Comments on Draft ECC Recommendation 15(02): "*Guidelines for Major Changes to National Numbering and Dialling Plans concerning E.164 Numbers*"

Sources

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(1) The European Telecommunications Network Operators' Association (ETNO) represents 41 major companies, which provide electronic communications networks over fixed, mobile or personal communications systems across 35 countries. ETNO is Europe's leading trade association for telecoms. More information about ETNO can be found at: www.etno.eu

1   General Comments

ETNO welcomes the opportunity to comment on the Draft ECC Recommendation 15(02) on "*Guidelines for Major Changes to National Numbering and Dialling Plans concerning E.164 Numbers*".

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Regarding the concluding Recommendations for NRAs, ETNO would like to commend the ECC for laying down these guiding principles which can serve in the event of structural or policy changes to a national numbering plan. It is important for the industry that these guidelines be kept in mind to avoid complexity and to minimise costs. Despite the fact that each national numbering system has its own history, it is ETNO's experience that similar issues indeed arise across Member States and having common principles such as those provided in the proposed Recommendations can help and should be adhered to as much as possible.

It is ETNO's opinion, however, that the proposed draft Recommendation should take more into consideration the impacts on operators and users of national numbering plans changes, in particular as regards geographic numbers. In general, to justify an evolution of a national numbering plan, a cost / benefits analysis should be performed in advance. In addition, a national numbering plan should evolve and not be completely disrupted.

Changing the numbering plan can also have a potential impact on the competition in the market and the existing ecosystem within the market. The numbering is not a standalone domain; it cannot be dissociated from the development and competition in the market. Sometimes numbering changes are introduced to facilitate competition and sometimes to follow a certain demand and evolution. However, if new options or changes in the numbering plan are introduced, this could change this market dynamics such as the merging of the geographic and mobile numbering plans. A correct assessment of the regulatory framework should be made and possibly some regulation should change or should be updated to take account of the impact of the changes in the numbering plan on the market conditions and to guarantee a level playing field and fair conditions for all players.

Another element to be evaluated when changing the numbering plan is the impact on other aspects not directly linked to numbering but linked to other legal obligations and concerns such as the CLI authenticity, the implementation of legal obligations such as localization, correct identification of customers and the routing of calls to emergency services. When changing the numbering plan, this impact should be taken into account and investigated.

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This Draft Recommendation mentions two major changes which in ETNO's opinion should be evaluated carefully before considering eventual future implementations: removing the requirements for geographic information, the fragmentation of the numbering plan and the creation of sufficient capacity for M2M services.

As regards the removal of geographic significance of numbers, in ETNO's opinion the scarcity of numbers is not a reason, since there are already many country specific solutions to cope with scarcity. A specific need for nation-wide location portability for geographic numbers should be assessed in the market before considering it as a reason to justify location independent numbers evolution. In addition a step approach could be evaluated as regards the removal of geographic significance.

As regards creation of sufficient capacity for M2M services, it is worthwhile citing ECC Recommendation (11)03 on "Numbering and Addressing in Machine-To-Machine (M2M) Communications", which:

"Recommends

2) that as a long term solution IPv6 addresses, or numbers/addresses other than E.164 numbers should preferably be used for M2M applications, and these numbering/addressing schemes or switching from E.164 numbering plan to a new plan should not prohibit market development or competition;"

In ETNO's opinion, M2M services could take advantage from a dedicated range (with possibly longer numbers than the other normal ranges, and dedicated rules, taking into consideration that these numbers will not be dialed by people but only by devices), but this is a national matter. It should also be considered that generally it could be difficult to define M2M services as a complete separate category from traditional services. Indeed a clear definition of M2M would be needed beforehand.

In ETNO's opinion, the need for geographic numbers will not disappear in the future since this need is very much related to information on the location of the called user, which is of great value for calling users. In addition, geographic numbers are still significant for fixed lines; for instance emergency calls from geographic numbers are still, in a number of countries, routed automatically to the appropriate regional PSAP. Moreover, ETNO does not think that the tariffs

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for mobile calls will become exactly the same as the geographic ones in the long run. Even when tariffs are the same for mobile and geographic calls, the «cheap» image of geographic calls will remain for consumers for a number of years. For these reasons, ETNO considers it very important to maintain both geographic and mobile numbers.

