



Electronic Communications Committee (ECC)
within the European Conference of Postal and Telecommunications Administrations (CEPT)

SERVICES BASED ON HESC

Paris, October 2005

0 PREFACE TO THE FINAL REPORT

The draft ECC Report 70 “Services Based on HESC” was approved for a public consultation by the Working Group Numbering, Naming and Addressing (WG NNA) at its meeting in Malta in May 2005. It was clearly recognised at that time that – taking into account the complexity of the subject – the draft report couldn’t give answers to all open questions. Thus assistance from public consultation was most welcome.

The public consultation period started on 10 May 2005 and ended on 15 August 2005. Altogether 23 responses were received giving guidance on enhancing the report to its final version. This final report has received a full face-lift compared to the version for public consultation.

The Report describes a framework with basic principles for harmonised European short codes. However, a number of issues need to be studied further and WG NNA will work on these items over the coming months. Parties who are interested in the use of HESC are invited to contact WG NNA¹ to present their proposals for services suitable for HESC codes.

The extent to which WG NNA undertakes further work will depend on the degree of interest shown. The ECC provides a policy framework for Recommendations and Decisions which allows individual member countries to opt-in. The ECC members consider that this policy framework is especially appropriated because it provides flexibility for handling new initiatives such as HESC where the demand is not yet proven and needs to be established in the market place, and where the needs of national markets may differ to some extent.

1 EXECUTIVE SUMMARY

Harmonised European Short Codes (HESC) is a concept of harmonising similar national telecommunications services in Europe behind the national numbering range starting with digits 116. This number range (short codes) starting with 116 is currently free in most European countries. This report prepared by the WG NNA forms a logical continuation for the ECC Recommendation “*Designation Of 116 Number Range For Possible Future Harmonised European Short Numbers*” (ECC/REC/(04)07) and establishes a framework of principles which should be fulfilled in order to qualify for a short code.

The main advantages of HESC are that (1) these codes are easy to remember for end-users and (2) that HESC offers to the citizens who travel in the participating countries the possibility of using the same well known number for the same generic service abroad (e.g. 112).

The analysis shows that HESC should support a small number of services that may be needed in circumstances where the caller is unable to look up a full length number and may be needed by visitors to a country. It is agreed that calling to HESC services is free of charge to the calling party (free to a caller from both fixed and mobile networks).

HESC will be deployed to order or use non-commercial² services for proven public demand only. The called party to whom the number is assigned will not be allowed to make profit from calls to HESC and has to be a non-for profit or governmental organisation.

The numbering format of the HESC will be 116X, i.e. four (4) digit structure instead of the original six (6) digit plan. Some values of the fourth digit will be reserved for possible future extensions.

The HESC will be open for national calls only. This means that it will not be possible to open traffic for +CC 116X calls from abroad.

The national regulatory authorities (NRAs) will be responsible to assign individual numbers within the HESC. The common practices for assignment rules need to be defined.

¹ Proposals to be sent to: Jukka Rakkolainen/ERO, e-mail: rakkolainen@ero.dk

² In exceptional cases there can be some flexibility on this principle.

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Services based on HESC

2 INTRODUCTION

The recommendation “*Designation Of 116 Number Range For Possible Future Harmonised European Short Numbers*” (ECC/REC/(04)07) adopted by the Working Group Numbering, Naming and Addressing preserves a harmonised number range – may not be diallable in international format – in national numbering plans to enable the possible future assignment of one or more harmonised European short codes for harmonised European services. The 116 range is seen as the most adequate number range for harmonisation purposes as after an assessment of the numbering plans in CEPT countries this was the only numbering range that was not yet used in almost all countries³.

This report aims to summarise the orientations taken by the ECC on what kind of services the 116 range is reserved for and what kind of basic assumptions need to be taken into account with HESC.

3 SCOPE AND REFERENCE DOCUMENTS

Scope of this report

This report will try to specify what kind of services will qualify for a harmonised European short code (HESC). The final responsibility of the range starting with 116 will still be in the hands of the different national public authorities responsible for the number assignment, but it will be harmonised in the countries participating the possible ECC Decision. This means that not all countries must necessarily participate for all or for any numbers at all numbers in this range.

