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**Communication from the Commission
to the European Parliament and the Council
regarding the consultation on the Green Paper on
a Numbering Policy for Telecommunications Services in Europe**

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SUMMARY

Introduction

In November 1996 the Commission published its Green Paper on a Numbering Policy for Telecommunications Services in Europe¹, presenting various options for a common approach towards certain numbering issues in order to reach the agreed goals of a competitive and liberalised single telecommunications market. A broad public consultation on these options was intended to provide the input for a more concrete plan of action, closely following the needs and demands of residential and business customers and new entrants in the telecommunications market while taking account of any constraints within existing telecommunications structures.

More than 100 participants attended a public hearing and around 80 written comments were received from residential and business users associations, telecommunications network and service providers, equipment and software manufacturers and national regulatory authorities and from their respective associations.

The Green paper has also been put on the agenda of the European Parliament's Committee on Economic and Monetary Affairs, the Economic and Social Committee and the Committee of the Regions. Initial exchanges of view took place in these fora but formal opinions have not been adopted yet.

The Joint Committee on Telecommunications, consisting of management and trade unions of telecommunications network and service providers within the Union, issued an opinion on 28 February.

The outcome of the consultation

The consultation has demonstrated wide support for the Green Paper proposals to introduce call-by-call carrier selection, carrier pre-selection and operator number portability in order to enable the customer to benefit from a new competitive market. The comments also provided a useful basis to determine the most appropriate service and service provider coverage for the mandatory requirement of these numbering features, as well as clear indications concerning the timetable for their introduction.

Moreover, the outcome of the consultation showed a strong emphasis on the need for national numbering plans to allow equal quantitative and qualitative access to numbering resources for all market players. This was generally felt to be a key requirement for non-discriminatory access to the liberalised telecommunication markets.

¹ COM(96)590 final, 20.11.1996

There was broad agreement on the establishment of a European Telephony Numbering Space on the basis of the '388' country code as soon as feasible after the formal designation of this code for pan-European services by the International Telecommunications Union (ITU). There should be a broad coverage of various service types under this code, while ensuring transparency for the user as to the tariffs of the various services. Suggestions for the management of the European Telephony Numbering Space pointed in the direction of a structure within CEPT (Conférence Européenne des Postes et Telecommunications) / ECTRA (European Committee of Telecommunications Regulatory Affairs).

There was support for medium term convergence of national numbering plans to the extent that this would not require major additional changes in numbering plans. A common approach to alphanumeric dialling on the basis of ITU -T Recommendation E.161 , Option A, on this issue, was widely welcomed. It was generally felt that the idea of a long term numbering plan for a unified European Numbering environment would require further study , especially regarding cost / benefit analysis, and should be seen in a 10 to 20 years perspective.

The analysis of issues regarding naming and addressing within the Internet was confirmed, but most respondents felt that any problems could be solved through further self regulation rather than by regulatory intervention. Nevertheless, it was felt that representation of European interests required improvement.

Proposed targets

On the basis of the consultation the Commission considers as appropriate the following targets for the introduction of carrier selection, carrier pre-selection and number portability and for the establishment of the European Telephony Numbering Space :

by 1 January 1998 :

- call-by-call carrier selection to be offered by all fixed local access providers with significant market power in all Member States where full liberalisation is required by that date and in Member States where additional transition periods have been agreed, by the end of that period.

by 1 January 1999 :

- establishment of a European Telephony Numbering Space on the basis of country code '388'

by 1 January 2000:

- carrier pre-selection for the user to be offered by all fixed local access providers with significant market power in all Member States
- operator number portability to be offered by all fixed local access providers

- number portability to be offered by all operators for non-geographic special service numbers (freephone, shared costs, premium rate services)

Action plan

As a follow-up to the consultation and in order to reach the above targets, the Commission proposes the following timetable for action :

by mid 1997	<p>Adoption of resolutions by Council and the European Parliament confirming the priorities and timetable for action which have emerged from the consultation</p> <p>Commission review of national numbering plans in view of requirements of the full competition Directive</p>
by end 1997	<p>Proposal for appropriate legislative measures to ensure the availability of facilities for carrier pre-selection and number portability throughout the internal market by 1 January 2000.</p> <p>ETO report with detailed description of national numbering plans</p> <p>Adoption of ETSI standard concerning alphanumerical key pads</p> <p>Launch studies on 1) possible minimum criteria and standardisation requirements in view of a long term number portability solution and 2) alternative, on-screen/on-line means for tariff information for the user</p>
by end 1998	<p>Examine possible extension of carrier selection and number portability requirements to mobile operators.</p>
by early 1999	<p>Appropriate legislative measures to be adopted to ensure the availability of facilities for carrier pre-selection and number portability throughout the internal market by 1 January 2000</p> <p>Member States to implement '388' for the European Telephony Numbering Space</p> <p>Commission to issue common guidelines on fair and pro-competitive arrangements for sharing costs of number portability</p> <p>Commission recommendations on further restructuring of national numbering plans in view of competition requirements and gradual convergence between national numbering schemes</p>
by end 1999	<p>Examine desirability of extension of carrier selection requirements to fixed local access providers without significant market power.</p>
early 2000	<p>Further study, in the light of experience with a liberalised single market in telecommunications and with the ETNS, of need for and costs / benefits of unified European numbering environment.</p>

I. INTRODUCTION

With the emergence of a liberalised telecommunications market within the European Union, the availability of adequate numbers and appropriate numbering mechanisms, allocated and designed on a fair, transparent and non-discriminatory basis, is an essential condition for effective competition, innovation and consumer choice.

Moreover, the outline of the European numbering environment, at present composed of national numbering plans and additional global numbering resources, is likely to have a significant impact on the opportunities for the development of pan-European services within a single market.

Numbering policies determining or affecting the European numbering environment are currently developed at the national, the Community, the wider European and the global levels and in several different organisational frameworks. This practice is consistent with the principle of subsidiarity which requires measures to be taken at the most appropriate level.

At the level of the European Union, existing and future numbering structures must be assessed against the objectives of the completion of a liberalised and competitive market in telecommunications services throughout the Union and the creation of an effective single market.

