INTERNATIONAL TELECOMMUNICATION UNION

# ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

# E.193

(03/2000)

SERIES E: OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

Operation, numbering, routing and mobile services – International operation – Numbering plan of the international telephone service

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# E.164 Country Code expansion

ITU-T Recommendation E.193

(Formerly CCITT Recommendation)

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ITU-T E-SERIES RECOMMENDATIONS

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**ITU-T RECOMMENDATION E.193**

# E.164 COUNTRY CODE EXPANSION


## Summary

This Recommendation provides the plan that expands the E.164 country code resource (Time "E"), and provides the transition plan as well as the timeframe required for its implementation. Annex A provides the assumptions and assessment criteria against which each of the E.164 Country Code expansion options was evaluated.



## Source

ITU-T Recommendation E.193 was prepared by ITU-T Study Group 2 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 13 March 2000.

## FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

## NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

## INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

## CONTENTS

## Introduction

The issue of country code (CC) expansion had been raised due to the increasing demand for E.164 numbering resources. Decisions made regarding the assignment of shared country code resources to Networks, the reservation and/or assignment of country codes for global services; Universal International Freephone, Universal Personal Telecommunication (UPT), Universal International Premium Rate and Universal Shared Cost have impacted the availability of country codes. Consequently, the need exists to increase the supply of the E.164 Country Code resource in order to satisfy the numbering resource requirements for countries/geographic areas, global services and Networks.

**Recommendation E.193**

# E.164 COUNTRY CODE EXPANSION

*(Geneva, 2000)*

## 1 Scope

This Recommendation provides the plan that expands the E.164 country code resource (Time "E"), and provides the transition plan as well as the timeframe required for its implementation. Annex A provides the assumptions and assessment criteria against which each of the E.164 Country Code expansion options was evaluated.

## 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

– ITU-T Recommendation E.164 (1997), *The international public telecommunication numbering plan*.

– ITU-T Recommendation E.190 (1997), *Principles and responsibilities for the management, assignment and reclamation of E-series international numbering resources*.

## 3 Definitions

Within the integrated service environment, the terms used for all networks and services must be compatible and consistent.

The terms and definitions used in this Recommendation are contained in Recommendations E.164 and E.190.

## 4 Abbreviations

This Recommendation uses the following abbreviations:

CC Country Code

GSN Global Subscriber Number

IC Identification Code

ITU-T International Telecommunication Union – Telecommunication Standardization Sector

NDC National Destination Code

N(S)N National Significant Number

OSS Operations Support System

SID Service Identification

SN Subscriber Number

UPT Universal Personal Telecommunication

## 5 Expansion Plan overview

The Country Code Expansion plan is divided into two phases.

Phase I (clause 6) evaluated various alternatives which assessed, recommended and developed an implementation plan for the most efficient methods for utilizing the current E.164 Country Code resources without changing any of the existing assigned or reserved Country Codes. It is envisioned that the transition to Phase I implementation will be five years from the time when such a transition is determined necessary.

Phase II (clause 7) will assess, recommend and develop an implementation plan for those alternatives providing expansion of the current E.164 resources and format, which may include changing existing assigned or reserved country codes.

Phase I was resolved prior to the decision on any expansion options listed in Phase II. The need for implementation of Phase II will be re-evaluated after experience is gained from any Phase I implementation.

## 6 Phase I

Table 1 represents the Phase I expansion options. For further details and description of these options please refer to A.4.1.

**Table 1/E.193 – Phase I expansion options**

| Option | Description |
|---|---|
| 1 | Use existing spare 3-digit CCs and increase CC length to 4 digits without changing any of the existing assigned or reserved CCs |
| 2 | Use CCs in format "0XX" |
| 3 | Shared Country Code for Global Services |

### 6.1 Selected Phase I expansion plan

Following the review and evaluation of the Phase I options, it was agreed that:

a) Options 1 and 3 will be implemented simultaneously; and

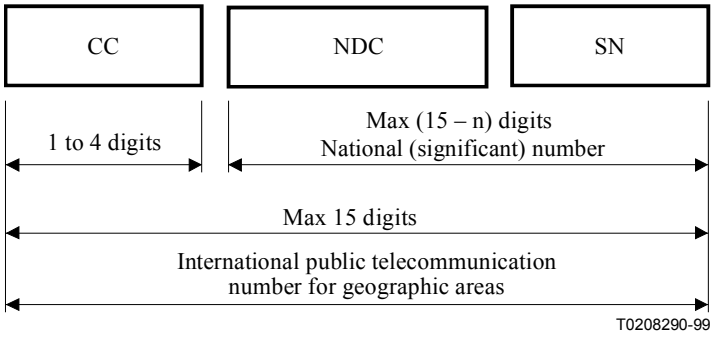
b) Option 2 will continue to be available for an appropriate purpose and implementation at a yet to be determined time. At the time that it is determined that the need exists for the assignment of these 0XX Country Codes, the ITU-T will provide notification at least three years in advance of any assignment.