The discussion on services behind the scope of HESC has been two fold for the commercial aspects of the services: should the scope be for commercial or non-commercial services or for both of them.

It has to be noticed that there is currently no detailed view on criteria or eligibility of individual services that can be accommodated behind the scope of HESC. Moreover, it should not be neglected that in different countries with different legislations the concept of ‘public service’ is defined and interpreted differently. This makes it extremely difficult to formulate common European criteria for service eligibility to HESC.

3.2 Comparison between 116 range and the ETNS

HESC have no relation with ETNS (+388 3) and is a totally different concept. Some differences are:

- 116 numbering range is included in the various European national numbering plans whereas ETNS numbering plan is outside all the national numbering plans and works like a dummy country. As a consequence of this, ETNS numbers are managed by the ECC, whereas 116 numbers are managed by each national numbering plan administrator.
- The ETNS is closely linked to a resource given to European countries by the ITU-T for its specific purpose of providing Europe-wide services. This could mean that the ITU-T could reclaim the resource if Europe fails to implement these services. On the contrary, 116 numbers are only a particular case of the national numbers belonging to the national numbering spaces behind the E.164 geographic country codes that the ITU-T will never reclaim (because of political reasons easy to understand!).
- International access to 116 numbers is not technically feasible.
- The number of digits in 116 range is smaller as well as the number of potential assignees.
- Routeing to an ETNS number is a very complex operation and needs assignment of international routeing numbers by the NRAs, whereas routeing to 116 numbers will follow the mechanism already in place nationally to route calls to short codes.

³ After an analysis of the different numbering plans carried out in 2003 in the CEPT countries the WG NNA concluded that no number range could be found that was free in all countries which responded to the questionnaire. The 116 range was found as the most acceptable for future harmonisation as only in Greece that number range is used.

3.3 ETO: Harmonisation of Short Codes in Europe (1998)

European Telecommunications Office (ETO) finalised the study on *Harmonisation of Short Codes in Europe* on 25 September 1998.

Presentation of the study states among other things:

- People are acquainted with short codes in their own countries. When travelling or temporarily living in foreign countries or when making international calls from their own country, they could use telephone services more easily if short codes in different countries had similar purposes (compare 112 for emergency and 00 for international access which are being harmonised already). The progress towards a single European market and the growing exchange of information, goods and people across borders may imply an increasing need for Europe-wide harmonisation of short codes. Liberalisation of the telecommunications market of the European Union by 1998 and its increasingly international dimension are likely to add further to this need (for example carrier selection prefixes).
- The introduction of a European Telephony Numbering Space (ETNS) and of universal numbering schemes for global services (e.g. Universal Personal Telecommunications (UPT) and International Freephone service (IFS)) in addition to the existing national schemes in the near future will not satisfy the demand for the harmonisation of short codes. The obligatory international dialling format of the numbers of these additional schemes is not suitable for the use of short codes, short numbers and prefixes in particular. Furthermore, services that do not qualify for numbers in an ETNS or a global scheme may nevertheless lend themselves to international harmonisation.
- Short codes represent a large capacity of ordinary telephone numbers and should therefore be considered as a scarce and sought-after resource. They need careful consideration in order to safeguard efficient use and non-discriminatory access regarding numbering resources. Therefore, it is important to assess the need for such codes and to identify essential criteria and conditions for their allocation.

4 ANALYSIS OF THE NET BENEFIT AND THE SCOPE OF HESC SERVICES

4.1 General considerations of HESC

The three main characteristics of HESC are:

- The services are national, and
- The dialling is by short codes, and
- The short codes are harmonised across Europe.

These characteristics determine what problems HESC can solve. The first characteristic does not constrain the characteristics of the services to be used under HESC.

Short codes offer two potential advantages:

- They involve shorted dialling time and fewer dialling errors than normal full length numbers.
- They are memorable and can be used without looking up the number or in circumstances when the number is not displayed, but only if the number is short enough.