In general, evolutions regarding national geographic number policies and the removal of numbering ranges are one way moves which induce significant costs due to technical and business impacts. Decisions in these areas must be preceded by extensive consultations with all stakeholders, including operators and users representatives, and can only be part of long term numbering strategies. If changes are decided to be introduced, a clear (progressive) planning should be agreed many years in advance to optimize the migration and the investments associated with the change and taking into account the network evolution. Finally the technical impact on end users, residential and business, should be taken into account.

Future major changes regarding the national numbering plan should also take into account the current situation regarding the existing technologies that are in use. These kinds of changes are very costly and require a very careful design due to the impacts that may apply to both operators and subscribers. Moreover, changes like the removal or reduction of geographic requirements/significance of numbers are highly dependent of the used technology. As long as the TDM network with current configuration is in use, it is not feasible to proceed to these kinds of changes. In a future all-IP-network, moving towards that direction could be considered but also with a significant cost and effort both to network and IT (provisioning / billing) systems. Regarding numbering of M2M applications, in accordance with ECC Recommendation (11)03, in order for machines to communicate between them, it is more logical and more convenient not to use E.164 numbers, but different addressing/numbering schemes like IPv6 addresses.

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2   Proposals related to the ECC Deliverables

[**Note:** proponents are invited to use the following table to provide comments. It is also possible to provide as an annex the proposals with track changes and related justifications.]

Comment number	Section number/ Clause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
XX/1	**Considering** **a)**		**General and Technical**	**In ETNO's opinion the proposed draft Recommendation does not take into due consideration the impacts on operators and users of numbering plans changes. In general, to justify an evolution of a national numbering plan, a cost / benefit analysis should be performed in advance.**	< in revision style directly on considering a) > That major changes to the national E.164 numbering plan and dialling plan are very costly and need to be carefully <u>evaluated with a cost/benefits analysis and then planned in the medium/long term</u>.
XX/2	**Considering**		**General and Technical**	**In ETNO's opinion the scarcity of numbers is not a reason for the removal of geographic significance of numbers, since there are**	< in revision style directly on considering e) > That the removal or reduction of geographic

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	e)			already **many country specific solutions to cope with scarcity. A specific need for nation-wide location portability for geographic numbers should be assessed in the market before considering it a reason to justify location independent numbers evolution.** **In general, evolutions regarding national geographic number policies are a one way move which induces significant costs due to technical and business impacts. Decisions in this area must be preceded by widespread consultations with all stakeholders, including operators and users representatives, and can only be part of a long term numbering strategy.** **Additionally, it is not clear at all that the need for geographic numbers will disappear in the future.**	requirements/significance for the use of numbers <u>induces significant costs due to technical and business impacts, could lead to an unwanted loss of functionality of the numbers, as geographical information could remain relevant for some purposes, and widespread consultations with all stakeholders, including operators and users representatives, are necessary before taking any decision</u> ~~makes the use of numbering blocks much more efficient in the national E.164 numbering plan~~.
XX/3	**Considering**		**General and**	**As regards creation of sufficient capacity for M2M services, it is worthwhile citing ECC**	< in revision style directly on considering g) >

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	g)		Technical	**Recommendation (11)03 on "Numbering and Addressing in Machine-To-Machine (M2M) Communications", which:** *"Recommends* *2) that as a long term solution IPv6 addresses, or numbers/addresses other than E.164 numbers should preferably be used for M2M applications, and these numbering/addressing schemes or switching from E.164 numbering plan to a new plan should not prohibit market development or competition;"*	That it is expected that the development of M2M applications ~~will~~ may have an impact on national E.164 numbering plans <u>even if the majority of data M2M services may not need E.164 numbers</u> ~~because machines need to be uniquely addressed to enable them to communicate with each other~~.
XX/4	**Considering** **i)**		**General and Technical**	**In ETNO's opinion the impacts on operators, providers and users of these changes might be huge and have to be taken into consideration beforehand.**	< in revision style directly on considering i) > That the dialling plan ~~is~~ may be unrelated to the removal of geographic significance of numbers, although the impact of the removal of geographic significance <u>on operators, providers and end users</u> might <u>be high and</u> depend on