Against this background the Commission published its Green Paper on a Numbering Policy for Telecommunications Services in Europe², presenting various options for a common approach towards certain numbering issues in order to reach the agreed goals of a liberalised, single telecommunications market. A broad public consultation on these options was intended to provide the input for a more concrete plan of action, closely following the needs and demands of residential and business users and new entrants in the telecommunications market while taking account of any constraints within existing telecommunications structures.

² COM(96)590 final, 20.11.1996

II. CONSULTATION PROCESS

The Green paper on numbering invited comments and views of all interested parties regarding the outline and features of a numbering environment which can facilitate real competition in a liberalised telecommunications market and contribute to the development of a single market to the benefit of the users.

The Green paper was published in November 1996 and a public hearing, with more than one hundred participants, took place on 5 February 1997.

Around 80 written comments were received from residential and business users associations, telecommunications service and network providers, equipment and software manufacturers and national regulatory authorities and their associations.

The Green paper has also been put on the agenda of the European Parliament's Committee on Economic and Monetary Affairs, the Economic and Social Committee and the Committee of the Regions. Initial exchanges of views took place in these fora but formal opinions have not been adopted yet.

The Joint Committee on Telecommunications, consisting of management and trade unions of telecommunications network and service providers within the Union, issued an opinion on 28 February.

A list of written comments received by the Commission is set out in the Annex.

III. COMMENTS RECEIVED ON MAIN POINTS OF THE GREEN PAPER

III.1 General Remarks

The Green Paper on numbering was broadly welcomed and the issues it addressed were recognised as crucial for the development of effective competition in a single European telecommunications market. The Green paper was applauded for its effort to revitalise the discussion on numbering at the European level and for its attempt to sketch a coherent view on numbering issues accompanied by concrete proposals for action.

At the same time it was pointed out that for all numbering changes and number mechanisms the needs of the user should be the main focus. Changes to numbering plans always impose a considerable burden on both business and residential users and should therefore only be envisaged if the benefits clearly outweigh the costs.

A consumer association and various service providers stressed the importance of an objective information campaign to inform the users in due time of the new possibilities which would be available, in particular number portability, carrier selection and Europe wide service numbers. The user should obtain clear guidance on how to benefit from any of these new options.

Incumbent operators insisted that the introduction of key numbering mechanisms should be harmonised and synchronised throughout the European Union in order to avoid competitive distortions. Other operators feared that such an approach would lead to undesirable delays in countries that were prepared to move faster. National regulators felt that there should be different implementation dates for different Member States in accordance with the development of their network and in line with transition periods that were granted for the liberalisation of telecommunications services.

Numerous commentators raised the question of whether the green paper gave a too optimistic picture of the benefits of numbering changes and new mechanisms while underestimating the costs involved.

III.2 Carrier selection / Carrier pre-selection

- Green paper proposal -

Introduction of carrier selection in two steps, namely call-by-call carrier selection to be introduced by 1.1.1998 and carrier pre-selection by 1.1.2000.

Key issues

- Obligation to be imposed only on fixed or also on mobile access providers ?
- Obligation to be imposed only on operators with significant market power or also on new entrants ?
- Easy access or equal access ?

Other issues

- Cost mechanism
- Billing arrangements
- Technical feasibility
- Allocation of prefixes
- Method for assigning the default carrier
- Timing

The potential effects of carrier selection to increase competition were widely recognised, both by those who therefore advocate a rapid and general introduction and by those who for the same reasons insist that a more cautious and limited approach should be chosen. Comments focused on types of services (fixed, mobile) to be covered, categories of operators (operators with significant market power only or all) to be obliged to offer carrier selection and on the merits of different carrier selection mechanisms.

Mobile versus fixed

Mobile operators typically argued that no form of carrier selection should be imposed to the mobile sector since sufficient competition already exists. Some also invoked technical complications for implementation of carrier selection in mobile networks for which standardised solutions need to be developed first. Long distance service providers on the contrary insisted that all local loop access providers, wired and mobile, should be obliged to offer carrier selection.

Incumbents versus new entrants

Alternative fixed local loop access providers felt that the debate on carrier selection is based on the (false) presumption that the local loop is a utility rather than a competitive product. They considered carrier selection to be a useful temporary instrument to force down tariffs for international and long distance calls as charged by operators with significant market power. However, any across the board obligation for local access providers to offer carrier selection would act as a disincentive to

invest in local infrastructure. These arguments were countered by others, in particular long distance and international service providers, who believe that the regulatory framework should not favour one particular structural outcome of the competitive process (infrastructure or service based competition). Moreover they added that carrier selection will also provide an incentive to invest in the local loop given the importance of customer ownership.

“Easy access”³ versus “equal access”⁴

As to the mechanism of carrier selection, a small minority held the view that easy access is a sufficient instrument to facilitate competition in order to lower long distance and international tariffs. Moreover, they insisted that where easy access already exists, the costs of a mandatory migration to equal access would not outweigh the benefits.

Nevertheless, a majority of the comments, not only those of new entrants in the long distance and international services market and of business and residential users associations, but also the majority of incumbents and national regulators supported the eventual need for full equal access. Various international service providers expressed strong misgivings concerning the risk that easy access is wholly inadequate in bringing about effective competition given its strong bias in favour of the incumbent operator. They said that experience shows that customers find it difficult to make the additional dialling effort required for selecting a different carrier than the one determined by default by the local access provider. The latter will in most cases be the incumbent even in a fully liberalised market.

In the same context incumbent operators stressed the need for harmonised and synchronised introduction of pro-competitive numbering mechanisms throughout the EU in order to avoid competitive distortions (see below under ‘timing’).

Cost calculation

Many respondents underlined the need for a fair and transparent calculation of the interconnection costs which the local access providers may charge the selected carrier, as these will have a significant impact on the profit margin of the selected carrier. Sufficient unbundling of the local loop is a crucial requirement to ensure that the selected carrier and his customer only pay for the part of the local access providers’ network which is used for setting up the call. A significant detail will be whether the local access provider will also charge for unsuccessful calls (busy line, no reply).

Billing arrangements

Related to the calculation of costs is the issue of billing arrangements. No clear trend emerged from the comments apart from the fact that billing arrangements are considered to be important. Various commentators felt that being able to send bills directly to customers is important for service providers in view of branding and

³ Easy access, in relation to carrier selection, refers to the situation where the default long distance carrier is determined by the local access operator with the possibility of override through dialling of a (short) code by the user on a call-by-call basis.

