic number or mobile number.

- The same respondent also has tariff principles for ‘charging in the terminating network’: i.e. the setting of a fee for a service, in agreement with the service provider, by the communications service provider whose associated communications network provides the service. The set fee applies to all subscribers, regardless of the particular originating network.

- At least two countries have numbering ranges which are subject to time-based (cost per minute) and call-based (cost per call regardless of duration) tariff principles.

- At least three countries have tariff principles for location-dependent (cost shall not exceed the cost of calling a geographic number) and location-independent (cost shall not exceed tariff corresponding to an on-net local call or the single tariff charged for on-net calls, as applicable) elements.

- In at least three countries there is an obligation on certain premium rate numbering ranges, directory enquiry numbering ranges and value added services numbering ranges to provide a tariff announcement.

**Question 26:** Do you regulate wholesale termination rates for certain numbering ranges? Please indicate which ranges and provide the applicable termination rate in the "Remarks" field below. Please also describe, per range, if the rate is based on individual SMP/market analysis or a symmetrical basis (here meaning one single decision or regulation effective for all players e.g. on the basis of Authorisation Directive art. 6, annex C or other)

<table>
<thead>
<tr>
<th></th>
<th>for numbers for fixed-line services (including those numbering ranges with geographical significance)</th>
<th>for mobile numbers</th>
<th>for M2M numbers</th>
<th>for other non-geographical numbers (for example, freephone, shared cost, premium rate, numbers for business)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Austria</strong></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bulgaria</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Croatia</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Denmark</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Finland</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Greece</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Hungary</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Ireland</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Latvia</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Lithuania</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Malta</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Norway</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Poland</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Portugal</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Romania</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Russian Federation</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Slovak Republic</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Slovenia</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Switzerland</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Additional remarks in response to Question 26**

- It is clear from the responses to Question 26 that the ex-ante regulatory policy of setting wholesale termination rates applies right across the CEPT area. This is mainly the case for fixed/geographic and mobile numbers but also applies to M2M numbers and some non-geographic numbers under certain circumstances.

- Two respondents raised an important point by noting that the regulation of wholesale pricing is based on market
definitions rather than on specific numbering ranges and three other respondents stated that termination rate regulation is outside of the scope of numbering regulation.
- One respondent stated that they have an *ex-post* regulatory regime where wholesale prices are negotiated between interconnecting parties. If a dispute arises, the complainant can raise the matter with an independent commission which will decide upon the case.
- A majority of respondents made the point that regulated termination rates are imposed on fixed and mobile operators deemed to have significant market power (SMP) in call termination. For premium rate, freephone and other non-geographic numbers special frameworks have been established which also cover appropriate termination rates. Where an origination or shared cost model applies to these other numbering ranges an *ex-post* regime applies in at least one country.
- One respondent noted an important aspect on the applicability of wholesale termination rates - termination prices for calls originated from “A” numbers that belong to operators from EU/EEA countries are regulated and regulated termination rates are applied to such calls. The price for calls originating from “A” numbers that belongs to operator from non EU/EEA countries are not regulated and a commercially agreed termination rate is applied to such calls.
- Two countries provided links to further information on termination rates:

SECTION D - NUMBERING PLAN MANAGEMENT SYSTEMS, USAGE REPORTING, NUMBER WITHDRAWAL AND SUBASSIGNMENT POLICIES (QUESTIONS 27-32)

**Question 27:** Which of the following best describes your numbering plan management system?

![Numbering Plan Management System Options](image)

**Summary of additional remarks in response to Question 27**
- 17 respondents have implemented bespoke numbering plan management systems.
- Of the three respondents managing their numbering plans using MS Excel or equivalent software package two respondents are in the process of developing bespoke numbering plan management systems. One of these is planned for completion by the end of 2018.

**Question 28:** Do you require assignees to report on numbering usage on a regular basis? If yes, please provide the reporting frequency in the "Remarks" field below (e.g. annually, quarterly, on-demand etc.)