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					whether the dialling plan is open or closed.
XX/5	**Considering** **j)**		**General and Technical**	**In ETNO's opinion the majority of data M2M services may not need E.164 numbers, so the advantages of a dedicated range have to be confirmed by the market, but this is a national matter. It should also be considered that generally it could be difficult to define M2M services as a complete separate category from traditional and other innovative services. In ETNO's opinion the need for geographic numbers will not disappear in the future since this need is very much related to information on the location of the called user, which is of great value for calling users. For these**	< in revision style directly on considering j) > That the national E.164 numbering plan may <u>have a dedicated number range for</u> ~~become less and less fragmented and may finally consist of fewer separate number ranges which will be used for Person-to-Person communication (private and business communications),~~ M2M communication ~~and value-added~~ services, <u>in case a need of E.164 numbering for M2M services emerges in the market</u>.

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				reasons, ETNO considers it very important to maintain both geographic and mobile numbers.	
				Changes in the numbering plan such as the merging of the geographic and mobile numbers could change the market dynamic. Such a change should indeed be considered as a major change in this Recommendation. A correct assessment of the regulatory framework should be made and possibly some regulation should change or should be updated to take account of the impact of the changes in the numbering plan on the market conditions and to guarantee a level playing field and fair conditions for all players.	

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XX/6	Recommends a)		General and Technical	See the comments above.	< in revision style directly on recommendation a) > That, where national circumstances dictate, the national E.164 numbering plan and dialling plan may be reviewed, after a cost/benefits analysis and a review of the regulatory market conditions with all stakeholders to guarantee a level playing field and fair conditions for all players that justifies the numbering plan evolution, in order to achieve a more efficient and sustainable use of the total available numbering capacity. This should take into consideration the backward compatibility requirement that should be met for every evolution. In this process, when a cost/benefits analysis shows the need for a numbering plan evolution, the following options may be considered inter alia: the closing of the dialling plan and/or the reduction of the number of geographic areas with a guarantee of backward

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					compatibility and/or
					a new numbering space for mobile services and/or
					withdrawing and/or redefining numbers for obsolete services, when these services are not offered by the operators on the market.
XX/7	**Recommends** **c)**		**General and Technical**	**See the comments above.**	< in revision style directly on recommendation c) > That sufficient capacity is made available for the growing demand for numbers for mobile services and for M2M services, should they emerge in the market, in accordance with ECC Recommendation (11)03.

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Annex: ETNO proposals with track changes and related justifications

considering

a) That major changes to the national E.164 numbering plan and dialling plan are very costly and need to be carefully <u>evaluated with a cost/benefits analysis and then</u> planned <u>in the medium/long term</u>.

Justification : In ETNO's opinion, the proposed draft Recommendation does not take into due consideration the impacts on operators and users of national numbering plans changes. In general, to justify an evolution of a national numbering plan, a cost / benefits analysis should be performed in advance.

b) That major changes to the national E.164 numbering plan and dialling plan may be necessary to increase flexibility and availability in the use of numbers and to mitigate the risk of exhaustion in the future.

c) That major changes to the national E.164 numbering plan and dialling plan may be necessary to ensure that numbering resources continue to be made available for new market entrants and for new and innovative services.

d) That any proposed changes to the national E.164 numbering plan and dialling plan should take into account the interests of all stakeholders.

e) That the removal or reduction of geographic requirements/significance for the use of numbers <u>induces significant costs due to technical and business impacts, could lead to an unwanted loss of functionality of the numbers, as geographical information could remain relevant for some purposes, and large consultations with all stakeholders including operators and users representatives are necessary before taking any decision</u> ~~makes the use of numbering blocks much more efficient in the national E.164 numbering plan~~.