⁴ In relation to carrier selection, equal access refers to the situation where the long-distance carrier is pre-selected by the customer with the possibility of override through dialling on a call-by-call basis..

building a customer relation. This however requires that the local access network is able to transfer Calling Line Identification to the long distance carrier. Others said that the selected carrier should have a choice between direct billing or sub-contracting subject to commercial negotiations with the local access provider. A consumer association pointed out that it would be in the interest of users for billing to be transferred to a third party so that the exercise of choice through frequent switching between carriers would not lead to just as many bills as there were operators involved.

Technical feasibility

The technical feasibility of introducing carrier selection and carrier pre-selection within the proposed time frame was hardly questioned, except for subscriber lines linked to analogue exchanges. Especially the absence of Calling Line Identification (CLI) capability in such lines is seen as a problem since CLI would be necessary for the selected carrier to identify his customer. It was felt that it would not be appropriate, solely for the purpose of ensuring carrier pre-selection, to insist on costly upgrades of such analogue exchanges where their replacement by digital exchanges was already foreseen in investment plans.

Carrier prefixes

Concerning the carrier prefixes, most respondents insisted that it was too late to harmonise codes at a European level⁵ since various Member States have already dedicated different ranges of prefixes for carrier selection. Harmonisation of these ranges only just after they have been introduced would be costly, disruptive and confusing.

Other comments on prefixes stressed the importance of dialling parity with the incumbent operator and the need to have short prefixes, which can be easily memorised and which do not deter the caller from using them because of their length in cases where they cannot be pre-programmed in terminal equipment. On the other hand, one-digit prefixes were considered to be inappropriate because they will only offer room for 6 or 7 alternative carriers.

Various regulators pointed out that the assignment of a carrier prefix would depend on the ability of a certain carrier to cover (most of) the national territory. Others remarked that by foreseeing carrier prefixes of varying length it would be possible to stimulate investment in infrastructure by allocating short prefixes to infrastructure based carriers and longer prefixes to service based carriers.

Moving to equal access

Among those who were in favour of carrier pre-selection, there was wide support for leaving the initiative to change the default long distance carrier to the customer and to use marketing campaigns as an instrument to influence the customer's choice. The method where all subscribers are requested through a ballot, organised by the

⁵ a first level of harmonisation would be to have one structure of prefixes throughout Europe (e.g. 10xy) but leaving the allocation of the xy part at the national level; a second level would be to allocate the xy part at the European level so that an operator could be selected by the same code throughout Europe.

regulator, to indicate their preferred long distance default carrier, was widely rejected by the market players. Nevertheless, a consumer association felt that the regulator should play a strong role in raising the awareness of the consumer and in providing complete and unbiased information about the various options.

Timing

Strong views were expressed by national regulators and incumbent operators about the need to harmonise and synchronise the introduction of , inter alia, carrier selection and pre-selection throughout the EU. Given the important competitive implications of especially carrier selection and pre-selection, it was felt by a majority that a situation where different mechanisms were used in different Member States at different times would lead to unacceptable competitive distortions. A small minority held the opposite view, arguing that the selection mechanism should depend on the state of competition in a given national market and on the technical development of the network.

Nevertheless, there seems to be general acceptance for carrier selection and pre-selection to be synchronised with the liberalisation of voice telephony which means that for Member States with agreed additional transition periods, the introduction of carrier selection and pre-selection should take effect at these later dates as well. Some operators pointed out that in these cases the intermediate step of easy access should be skipped in order to have equal access established throughout the European Union at the same time.

Several alternative service providers consider a two-step approach unnecessary and undesirable. They argue that there are no valid reasons to postpone carrier pre-selection except the wish to protect existing market shares. A majority however is in agreement with the mandatory introduction of some form of carrier selection by 1.1.1998 followed by carrier pre-selection by 1.1.2000. Even for those operators and user associations who consider that the time frame could be more ambitious , this appears to be an acceptable proposition.

III.3 Number portability

- Green paper proposal-

Implementation of number portability for the (fixed) local loop as from 1.1.1998 and by 1.1.2000 at the latest in all major centres of population and from 1.1.2000 for mobile networks and for special services.

- Comments -

Key issues

- coverage (types of services)

- cost sharing mechanism
- technical solutions
- timing

The importance of number portability as one of the elements to achieve real competition between local access providers is generally accepted. The main point of debate are the technical feasibility, the costs of implementation and the mechanism for sharing these costs between the operators involved.

Coverage

As for carrier selection, there is opposition from mobile operators who say that given the level of competition in mobile markets number portability is not needed and its implementation costs would outweigh the benefits.

As to the wishes of consumers in this matter, various mobile operators claim that for mobile users changing number is not a significant deterrent. However, one mobile operator, arguing in favour of mobile number portability, quotes a market research result which suggests that 40% of mobile users, especially users in the business segment, see changing numbers as a significant barrier for changing to another network provider. A major consumer association also pleads in favour of having number portability in the mobile sector as well.

There is general agreement about the need to have reciprocity in number portability meaning that both incumbents and new entrants should offer it to their customers.

In contrast to the Green Paper suggestion (and the provisions of the Interconnection Directive) many respondents advocate general territorial coverage, rather than a phased-in approach requiring at an initial stage only coverage of major centres of population, since the latter option could be a disincentive to invest in infrastructure in less populated areas.

Various international operators and some regulators stress that portability of numbers for special services (freephone, premium rate and shared costs) is an urgent requirement since holders of such numbers are even more reluctant to change operator if this implies changing their number too.

Geographic portability (keeping the number while changing location) is not seen as an important option for the general public but it was recognised as most desirable for corporate and other business users. Their needs could however be accommodated by non-geographic numbers⁶.

Consumer associations and operators stressed that the present numbers contain an important element of tariff information which should be preserved (i.e. identifying

⁶ Non-geographic numbers are (national) number ranges that are not identified with one specific geographic region, city area or local community. They are used for instance for freephone, shared cost and premium rate services.

whether a call is a long distance or premium rate call) . Number portability should not lead to less transparency in the expected price of a call.

Technical solution:

There is consensus that any switch based⁷ implementation of number portability, such as remote call forwarding or drop-back, is unsatisfactory in the long run because it is inefficient and may impair the quality of the network services. Moreover, the operator who receives the number will remain dependent on the operator who loses the number for termination of calls, and the conveyance costs for rerouting of calls will be high, with no particular incentive to bring them down.