![Numbering Usage Reporting Options](image)
Summary of additional remarks in response to Question 28

- 12 respondents require numbering assignees to report on numbering usage on a regular basis whereas nine respondents do not have such a requirement.
- The frequency with which assignees must provide this information varies amongst the respondents as follows:
  - Weekly – One respondent (service numbers only)
  - Monthly – One respondent
  - Quarterly (or every three months) – One respondent (Fixed line numbers only)
  - Bi-annually (or every six months) – One respondent
  - Annually – Seven respondents
  - On Demand – Three respondents
- One respondent stated that mobile numbers are exempted from the reporting rule but that this will change in the near future.
- Another respondent with an annual reporting requirement clarified that the report is for the number of active subscribers.
- Yet another respondent noted that the information was useful for assignees to assess the level of numbers ported.
- One respondent stated that their online system allows for assignees to report on number usage through a ‘self-service’ function. However, this is not a requirement and is rarely done.

Question 29: Under which circumstances can assigned numbering resources be withdrawn?

<table>
<thead>
<tr>
<th>Country</th>
<th>Circumstances under which numbers can be withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>The assigned numbering resources can be withdrawn in case of termination of an authorisation or in case of receipt of a completed application form for withdrawal by the assignee.</td>
</tr>
<tr>
<td>Croatia</td>
<td>In accordance with the Article 75 of the Electronic Communications Act (OG 73/08, 90/11, 133/12, 80/13, 71/14 and 72/17) (hereafter: Act) HAKOM (NRA) can adopt a decision on complete or partial revocation of the assigned numbers if it determines that any of the following conditions has been met:</td>
</tr>
<tr>
<td></td>
<td>- If the decision on primary assignment of numbers was adopted on the basis of incorrect data or documentation important for processing the applications for primary assignment of numbers.</td>
</tr>
<tr>
<td></td>
<td>- If the use of the assigned numbers is not in compliance with the Numbering Plan.</td>
</tr>
<tr>
<td></td>
<td>- If the operator has not started using those numbers within the period of six months from the date of the receipt of the decision on primary assignment of the numbers.</td>
</tr>
<tr>
<td></td>
<td>- If the operator does not use the assigned numbers in accordance with the conditions of usage numbers prescribed by Act or the decision on primary assignment of numbers.</td>
</tr>
<tr>
<td></td>
<td>- If the prescribed fee for the use of numbers has not been paid even after the delivery of the dunning letter, within the time limit laid down in the dunning letter.</td>
</tr>
<tr>
<td></td>
<td>- If the operator was prohibited to provide electronic communications networks or services in accordance with Article 33, paragraphs 6 and 10 of Act.</td>
</tr>
<tr>
<td></td>
<td>- If the operator was banned from providing electronic communications networks or services by a final court judgement.</td>
</tr>
<tr>
<td></td>
<td>- If the operator waived the use of assigned numbers in writing.</td>
</tr>
<tr>
<td></td>
<td>- If the operator ceased to exist without a legal successor.</td>
</tr>
<tr>
<td></td>
<td>- If considerable amendments to the Numbering Plan are necessary due to the need to adjust the range of numbers at the national or international level, or due to the implementation of international treaties, agreements or conventions binding for the Republic of Croatia, or in order to prevent the distortion or restriction of competition after a previously obtained opinion from the operator to which those amendments refer.</td>
</tr>
<tr>
<td></td>
<td>- If the use of the assigned numbers is contrary to the public interest of the Republic of Croatia.</td>
</tr>
<tr>
<td></td>
<td>- In other cases of deletion of the operator from the list of operators ex officio, in accordance with Article 32, paragraph 9 of Act.</td>
</tr>
<tr>
<td>Denmark</td>
<td>Assigned numbering resources can be withdrawn in cases of serious and repeated breaches of the assignment criteria or otherwise breaches of the applicable regulations.</td>
</tr>
</tbody>
</table>
### Russian Federation
Numbering resources which have not been activated within two years from the assignment decision can be withdrawn.

### Finland
Numbering resources can be withdrawn if:
- Numbering fees have not been paid.
- Numbering resources are used against the assignment decision.
- Numbering resources have not been activated within one year from the decision or they are not in use.