The first of these advantages is relatively trivial but the second offers some real value only if the number of such codes is kept low. Most people have difficulty in remembering more than 3-10 numbers well and this leads to the conclusion that there should be less than 10 HESC codes. This is the main reason why the number length has been shortened from 6 to 4 digits giving at most 10 number values.

Memorability is of value only if the number is to be used for a service that may be required in circumstances when the caller cannot look up a full length number. This is the main value of the 112 number for emergency services.

Harmonisation is of value only if the services are of use to visitors to a country. If the services are only for people resident in a country then there is little or no value in harmonisation.

4.2 Framework of the HESC

The framework of the HESC can be summarised as follows (not in order of importance):

- A small number of services that may be needed in circumstances where the caller is unable to look up a full length number and may be needed by visitors to a country
- Non-commercial services
- Services for proven public interest
- Europe wide
- No international access – national calls only
- Free of charge to a caller
- No multi-stage dialling
- Four (4) digit format 116X, with possibility for extensions
- Called party is a non-profit organisation or a public authority
- NRAs to assign numbers

In order to qualify for HESC all of the characteristics given above shall be met.

4.3 Services for users' special circumstances and by visitors to a country

HESC is designed for services that may be needed in circumstances where the caller is unable to look up a full length number and may be needed by visitors to a country. This criterion for services is the consequence of the nature of HESC is quite discriminating. It implies that the service will need to be free of charge or at least not require pre-subscription or payment during the call as such requirements would render the service unsuitable for use in unexpected circumstances, e.g. after a robbery or theft, or by visitors to a country.

4.4 Non-commercial services

In view of the above and the limited number of codes available, services eligible for HESC will have to be restricted to non-commercial services, i.e. non-profit making services funded by taxation or charity. There can be some flexibility on this issue but NRAs will not want to have to choose between competing commercial services and the need to provide the service without payment during the call will exclude most commercial services.

Two main alternatives for non-commercial services can be identified:

- A free service funded by tax or charitable donations.
- A free "front end" for commercial services. This may be the case where the call may be forwarded across an international border, otherwise the calls are handled nationally.

4.5 Services for proven public interest

To be eligible for HESC an applicant will have to prove the public interest and interest in a number of countries.

It is probably neither desirable nor possible to develop a single comprehensive definition of the concept of services of significant public interest.

The characteristics of services of public interest may include:

- Wide availability of service
- Continuity
- Quality of service
- Affordability
- User and consumer protection
- Social importance

4.6 Selection of services

Service types will be selected by the NRAs through discussions in WG NNA and expressed in ECC Decisions. The assignment of a code in each country to a specific organisation will be made by the NRA in accordance with the ECC Decision.

The selection of specific HESC codes will follow the procedures of ECC Decisions. There are no obligations for countries to participate the HESC concept or introduce specific HESC codes. However, countries that do not want to introduce specific HESC codes shall not allocate these codes for other services.

4.7 Called party is a non-profit organisation or a public authority

To ensure the non-commercial nature the legal structure of the called party has to be of non-profit nature or a public authority.

4.8 Europe wide

The term “Europe wide” shall not be mixed with terms used in the European Commission directives, such as “pan European”. As a definition “harmonised European ...” means commonly understood and widely similar service set in a number of countries. The service accommodated by the HESC must be available in many European countries in order to achieve the effects of harmonisation. Therefore the applicant will have to give clear commitment and evidence that in minimum 5 CEPT countries this HESC code will be implemented.

4.9 No international access – national calls only

The services within the HESC will not be accessible internationally as part of the HESC concept. That means that routes +CC 116 shall not be opened from abroad. Although the number range 116 is free in majority of European countries, the scope changes essentially when international access is considered. For example, +CC 116 turns out to be 0 116 in countries with open numbering plan and “0” as a trunk prefix. In national dialling “116” may still be free, while “0 116” may be an area code or part of it or extension of an area code with starting digits of subscriber number ranges.

Furthermore, allowing international access for HESC would make the interconnection schemes more complex and compromise the demand of calls to services within HESC to be free of charge to a caller.

Notwithstanding the above, international access to HESC numbers may be possible from some countries on a charged or free basis, but it is not a part of the HESC concept.