There is consensus that the technically and economically superior solution for number portability is that of a parallel data base with equal access for all operators and no interdependence. However, various respondents maintain that the costs of a data base solution are underestimated. An international operator on the contrary, felt that the implementation of an intelligent network solution should be a formal requirement for which a time frame should be imposed.

Another respondent suggested that , following the example of the FCC, minimum criteria should be determined for a long term portability solution, taking account of characteristics and dissimilarities of existing national numbering plans so that switch manufacturers could work towards a single standard.

Some regulators insisted that methods of implementing number portability should be left to them and similarly incumbent operators maintained that the technical solutions should be their domain, provided that interoperability would be assured on the basis of ETSI standards.

Costs and cost sharing

Little evidence of projected costs was provided. The total costs of the various solutions and the way in which they should be shared by the operators concerned were the subject of many comments and divergent opinions, though not necessarily very developed. All agreed however, on the great importance of a fair cost sharing mechanism for a successful implementation of number portability.

On the basis of specific experience regarding this issue, one regulator suggested a cost allocation scheme in which the administrative and per-line set-up costs should be borne by the 'recipient' operator, each operator should bear his own system set-up costs and any additional conveyance costs should, in principle, be borne by the 'donor' operator to be recovered through general network charges. This would encourage most efficient routing methods. There should then, however, be a

⁷ Number portability solution where recognition of a ported number can only be achieved at the original terminating local exchange.

possibility to have some temporary additional conveyance charges for the 'recipient' to allow the implementation of efficient routing.

In the case of an intelligent network solution, an international operator proposed that a charge be imposed on all service providers based on their service revenues to cover the common costs of the creation and management of the necessary data base.

It was also suggested that the Commission should provide detailed guidance on cost issues.

Timing

Several of the incumbent operators stressed the importance of a synchronised introduction of number portability whereas others felt that a gradual introduction would be more appropriate in order to allow operators to integrate the introduction of number portability capacity in their regular network update programme.

As to the date for implementation, number portability has already been introduced in several Member States and will be introduced in other Member States by next year. These Member States and the operators based there felt that the proposed timetable was not ambitious enough. Users' associations, manufacturers and alternative access providers also proposed earlier dates.

However, a minority of regulators and incumbent operators insisted that the proposed date of 1.1.2000 was too early and that the existing deadline of 2003 foreseen by the Interconnection Directive should be maintained.

III.4 Restructuring of national numbering plans

- Green paper proposal -

Review of national numbering schemes towards further integration of national numbering plans. adaptation of national numbering schemes according to the agreed common guidelines, to be completed by the year 2000. No allocation of numbers beyond the length of 13 digits (not including carrier selection prefixes or international prefixes).

- Comments -

There was widespread concern over the cost and impact for users of further changes of national numbering plans in the short to medium term. Major overhauls of various national numbering plans had recently been completed and a period of stability would be welcomed by all.

At the same time, there was support for gradual convergence in the long term on the basis of common guidelines but the time frame should stretch well beyond the 2000 date proposed in the Green Paper.

Moreover, most respondents stressed the significance of open, non-discriminatory and transparent national numbering plans managed by independent authorities for the success of a competitive market. One regulator suggested that national numbering plans should be examined systematically, with the technical assistance of CEPT/ECTRA, to verify whether the competitive requirements were met. For any necessary further changes reasonable implementation periods should be allowed.

III.5 European Telephony Numbering Space

- Green Paper Proposal -

Implementation of European Telephony Numbering Space by 1 January 1998 at the latest.

- Comments -

Pan-European carriers and other operators with a pan-European strategic vision, expressed strong support for the development of an European Telephony Numbering Space and felt that it would create opportunities for the development of pan-European services. Many others, although not against the idea, questioned the current demand for Europe wide numbers for special services. It was however admitted by some that supply might have to precede demand in this case.

There was broad support for implementation of an European Telephony Numbering Space on the basis of the '388' country code. However, given the fact that clearance for the use of this code by the International Telecommunications Union is expected in May 1997, the proposed implementation date of 1.1.1998 was seen as unrealistic, and should be replaced by a target of late 1998/ early 1999.

Many comments insisted that any development of Europe wide services should not interfere with the development of global services and that duplication should be avoided. Some felt that for this reason '388' should in any case not be used for freephone services since these could already be accommodated by the Universal International Freephone Service number '800'. They argued that use of global numbers could be confined to European countries if the service provider wished to do this.

In contrast, others urged to maintain a wide spectrum of special European services to be covered by the European Telephony Numbering Space. Several commentators saw an interest in accommodating the numbering needs of multinational corporate users within the European Telephony Numbering Space.

Consumer associations underlined that there should be a clear distinction between numbers for freephone and premium rate services in order not to confuse the users about the costs of their calls. Moreover, it would be necessary to introduce possibilities for selective call barring , simultaneously with the introduction of Europe wide premium rate numbers.

Various comments suggested that '388' would prove a useful testing ground for demand of pan-European services and for the value-added of numbering management at a European level. Further development could be decided depending on the success of this initial code.

III.6 Administration of European numbering space

- Green paper proposal -

EU, in conjunction with ECTRA , to propose a new structure for regulation and administration of numbers in Europe by 1 January 1998 at the latest.

- Comments -

Most comments on this topic were received from regulators and incumbent operators. There were few remarks from other network and service providers. It was generally accepted that the creation of an European Telephony Numbering Space , even on a limited scale, would require the administration at a European level of number allocation. However, in line with the modest ambitions which were expressed for the European Telephony Numbering Space in an initial phase, the management tasks would, in the view of most respondents, not require a new structure at this stage. Various respondents suggested that ETO should administer the European Telephony Numbering Space.

A consumer association pointed out that any newly created administrative structure should also incorporate consumer interests.

III.7 Long-term European numbering plan

- Green paper proposal -

Development of a long-term strategic plan for numbering in Europe by 1.1.1998. This should include the creation of a European country code (3xy) with transfer of

responsibility of administration and management of the last two digits to Europe and a unified numbering environment by the year 2000.