### Germany
Numbering resources can be withdrawn if:
- A number is used unlawfully by the direct or primary assignee.
- The assignee's place of abode is unknown. This is deemed to be the case if he and his authorised receiving agent were not reached at any of the German addresses last made known to Bundesnetzagentur to be valid.
- The relevant numbers are permanently not used. (see paragraph 9 subpara 2 of the Telecommunications Numbering Ordinance (TNV))

### Greece
Numbers can be withdrawn for the following reasons:
- Non-payment of the annual fees.
- Non-conformity with the terms and conditions of use of numbers.
- Non-activation of the numbering resources within two years from assignment (one year for short codes)

### Hungary
Numbering resources can be withdrawn if (summary):
- The assignee requests it.
- It is required by law.
- The numbering fees have not been paid.
- The numbering resources are used against the assignment decision.
- The service activity of the assignee ceases.
- The numbering resources have not been activated within 90 days from the decision or they are not in use for more than 6 months.

### Ireland
Failure to comply in full with any statutory provision and/or condition of use may result in the suspension or withdrawal of any or all rights of use for numbers granted to the Applicant.

### Italy
Numbers may be withdrawn if:
- The numbers are not used in a given time from the assignment.
- In case of misuse of numbering resources.
- In case the assignee is not anymore authorised to provide electronic communication services.

### Lithuania
For the purpose of ensuring an efficient and effective use of numbers, the authorisation shall be revoked in the following cases:
- Having lost the right to provide public fixed communications network and/or public fixed telecommunications services or having lost the right to provide public mobile communications network and/or public mobile telecommunications services.
- Having refused the right to use the numbers. A person shall have the right to refuse the right to use the public fixed telecommunication service numbers, public mobile telecommunication service numbers or service numbers after the time period of no less than 1 year after the date of acquiring of the right to use the corresponding numbers.
- Failing to pay the telecommunication numbers usage supervision charge and such failure leads to the debt, amounting to the charge for three months.
- Having violated the procedure and conditions for usage of the numbers, set in the present Rules.

### Malta
Assigned numbering resources can be withdrawn if the conditions attached to the rights of use for numbers are not fulfilled by the undertaking.

### Norway
When the assignee is in breach of the assignment criteria and after being given the chance to comply.

### Poland
Arrears in fees, wrong usage or regulatory reasons.

### Portugal
According to the assigning rules:
- If not activated within 6 months.
- If not used according the usage conditions, in particular for the service designated at NNP.

### Romania
ANCOM may totally or partially suspend or withdraw the LUNR in the following cases:
- Serious or repeated breaches of the terms or obligations provided in the of ANCOM’s regulations on the numbering resources.
- The measure is required in order to ensure national security or defence.
- Non-activation of the allocated numbering resources within 12 months.
- The numbering fees have not been paid.

**Slovak Republic**
The Office shall withdraw the individual authorisation for the use of numbers or decide on withdrawal of the allocated number if:

- The holder of the individual authorisation for use of numbers fails to comply with the obligations stipulated by this Act or by the individual authorisation for the use of numbers, including its amendments, although he was notified, in writing, of the possibility of withdrawal of the number and has not applied remedy within the stipulated period; this shall not apply to the annual payment for the allocated numbers.
- The holder did not use that number for a period of at least 12 months from the allocation of the number or stopped using the allocated numbers for at least three months.
- The holder has not settled the repeated payment for the allocated numbers within three months from the payment’s due date.
- The holder no longer fulfils the conditions for the use of allocated harmonised European number of social value under a special regulation (24).
- It is necessary in terms of state defence, security of state or protection of public order.

**Slovenia**
In accordance with the provision of the Electronic communication act: Article 72 (revocation of a decision allocating numbering resources):
The Agency must abrogate a decision allocating numbering resources ex officio if it finds that:

- The application for the decision allocating numbering resources contained false information.
- The beneficiary no longer meets the prescribed conditions under the applicable legislation or its decision allocating numbering resources.
- The allocated numbering resources have not begun to be used within three years of the issuing of the decision allocating numbering resources or are not used for more than one year.
- The beneficiary has transferred the right to use numbering resources to another natural person or legal entity by legal transaction in accordance with the first paragraph of Article 70 of this Act.