4.10 Connectivity

Calls made in a given country will be routed to a destination in that country. They may be extended by the service provider free of charge as part of the service, e.g. to call a relative in the caller’s home country.

4.11 Free of charge to a caller

HESC calls are always national calls. To be useful in circumstances where a caller may not be able to look up a number, e.g. may be calling from someone else’s mobile or a payphone in an emergency, calls to a HESC number 116X shall be free of charge to a caller.

Service providers and operators may agree interconnection fees to carry the calls over the network interfaces or may charge the called party for calls, but the simple alternative of each operator bearing it own costs needs also to be explored.

4.12 Language

In order to be of value to visitors to a country, services may have to be provided in multiple languages. The choice of languages is a matter for the NRA of the country concerned who will take account of the needs of international visitors.

4.13 Four digit format

The numbering format of HESC shall basically be 116X. See chapter 5.

4.14 No multi-stage dialling

The original consultation document stated an option of two stage dialling. This was considered as complex both to the end-users and the operators/service providers. Calls to services within the HESC concept shall be implemented with one stage dialling – direct dial in.

4-15 Funding of services

This is outside the scope of the report.

5 STRUCTURE OF THE HARMONISED NUMBERING PLAN

The original consultation report stated a number structure of 116 XXX for HESC. The responses to the consultation report triggered some further discussions in the WG NNA which resulted the HESC numbering structure changing into the form of 116X, i.e. four digit format.

The ECC is of the opinion that one of the main advantages of having short codes, namely ‘easy to remember’ will be lost if many and ‘long’ short codes are assigned. For end-users it is only possible to remember a few short codes.

With regard of the new scope of HESC described in chapter 4 the four digit format with some digits reserved for extension may be enough for Europe wide non-commercial services for public interest. Table 1 shows a proposal for a numbering plan within the HESC concept.

Number range	Usage	Remarks
116 0	Reserved for further extension	Possibility for up to 6 digit codes
116 1	Reserved for further extension	Possibility for up to 6 digit codes ⁴
116 2	Free	To be opened via a Decision of the ECC
116 3	Free	To be opened via a Decision of the ECC
116 4	Free	To be opened via a Decision of the ECC
116 5	Free	To be opened via a Decision of the ECC
116 6	Free	To be opened via a Decision of the ECC
116 7	Free	To be opened via a Decision of the ECC
116 8	Reserved for further extension	Possibility for up to 6 digit codes
116 9	Reserved for further extension	Possibility for up to 6 digit codes

Table 1: Numbering plan for HESC

⁴ It is acknowledged that German implementation of Card Stop service (116 116) may continue to exist.

6 CONCLUSIONS

The analysis in this report leads to the conclusion that HESC should support a small number of services that may be needed in circumstances where the caller is unable to look up a full length number and may be needed by visitors to a country. The scope of the HESC is now converged to basically four digit numbering format: 116X. This major improvement to the scope was made after the consultation period, which gave valuable suggestions to enhance the scope of HESC. The significantly shorter code 116X – instead of 116 XXX – also reflects the other enhancements of the HESC scope. As eligible services now will be non-commercial services with proven public demand, the shorter code seems to reply to these requirements sufficiently. However, some values of the 4th digit have been reserved for possible future extensions. The successful implementation and harmonization of HESC 116 will depend on the applications behind it.

7 GLOSSARY AND LIST OF ABBREVIATIONS

List of abbreviations used in this document.

Abbreviation	“Opening” of the abbreviation	Description
CC	Country Code	E.164 number assigned by ITU
CEPT	Conférence Européenne des Administrations des Postes et des Télécommunications	European Conference of Postal and Telecommunication Administrations
ECC	Electronic Communications Committee	
ERO	European Radiocommunications Office	
ETNO	The European Telecommunications Network Operators' Association	
ETNS	European Telephony Numbering Space	
ETO	European Telecommunications Office	A former “sister” organisation of ERO
HESC	Harmonised European Short Codes	In this report especially the code 116
ITU	International Telecommunications Union	
NRA	National Regulatory Authority	
WG NNA	Working Group of Numbering, Naming and Addressing	A working group within the CEPT/ECC