- Comments -

A majority of commentators felt that the advantages of and demand for a unified European numbering environment were insufficiently demonstrated. It was widely believed that the costs would outweigh the benefits and that in any case the proposed time scale of 1.1.2000 was not realistic. There was general consensus that the costs and benefits as well as the technicalities of any such evolution should be examined thoroughly before any decision could be taken. The experience of the development of the '388' code and of the European Telephony Numbering Space would play a key role. If the outcome of further studies would be positive, harmonised European numbering should in any case be projected over a 10-20 years period.

III.8 Alpha-numeric dialling

- Green paper proposal -

Adoption of a common standard for keypads supporting alpha-numeric dialling.

- Comments -

There was strong support for a common approach to alpha-numeric dialling on the basis of International Telecommunications Union recommendation E.161, Option A providing a format for the association of alphabetic characters to numbers. A consumer association pointed out that it would be very useful for users if the '*' and '#' function codes would be standardised as well.

One respondent warned that it was important not to create the impression that users could actually own certain numbers. Even if numbers were to be widely associated with letters this should not lead to trade mark claims by business users on certain numbers.

III.9 Naming and addressing in the Internet

- Green paper proposal -

Fair and non-discriminatory allocation of internet names and addresses should be safeguarded. Situation in the Member States to be reviewed in order to assess the need for concrete measures.

- Comments -

Internet naming and addressing issues attracted less attention than other issues raised in the Green Paper. Nevertheless, there was agreement on the analysis regarding naming and addressing and it was felt that the problems identified should be addressed.

Some felt that global harmonisation and restructuring of use and allocation of internet names and addresses was needed. Another comment insisted that the use of national top level domain names should be encouraged to ensure that allocation practices were in line with national trade mark law. With global top level domain names the protection of trade marks was much more difficult.

In general the comments said that the best way to solve any problems was through continued self-regulation and not by regulatory intervention. However, there were various calls for European non-regulatory initiatives in order to improve the representation of European interests in the global discussions.

IV EVALUATION

IV.1 Issues of consensus or major support

On the basis of the comments received at the hearing and in writing, the Commission concludes that the consultation has demonstrated that :

- the crucial role of numbering in ensuring effective competition is generally acknowledged ;
- the introduction of carrier selection within fixed networks for operators with significant market power, at the same time as markets are opened to full competition, is widely supported ;
- only carrier pre-selection will give users the full benefits of competition in long distance and international calls , and it can and should be introduced by 1.1.2000 at the latest for fixed local access providers with significant market power;
- the introduction of operator number portability on a reciprocal basis (both for incumbents and new entrants) in the fixed networks is considered to be an important requirement ;
- territorial phasing-in of number portability, starting in the major centres of population, is not considered to be necessary or desirable ; general territorial coverage was favoured instead;
- the portability of non-geographic numbers (freephone, premium rate, shared costs) is generally regarded as a feature to be introduced urgently ;
- the implementation of a European Telephony Numbering Space initially on the basis of the '388' country code , to be used as a testing ground for any further development, is widely seen as the best approach ;
- a common approach to alpha numeric numbering based on European Union wide implementation of International Telecommunications Union recommendation E.164 would be welcomed;
- continuation of self-regulation was regarded as the best approach to tackle any problems occurring with naming and addressing issues concerning the Internet; however, issues need to be examined further in view of European initiatives to improve representation of European interests at the global level.

Regarding the question of call-by-call carrier selection with the default determined by the local access provider ("easy access") and carrier pre-selection by the customer

("equal access"), the consultation brought out in great detail the arguments used by those who object to equal access and others, the vast majority, who recommend and support it. Without addressing any of the other arguments of this debate here, it is useful to clarify one of the main aspects of the discussion, namely the effect of "equal access" on local infrastructure competition and the views of the Commission on this.

It is argued by a minority, based on a regulatory choice made in the past, that carrier pre-selection arrangements reduce the profit margins for local access providers by opening the market for long distance and international calls to strong competition. This would then suppress the incentive to invest in alternative local infrastructure, thus leaving the provision of local access in most cases to a single, de facto monopoly provider.

The majority of comments say that leaving barriers for services competition in order to stimulate infrastructure competition, on the contrary does not lead to economic efficiency nor does it give customers the best deal. On the one hand a duopoly for local infrastructure is no guarantee for real competition regarding the offer of local access services and on the other hand, not having user friendly instruments to pre-select other service providers over the local network invariably leads to service tariffs staying high. Moreover, residual barriers to service competition create an artificial incentive for infrastructure investment which may not be sustainable in the longer term.

On the basis of the arguments brought forward in the consultation, the Commission considers that "equal access" is the best instrument for creating a level playing field for incumbent operators and new entrants alike. Moreover, as user associations have pointed out, the consumer is best served with user friendly mechanisms which offer access to all services available and they do not consider call-by-call carrier selection without the possibility for the customer to choose his own default as user friendly. For these reasons, the Commission proposes the introduction of carrier pre-selection throughout the internal market by a set date. The concern about having sufficient investment in local access infrastructure is shared by the Commission. However, incentive for investment in the local loop is likely to be driven increasingly by the provision of new multimedia services rather than by competition in traditional voice telephony. More importantly, concerns about the quality and availability of local access are considered to be met by the universal service obligations which are now firmly anchored in Community legislation. These obligations ensure that every citizen can access an affordable service of defined quality wherever they live in the Community.

IV.2 Issues for further discussion or study

On the basis of the comments the Commission concludes that it would not be justified at this stage, to oblige local access providers without significant market power to offer carrier selection or carrier pre-selection.

It appears that if such obligations are imposed on local access providers with significant market power, the market forces themselves will provide an incentive for

local access providers without significant market power to offer similar facilities without regulatory obligations or, alternatively, to lower their tariffs to competitive levels. If they would refrain from doing this, they would not be an attractive alternative for customers who would then stay with or switch back to the access provider offering such options.

The issue of whether a broader obligation is required, will be reconsidered as part of the general review of the functioning of the various telecommunications liberalisation and harmonisation measures (as already foreseen in the relevant Directives), scheduled for 1999.

Secondly, the Commission considers that the need to oblige mobile operators to offer carrier selection, carrier pre-selection and number portability needs to be further examined, especially as it would require technical changes to the GSM standard (which are currently being examined by ETSI) and could involve high introduction costs. Despite the high degree of competition in various national mobile markets allowing fair consumer choice, many other markets are still in the early stages of a development process and it remains to be seen what level of competition will be reached. For these reasons, the Commission finds that it would be reasonable to re-evaluate the need for introduction of new numbering mechanisms facilitating consumer choice in the mobile sector by the end of 1998.