The Agency shall also abrogate a decision allocating numbering resources ex officio:

- If the fee for the use of the numbering resources or the fee for the efficient use of a limited natural resource have not been paid despite a warning to do so.
- If there are other serious or recurring irregularities concerning compliance with the conditions for the use of numbering resources referred to in Article 68 of this Act and laid down in the decision allocating numbering resources, unless these irregularities have been removed by more lenient measures in a supervisory procedure.

**Switzerland**
Withdrawal of assigned numbering resources is possible, in the case of:

- A change of the numbering plan
- Misappropriation or misuse.
- Suspicion or evidence of fraud by using numbers.
- Non-usage or not mainly used within Switzerland.
- Non-payment of fees.
- The assignee has declared bankruptcy.

**United Kingdom**
The NRA has the power to withdraw if numbers are not adopted within six months of assignment to an operator or, if they had been, the numbers then not adopted during the last six months. Furthermore, the power to withdraw numbers includes cases where a block of numbers is not in use by subscribers to a significant extent, or the numbers have not been in use in the past 12 months. Also if there is a significant or repeated breach of the numbering general conditions, or if numbers are not used in accordance with the National Telephone Numbering Plan or otherwise misused, and the operator has not taken action to address the breach.

**Question 30**: How many times approximately, during the last 10 years, have you withdrawn assigned numbering resources? Please provide some reasons for the withdrawal in the "Remarks" field below.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of times numbering resources have been withdrawn in the last 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Approximately 5 numbers have been withdrawn during the last 10 years. In some cases where the use of a fixed line number did not correspond with a fixed-network termination point.</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Approximately 50 times. Termination of an authorisation, expiration of an authorisation and other</td>
</tr>
<tr>
<td>Country</td>
<td>Reason</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Croatia</td>
<td>Approximately 10 times. For example, when EC operator has ceased to perform the activities of electronic communications networks and services. Based on this, HAKOM (NRA) has <em>ex officio</em> deleted the operator from the list of operators and withdrawn the assigned numbering resources.</td>
</tr>
<tr>
<td>Denmark</td>
<td>5 times. In all cases the withdrawn of the numbering resources are due to non-payment of the numbering fee.</td>
</tr>
<tr>
<td>Finland</td>
<td>1-2 times annually =&gt; about 10 times in 10 years. The reason is almost always that the assignee has not paid the numbering fee.</td>
</tr>
<tr>
<td>Germany</td>
<td>1000 times - primary assignments (fixed-line, mobile and short-term mass calling number blocks) – about 10 withdrawals and direct assignments (Freephone, premium rate, personal and business numbers) – below 1000 withdrawals.</td>
</tr>
<tr>
<td>Greece</td>
<td>Approximately 44 times. The main reason for a withdrawal decision is the non-payment of annual fees. Also, several cases of non-conformity with terms and conditions of the value added services numbers have occurred and have resulted in the withdrawal of the respective assignments. Also operators that interrupted the provision of services.</td>
</tr>
<tr>
<td>Hungary</td>
<td>500 times. In most cases, the assignees applied for the withdrawal. In some cases the service activity of the assignee ceased and at the end of 2017 the withdrawal of shared-cost numbers was required by law.</td>
</tr>
<tr>
<td>Ireland</td>
<td>Numerous times because of failure to comply with statutory provisions and/or conditions of use.</td>
</tr>
<tr>
<td>Latvia</td>
<td>Many times: mainly because the operator stopped their business in electronic communications, the operator asked the NPA to withdraw numbering resources or in cases of fraud.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>10 times per year. For all the reasons mentioned in response to Question 29.</td>
</tr>
<tr>
<td>Norway</td>
<td>2-3 times</td>
</tr>
<tr>
<td>Poland</td>
<td>few times per year</td>
</tr>
<tr>
<td>Portugal</td>
<td>2/3 times. Information indicative only.</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>about 20</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>9 times. Provider did not use that number for a period of at least 12 months from the allocation of the number.</td>
</tr>
<tr>
<td>Slovenia</td>
<td>approximately 5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>15 times. In most cases withdrawal was due to non-payment of fees and/or declared bankruptcy.</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Difficult to estimate. Withdraw reasons: assignee no longer trading; non-payment of number charge together with a breach of the requirement to adopt or otherwise use numbers effectively and efficiently; numbers not adopted within the last 6 months.</td>
</tr>
</tbody>
</table>