Justification : In ETNO's opinion, the scarcity of numbers is not a reason for the removal of geographic significance of numbers, since there are already many country specific solutions to cope with scarcity. A specific need for nation-wide location portability for geographic numbers should be assessed in the market before considering it a reason to justify location independent numbers evolution.

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In general, evolutions regarding national geographic number policies are a one way move which induce significant costs due to technical and business impacts. Decisions in this area must be preceded by broad consultations with all stakeholders including operators and users representatives and can only be part of a long term numbering strategy. Additionally, it is not clear at all that the need for geographic numbers will disappear in the future.

f) That closing the dialling plan facilitates a more efficient use of the national numbering plan as it releases additional numbers for use for operators, subscribers and services.

g) That it is expected that the development of M2M applications ~~will~~ may have an impact on national E.164 numbering plans even if the majority of data M2M services may not need E.164 numbers because machines need to be uniquely addressed to enable them to communicate with each other.

Justification : As regards the creation of sufficient capacity for M2M services, it is worthwhile citing ECC Recommendation (11)03 on "Numbering and Addressing in Machine-To-Machine (M2M) Communications", which:

"Recommends

2) that as a long term solution IPv6 addresses, or numbers/addresses other than E.164 numbers should preferably be used for M2M applications, and these numbering/addressing schemes or switching from E.164 numbering plan to a new plan should not prohibit market development or competition;"

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h) That an increasing consumer preference for mobile services will have an impact on national E.164 numbering plan as a greater demand for mobile numbers is expected in the future.

i) That the dialling plan ~~is~~ may be unrelated to the removal of geographic significance of numbers, although the impact of the removal of geographic significance on operators, providers and end users might be high and depend on whether the dialling plan is open or closed.

Justification : In ETNO's opinion, the impacts on operators, providers and users of these changes might be huge and have to be taken into consideration beforehand.

j) That the national E.164 numbering plan may have a dedicated number range for ~~become less and less fragmented and may finally consist of fewer separate number ranges which will be used for Person to Person communication (private and business communications),~~ M2M communication ~~and value added~~ services, in case a need of E.164 numbering for M2M services emerges in the market.

Justification : In ETNO's opinion, the majority of data M2M services may not need E.164 numbers, so the advantages of a dedicated range have to be confirmed by the market, but this is a national matter. It should also be considered that generally it could be difficult to define M2M services as a complete separate category from traditional and other innovative services.

In ETNO's opinion, the need for geographic numbers will not disappear in the future since this need is very much related to information on the location of the called user, which is of great value for calling users. For these reasons, ETNO considers it very important to maintain both geographic and mobile numbers.

Changes in the numbering plan such as the merging of the geographic and mobile numbers could change the market dynamic. Such a change should be considered as a major change in the consideration of this Recommendation. A correct assessment of the regulatory framework should be made and possibly some regulation should change or should be updated to take account of the impact of the changes in the numbering plan on the market conditions and to guarantee a level playing field and fair conditions for all players.

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recommends to NRAs, when planning major changes to their national E.164 numbering plan and dialling plan,

a) That, where national circumstances dictate, the national E.164 numbering plan and dialling plan may be reviewed, after a cost/benefits analysis and a review of the regulatory market conditions to guarantee a level playing field and fair conditions for all players, with all the stakeholders that justifies the numbering plan evolution, in order to achieve a more efficient and sustainable use of the total available numbering capacity taking into consideration the backward compatibility requirement that should be met for every evolution. In this process, when a cost/benefits analysis shows the need for a numbering plan evolution, the following options may be considered inter alia:

   the closing of the dialling plan and/or

   the reduction of the number of geographic areas with a guarantee of backward compatibility and/or

   a new numbering space for mobile services and/or

   withdrawing and/or redefining numbers for obsolete services, when these services are not offered by the operators on the market.

b) That at least one value of the most significant digit of the N(S)N is left spare to allow flexibility for future changes.

That sufficient capacity is made available for the growing demand for numbers for mobile services and for M2M services, should they emerge in the market, in accordance with ECC Recommendation (11)03.

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