Furthermore the Commission concludes that further study is needed on :

- an appropriate cost sharing mechanism for number portability;
- how the eventual introduction of an intelligent network solution for number portability can be facilitated and how inter-operability requirements can be met;
- technical and cost aspects of the implementation of carrier selection and number portability in mobile networks;
- the costs and benefits and technical aspects of a harmonisation of national numbering plans in view of a long term European numbering plan.

V. PRIORITIES FOR ACTION

V.1 Numbering and ensuring effective competition

The consultation has shown that there is broad agreement on the importance of appropriate numbering schemes and mechanisms to allow users to benefit from competition in a liberalised market.

In addition to the general application of competition rules under the Treaty, the legal framework for telecommunications establishes obligations for Member States with regard to numbering. The Commission Directive with regard to the implementation of full competition in telecommunications markets⁸ requires that adequate numbers are made available for all telecommunications services before 1 July 1997. The Interconnection Directive⁹ reiterates this requirement and also stipulates that "*National regulatory authorities shall ensure that numbering plans and procedures are applied in a manner that gives fair and equal treatment to all providers of publicly available telecommunications services*" and that there shall be no "*undue discrimination in the number sequences used to give access to the services of other telecommunications operators.*" Moreover, the Interconnection Directive already sets a deadline of 1 January 2003 for the introduction of operator number portability at least in all major centres of population, but the consultation has indicated that this date should be brought forward. In any case, according to competition rules as recalled in directive 96/19/CE, the numbering policy of the Member States shall not - inter alia - lead to maintain barriers to entry at an artificially high level, so that a dominant position would be acquired, maintained, or strengthened, even though special or exclusive rights would have been abolished.

1. Carrier selection / carrier pre-selection

In a multi-operator environment, users must be able to access simply and cheaply the operator of their choice, even where this operator does not provide a direct line into the customer's office or home. In this context carrier selection and interconnection are two sides of the same coin. If we agree that it is important to oblige incumbent operators to offer interconnection to new entrants, we should also make sure that the users have appropriate instruments to reach the interconnected new entrants.

The consultation showed wide support for the early introduction of carrier selection as an immediate step and the subsequent introduction of carrier pre-selection to allow equal access.

⁸ Commission Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets, OJ L 74, 22.3.1996, p.13.

⁹ Directive 97/ /EC of the European Parliament and the Council on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of open network provision (ONP) (awaiting formal adoption)

Whilst the Interconnection Directive does not determine whether the default service provider should be chosen by the customer or by the local access provider, it does require that fair and equal treatment regarding numbering is given to all service providers. In practice this means that Member States must at least create a system of pre-fixes by which customers can reach other service providers than their local access providers.

In order to achieve effective competition, the Commission considers that national implementation measures must be in place on the basis of the current regulatory framework to ensure that

- **a non-discriminatory and user friendly mechanism for direct selection by the customer of a long distance and international calls carrier is offered by all fixed local access providers with significant market power by 1 January 1998 in all Member States where liberalisation of voice telephony is required by that date.**
- **long distance and international service providers may negotiate pro-competitive cost calculation and billing arrangements with the incumbent operator.**

Further Community measures will be needed to achieve that:

- **carrier pre-selection is available for customers of all fixed local access providers with significant market power by 1 January 2000 in all Member States.**

The need for extension of carrier selection or pre-selection to mobile operators must be re-evaluated by the end of 1998 and the need for an extension to fixed local access providers without significant market power, must be examined in the 1999 review.

2. Number portability

The need to change telephone numbers when changing network provider has been identified as an important deterrent, both for business and residential users. The availability of operator number portability will be crucial to stimulating competition in the local loop. The introduction of number portability is already a legal requirement under the Interconnection Directive by 1 January 2003 at the latest for major centres of population.. While there is broad agreement on the need to introduce number portability, divergent views emerged in the consultation as to the coverage and timetable for its introduction.

On the basis of the consultations the Commission believes that the Interconnection Directive should be amended to

- **require all operators who issue non-geographic special service numbers (freephone, shared costs and premium rate) to offer operator portability for such numbers by 1.1.2000.**
- **require all local fixed access providers to offer operator number portability by 1 January 2000 at the latest.**

In view of these requirements , the consultation indicated that certain accompanying measures will be needed. In particular , it will be necessary to

- **develop guidelines by 1998 on fair and pro-competitive arrangements for assessing and sharing the costs of number portability between operators involved.**
- **study possible minimum criteria and standardisation requirements in view of guaranteeing interoperability within a long term number portability solution (intelligent network solution).**

With regard to any further extension of number portability , the Commission draws the following conclusions from the results of the consultation:

- **taking account of studies conducted by ETSI, by the end of 1998 the desirability of and a possible date for requiring mobile operators to offer operator number portability must be re-evaluated.**
- **it would not be desirable to have location number portability or number portability between different service categories (between fixed and mobile), where this would lead to a loss of tariff information for the user. In this context it would be necessary to study how a system of on-line, per call tariff information for the user can be implemented in a multi-operator environment where numbers no longer give reliable indications for the tariff of a call.**

3. Opening national numbering plans to competition

The consultation on the Green Paper has stressed once again the great importance attached by operators and service providers, and in particular new entrants and

incumbents with a pan-European strategy, to open, non-discriminatory and transparent national numbering plans to be managed by independent authorities. These requirements are fully recognised by EC telecommunications legislation and obligations have been imposed on Member States accordingly.

Under the full competition Directive¹⁰ the Commission will scrutinise the national numbering plans to verify that they have been sufficiently adapted to the new competitive environment. Part of the factual input needed for this assessment will be provided by a study which ETO is currently conducting.

On the basis of the ETO study, and after discussion with all interested parties, the Commission should propose recommendations for any further restructuring of national numbering plans needed to accommodate the numbering needs of a multi carrier environment in an equal, non-discriminatory way.

V.2 Numbering and the single market

Obviously, from the present situation where telecommunications services and networks are still very much organised and operating within national borders, it is difficult to think ahead and forecast the requirements of a unified European market for telecommunications services. Only a few respondents have been able to make this leap in time and to recognise the needs and the opportunities of a single market for telecommunications services.