**Question 31:** Do you allow the assignee to sub-assign numbering resources to other entities? If yes, under which conditions, if any? E.g. inform the NPA of the number usage, payment of the annual fees and registration?

**Summary of additional remarks in response to Question 31**

16 respondents to the questionnaire allow the sub-assignment of numbering resources. The following additional comments were provided regarding the conditions under which sub-assignment is allowed:
- Seven of these respondents stated that the NPA needs to be notified of the sub-assignment, in one case within 10 days. In another case primary assignees must notify the NPA on an annual basis of all sub-assigned numbers.
Another respondent confirmed that a notification to the NPA was not necessary.

One respondent who answered “No” to Question 31 did state that there were exceptional circumstances where sub-assignment is allowed. In such exceptional circumstances, the original assignee: (a) has first to notify the NPA who may decline to allow the sub-assignment; and (b) may sub-assign E.164 numbering resources only following the NPA’s acceptance to allow the sub-assignment.

The majority of respondents who answered “Yes” to Question 31 noted that the entity receiving the sub-assignment has a responsibility to comply with the same legal obligations as the primary assignee.

One respondent also stated that the primary assignee is responsible for payment of the numbering fee.

Another respondent stated that sub-assignment is only allowed for fixed-line, mobile numbers and location-independent numbers while another respondent stated that short codes which identify operators (carrier pre-selection code, network ID codes etc.) cannot be sub-assigned.

In at least one country sub-assignment is only allowed on a temporary basis.

While it seems that in most CEPT countries the regulatory obligations pass to the sub-assignee, one respondent stated that the primary assignee has to ensure that the sub-assignee is a registered service provider and complies with the assignment conditions imposed by the NPA. Furthermore, no subsequent sub-assignment is authorised without the consent of the number range holder.

Yet another respondent stated that the assignee is responsible for ensuring the numbers are used in compliance with the statutory provisions and/or conditions of use.

Finally, one respondent stated that a written contract must be concluded between the primary assignee and the sub-assignee and that the NPA’s agreement is also needed.

**Question 32:** If yes to Question 31, who is responsible for the legal obligations such as subscriber information for telephone directories (paper and electronic), legal interception, number portability and the provision of emergency caller location information?

**Summary of additional remarks in response to Question 32**

- Five respondents stated that the primary assignee remains responsible for meeting the legal obligations associated with the numbering assignment even if part or all of the assigned range is sub- assigned.
- Two respondents stated that the obligations are transferred to the sub-assignee.
- Five respondents stated that the responsibility for legal obligations is for both the assignee and the sub-assignee.
  One of these respondents clarified that while the assignee remains responsible for ensuring that the numbers are used in accordance with numbering regulations, the sub-assignee will have regulatory responsibilities as the communications provider, for instance number portability.
- Two respondents stated that it is the entity that has the agreement with the end-user that has the responsibility for the legal obligations.

**SECTION E - OTHER ISSUES - ANONYMOUS SUBSCRIPTIONS, CLI SPOOFING AND FRAUD (QUESTIONS 33-36)**

**Question 33:** Do you require end users to be registered (i.e. anonymous subscriptions not allowed) before subscribing to a service which requires an E.164 number? If yes, please provide additional information on the validation process in the "Remarks" field below. If no, please describe if you are considering a prohibition on anonymous subscriptions.

**Summary of additional remarks in response to Question 33**
Although not explicitly stated, this question related to anonymous prepaid mobile subscriptions. For post-paid subscriptions, service providers will require proof of address, bank details, proof of identification etc. to set up a subscription so it is implicit that such subscriptions cannot be anonymous.

- 13 respondents to the questionnaire stated that they require users to be registered while nine respondents stated that they did not. One respondent who answered “No” stated that this policy is currently under consideration.
- One respondent stated that it is the responsibility of the service provider to establish reasonable subscription validation. The NRA does not impose specific validation rules.
- Another respondent pointed out that if a prepaid subscriber requested to port a number then their anonymity would have to be waived for the NP process as the subscriber has to be identified to process the porting request.
- In at least one country subscriber information is required in order to provide information to the security authorities as part of an automatic or manual enquiry procedure. Telecommunications companies assigning numbers are obliged to collect and retain information about each customer/assignee.
- Finally, one country is currently developing a procedure for gathering subscriber information for remote subscriptions.

Question 34: Have you experienced any cases of number spoofing of national numbers, e.g. where E.164 numbers assigned to end-users have been illegitimately presented/manipulated by third parties?

Summary of additional remarks in response to Question 34
- It is clear from the responses to Question 34 that spoofing of national numbers is a problem for most CEPT countries who responded to the questionnaire.
- One respondent added remarks stating that typically, the spoofed numbers have not been assigned or even allocated for a specific purpose.
- Another respondent stated that in some cases they had experienced an increased number of suspicious calls from foreign destinations. Due to the introduction of origin-based pricing by some telecom operators in the EU in the last few years, a noticeable number of calls originating from outside the EU are being terminated in the EU using faked or spoofed EU/EEA numbers as “A” numbers.

Question 35: In relation to your response to Question 34, have you experienced cases of the “Microsoft-scam”, where citizens are called in your country using spoofed numbers? If yes, please provide additional information on the types of numbers the scammers use in the “Remarks” field below.

Summary of additional remarks in response to Question 35
- According to the responses received to Question 35, the “Microsoft-scam” is well-known within the CEPT area.
E.164 numbering plan management and assignment practices in CEPT countries – September 2018

- One respondent reported that there was no information available on the types of numbers used in these cases while several other respondents reported that they had noticed that assigned and unassigned geographic numbers, mobile numbers, premium rate numbers and international numbers (including universal international freephone numbers (UIFN)) had been used.
- One respondent reported that they had received over one million such calls in 2017 alone.
- Another respondent, referring to the difficulty in tackling this type of activity, stated that spoofed CLI for specific scams are usually altered after a short period. No registration and/or classification is in place.
- In another country, numbers were used that looked similar to numbers from the national numbering plan.
- One respondent noted similar cases to the “Microsoft-scam” where the numbers of legitimate businesses (e.g. spoofing bank telephone numbers) were used.
- Another respondent has seen a decline in this activity but an increase in CLI spoofing schemes based on EU CLI numbers in order to reclaim intra-EU country termination rates.

Question 36: Could it be possible for you, with limited use of resources, to provide, on a daily basis, an updated overview/file of E.164 plan and assignments, e.g. in the XML-format with columns for Range from, Range to, Assignee, Category/Usage area, Comments?

Summary of additional remarks in response to Question 36

- The responses to this question were evenly split and it was not possible to draw a correlation between these responses and the responses to Question 27 (i.e. the type of numbering plan management system) where an assumption could be made that a bespoke numbering plan management system may have reporting functionality. However, one respondent who is in the process of developing a bespoke system said that daily reporting would be possible when the new system is in place.
- One respondent who stated that daily reports would be possible said that the reports would not include information on ported numbers but that this would be possible in the future.
- Two respondents who answered “No” produce a daily updated MS Excel file and one of these stated that further development would be necessary to make the information machine-readable.
- Three respondents who answered “Yes” provided a link to publicly available information on their respective national numbering plans which are updated frequently or in real-time:
  - Malta - https://www.mca.org.mt/regulatory/numbering/numbering-plans
  - Portugal - https://www.anacom.pt/render.jsp?categoryId=351237
- Another respondent answered “Yes” but did not understand the reason for, and purpose of, these daily reports.
- Yet another respondent stated that a daily report seems to be a very high frequency as the numbering plan does not change very much from day to day.
- Finally, another respondent who answered “No” updates their website with revised information on a weekly basis.