Practically all respondents underlined the need to allow for long to very long periods in case of significant changes in numbering plans. This means that numbering plans are not a commodity which can be easily and quickly adjusted to changing needs, especially where changes are required to at least fifteen numbering plans

1. Implementation of European Telephony Numbering Space

The best arbitration mechanism to decide which of the divergent assessments of the future demand for pan-European services is the correct one will be the market itself. However, in order to allow the market to reply, the availability of pan-European numbers must precede the demand.

¹⁰ Commission Directive 96/16/EC amending Commission Directive 90/388/EEC regarding the implementation of full competition in telecommunications markets, OJ L 74, 22.03.1996, p.13.

The Commission considers appropriate to

- **aim at establishing the European Telephony Numbering Space by 1 January 1999 on the basis of the '388' country code.**
- **define a broad spectrum of services which may be operating under the '388' code, while at the same time ensuring that users can easily distinguish between various types of services and their tariffs.**
- **charge a structure within CEPT /ECTRA with the processing of applications for pan-European numbers and the settlement of disputes.**

2. Convergence of national numbering plans

The consultation showed that harmonisation in itself was not seen as a sufficient ground for changing national numbering plans. At the same time, the merits of a certain degree of harmonisation were recognised but to achieve this, a gradual natural convergence on the basis of consensus was advocated. Therefore the Commission believes that future changes in numbering plans should be based on agreed common guidelines with a dual competition and convergence purpose. In this way the growth and expansion of the pan-European dimension within the European numbering environment can be achieved without having to undertake any major additional changes in national numbering plans.

The recommendations which the Commission intends to give for further restructuring of national numbering plans needed to achieve equal qualitative and quantitative access to number resources for all market players (see above), should also incorporate criteria ensuring an appropriate degree of convergence between national numbering plans.

3. Long term European numbering plan

The consultation on the Green Paper has shown that there is considerable uncertainty about the costs and benefits of a unified European numbering environment, and that further study is therefore required.

In the light of experience gained with a liberalised single market and with the European Telephony Numbering Space, by the end of 1999, the Commission will contract a detailed study of the costs and benefits likely to be associated with a unified European numbering environment.

4. Alphanumeric dialling

The general support for a common approach to alphanumeric dialling on the basis of International Telecommunications Union recommendation E.161 , option A, should be translated in a common standard.

Consumers have expressed an interest in harmonisation of the "*" and "# " function codes as well. This is a somewhat different and more complicated type of harmonisation since it requires a common standard for these codes to be available as functions in the network. Therefore it involves cooperation and agreement of all network operators. ETSI is currently undertaking work towards a common standard.

The Commission believes that ETSI should endeavour to adopt common standards , both on alphanumeric dialling and the "*" and "#" codes by the end of 1997.

5. Internet naming and addressing

Although there was broad agreement on the significance of naming and addressing within the Internet and the problems which have occurred, no consensus has emerged about the nature and scope of initiatives or measures which should be taken. The Commission sees this outcome as support for an informal but active contribution to be made by the Commission , with a view to defend European interests in the global discussion.

The Commission will keep the situation under review and will propose non-regulatory initiatives where this can have an added value for the representation of European interests at the global level.

VI. TIMETABLE

On the basis of the preceding chapter on priorities for action, the timetable for the availability of carrier selection and pre-selection, number portability and pan-European numbers is as follows :

by 1 January 1998	Call-by-call carrier selection to be offered by all fixed local access providers with significant market power in all Member States where full liberalisation is required by that date and in Member States where additional transition periods have been agreed, by the end of that period.
by 1 January 1999	Establishment of a European Telephony Numbering Space on the basis of country code '388'
by 1 January 2000	<p>Carrier pre-selection , with default to be determined by the subscriber and with call-by-call override for the user, to be offered by all fixed local access providers with significant market power in all Member States</p> <p>Operator number portability to be offered by all fixed local access providers</p> <p>Number portability to be offered by all operators for non-geographic special service numbers (freephone, shared costs, premium rate services)</p>

In order to attain these objectives and to decide on any follow-up , the following actions will be needed :

by mid 1997	<p>Adoption of resolutions by Council and the European Parliament confirming the priorities and timetable for action which have emerged from the consultation</p> <p>Commission review of national numbering plans in view of requirements of the full competition Directive</p>
by end 1997	Proposal for appropriate legislative measures to ensure the availability of facilities for carrier pre-selection and number portability throughout the internal market by 1 January 2000.

	<p>ETO report with detailed description of national numbering plans</p> <p>Adoption of ETSI standard concerning alphanumerical key pads</p> <p>Launch studies on 1) possible minimum criteria and standardisation requirements in view of a long term number portability solution and 2) alternative, on-screen/on-line means for tariff information for the user</p>
by end 1998	Examine possible extension of carrier selection and number portability requirements to mobile operators.
by early 1999	<p>Appropriate legislative measures to be adopted to ensure the availability of facilities for carrier pre-selection and number portability throughout the internal market by 1 January 2000.</p> <p>Member States to implement '388' for the European Telephony Numbering Space</p> <p>Commission to issue common guidelines on fair and pro-competitive arrangements for sharing costs of number portability</p> <p>Commission recommendations on further restructuring of national numbering plans in view of competition requirements and gradual convergence</p>
by end 1999	Examine desirability of extension of carrier selection requirements to fixed local access providers without significant market power
early 2000	Further study, in the light of experience with a liberalised single market in telecommunications and with the ETNS, of need for and costs / benefits of unified European numbering environment.

VII. CONCLUSIONS

The consultation has demonstrated wide support for the Green Paper proposals to introduce carrier selection, carrier pre-selection and operator number portability in order to enable the user to benefit from a new competitive market situation. The comments also provided a useful basis to determine the most appropriate coverage in terms of services and service providers, for the mandatory requirement of these numbering features, as well as clear indications concerning the timetable for their introduction. The Commission will propose concrete measures to ensure that these numbering mechanisms are put into practice by the deadlines which are considered desirable and feasible.

Moreover, the outcome of the consultation showed a strong emphasis on the need for national numbering plans to allow equal quantitative and qualitative access to numbering resources for all carriers. This was generally felt to be a key requirement for non-discriminatory access to the liberalised telecommunication markets. The Commission will continue to closely monitor the situation in the Member States with regard to numbering plans and take action where necessary. In addition recommendations will be issued for further restructuring. These recommendations will also take account of convergence requirements.

On other numbering issues related to the single market, various action points have been identified and the Commission will actively follow and encourage developments in CEPT/ECTRA regarding the establishment of the European Telephony Numbering Space. Where necessary mandates and work requirements will be submitted to ETSI and ETO on specific issues identified in the consultation.

A long term view on a European Numbering environment will need to be developed on the basis of experience gained with a liberalised market and with the European Telephony Numbering Space. The Commission will follow up on this with a detailed cost / benefit study.

The Commission transmits to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, the present Communication prepared on the basis of the public consultation.

Glossary

Alpha-numeric dialling / keypad	Dialling a telephone number by using the corresponding letters on the telephone's keypad that correspond to the name of the service or the called party e.g. "0-800-FLOWERS"
Carrier pre-selection	Possibility for customers to determine their own default carrier on a semi-permanent basis thus avoiding any additional dialling
Carrier selection	The possibility for customers to choose their long-distance or international operator e.g. by dialling a code or by determining the default carrier
Easy access	Method for carrier selection whereby the default carrier is determined by the local access provider with the possibility of call-by-call override by the user through dialling a code
ECTRA	European Committee for Telecommunications Regulatory Affairs created as one of the three committees under the Conference des Postes et Télécommunications. It includes a number of project teams covering inter alia licensing, numbering, interconnection, mobile communications, testing and type-approval. Council Resolution 92/C318/EEC of 19 November 1992 on the promotion of co-operation on Europe wide numbering, identified several tasks for ECTRA, including the creation of a European numbering space and the preparation of positions for discussion within ITU.
Equal access	Method for carrier selection without bias in favour of a particular long distance or international carrier whereby either the default carrier is determined by the customer with call-by-call override or no default carrier is determined and each long distance or international call must be preceded by a carrier selection prefix. (the latter method is not considered to be user friendly)

ETNS	(still to be created) European Telephony Numbering Space refers to a numbering space which exists in parallel with national numbering spaces. Numbers from the ETNS will be available and can be accessed anywhere in the European Union (and throughout the rest of Europe).
ETO	European Telecommunications Office , established under the umbrella of ECTRA to do technical, preparatory work.
ETSI	European Telecommunications Standards Institute charged with developing Europe wide standards for the telecommunications sector
Freephone service	A service that is (can be accessed) free of charge to the customer. The access code '800' is generally associated with freephone.
ITU	International Telecommunications Union, the United Nations specialised agency for telecommunications
ITU-T	Telecommunications sector of the ITU.
Non-geographic services	Telecommunications services that are numbered from (national) number ranges which are not assigned or associated with a specific region, city area or local community.
Number portability	The possibility for a subscriber to keep his telephone number while changing a) operator, b) type of service or c) location.
Premium rate or shared revenue service	Service for which the caller pays an extra charge which is billed by the telecommunications operator. The revenues are shared between the latter and the service provider.
Shared cost service	Service for which the cost of the call are shared between the caller and the called party, generally resulting in the caller paying local rate and the called party being charged with any additional costs.

WRITTEN CONTRIBUTIONS

National administrations and National Regulatory Authorities

Belgium	BIPT /IBPT
Denmark	Forskningsministeriet / Telepolitisk Kontor
Germany	Bundesministerium für Post und Telekommunikation
Greece	Ministry of transport and telecommunications
Spain	Ministerio de Fomento / Secretaría General de Comunicaciones
France	Permanent Representation to the EU
Ireland	Department of Transport, Energy and Communications
Italy	Ministero delle Poste e delle Telecomunicazioni
Netherlands	Ministerie van Verkeer en Waterstaat
Austria	Bundesministerium für Wissenschaft, Verkehr und Kunst
Portugal	Instituto das comunicações de Portugal
Finland	Telehallintokeskus/ Teleförvaltningscentralen
Sweden	Kommunikationsdepartementet
United Kingdom	Permanent Representation to the EU
Norway	Ministry of transport and communications
Liechtenstein	Government of the principality of Liechtenstein - EEA Coordination Unit
Switzerland	BAKOM (Bundesamt für Kommunikation)

Associations

AFTEL (Association française de la télématique multimédia)
AFUTT (Association française des utilisateurs du téléphone et des télécommunications)
AK Wien (Bundeskammer für Arbeiter und Angestellte - Vienna)
AOST (Association des Opérateurs de Services de Télécommunications)
BEUC (Bureau Européen des Unions des Consommateurs)
CEEP (Centre Européen des Entreprises à Participation Publique)
CIGREF (Club Informatique des grandes entreprises françaises)
CNPF (Conseil National du Patronat français)
DIH (Deutscher Industrie- und Handelstag)
ECCO (European Competitive Carrier's Organization)
ECMA (European Computer Manufacturers Association)
ECTEL (European Telecommunications Manufacturers Association)
ECTRA (European Committee of Telecommunications Regulatory Affairs)
ETNO (European Public Telecommunications Network Operators' Association)
ETO (European Telecommunications Office)
ETSI (European Telecommunications Standards Institute)

EU Committee of the American Chamber of Commerce
EURIM (European Informatics Market)
FEDIM (Fédération Européenne du marketing direct)
FEI (Federation of the Electronics Industry)
GITEP (Groupement des Industries de Télécommunications et d'Electronique
Professionnelle en France)
GSM MoU Association
HDE (Hauptverband des Deutschen Einzelhandels)
ICSTIS (The Independent Committee for the Supervision of Standards of Telephone
Information Services)
INTUG (International Telecommunications Users Group)
Joint Committee on Telecommunications
ONP-CCP / EIF (European Interconnection Forum)
RNID (Royal Institute for Deaf People)
UNICE (Union des Confédérations de l'Industrie et des Employeurs d'Europe)
Union Internationale des Chemins de fer

Telecommunications service and network providers

ACC telecom UK
Airtouch
AT&T
Belgacom
British Telecom
Cegetel
Cellnet
Companhia Portuguesa Radio Marconi
Debitel Kommunikationstechnik
DeTeMobil
Deutsche Telekom
Easynet
E-plus Mobilfunk
Energis
France Telecom
Global One
Ionica
Mannesmann Eurokom
Mannesmann Mobilfunk
Mercury communications
Orange
Portugal Telecom
Post & Telekom Austria
Proximus
PTT Telecom - Netherlands
STET - Italy