When the expansion plan is implemented, the format and structure of E.164 Country Codes will be revised as indicated in 6.1.1, 6.1.2 and 6.1.3. The maximum digit length for any E.164 number will remain at 15 digits.

The expansion of the number of digits in the Country Code field will impact the number of digits which will need to be analysed to properly route and rate the call.

### 6.1.1 Country Code for geographic areas

See Figure 1.



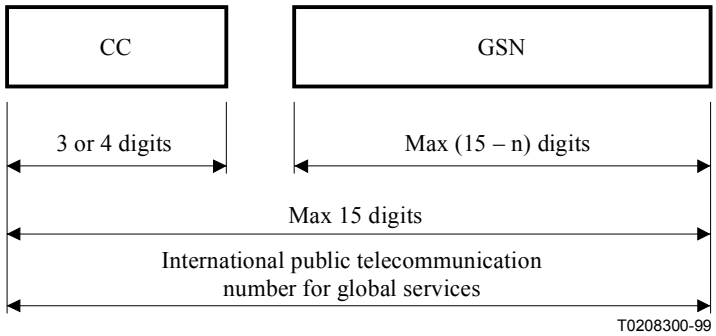

CC Country code for geographic areas
NDC National destination code (optional)
SN Subscriber number
n Number of digits in the Country Code

**Figure 1/E.193 – International public telecommunication number structure for geographic areas**

### 6.1.2 Country Code for global service

#### 6.1.2.1 Country Code for global service

See Figure 2.

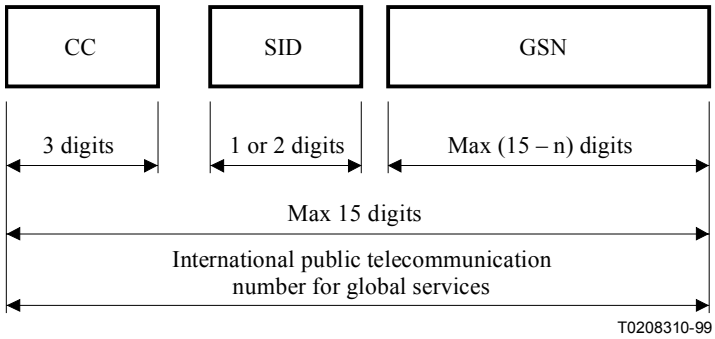



CC Country Code for Global Service
GSN Global Subscriber Number
n Number of digits in the Country Code

**Figure 2/E.193 – International public telecommunication number structure for global services**

### 6.1.2.2 Shared Country Code for global service

The structure, format, terms and assignment procedures are for further study. Therefore, Figure 3 is only intended to represent the implementation of expansion option 3.

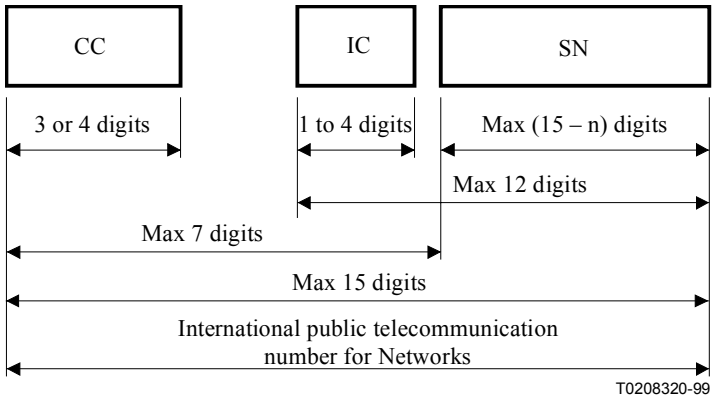



CC Country Code for Global Service
SID Service Identification
GSN Global Subscriber Number
n Number of digits in the Country Code plus service identification (SID)

**Figure 3/E.193 – International public telecommunication number structure for global services**

### 6.1.3 Country Code for Networks[1]

See Figure 4.




CC Country Code for Networks
IC Identification Code
SN Subscriber Number
n Number of digits in the Country Code plus identification code (IC)

**Figure 4/E.193 – International public telecommunication number structure for networks**

NOTE – This could require the need to modify E.164 to extend the digit analysis from 7 to 8 digits in order to properly rate and route the call. Any change to E.164 will be made if and when the CC + IC assignments exceed 7 digits.

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[1] Network, with a capital "N", is defined in E.164.

## 6.2 Transition to Phase I

The current spare decades of E.164 country code, 28, 83 and 89 have been initially reserved for expansion. The initial assignment of 4-digit Country Codes will be from the decade sets 28 and 83 and will allow for the assignment of two hundred (200) 4-digit country codes. The decade set 89 should not be assigned as 4-digit Country Codes but should be reserved for future use, e.g. when the need arises to expand beyond 4-digit Country Codes. If it is determined that any of these reserved decades are required for assignment, the International Telecommunication Union – Telecommunication Standardization Sector (ITU-T) has the discretion to assign Country Codes from these decades.

Once twenty (20) 3-digit assignable Country Codes remain (excluding reserved codes), the process to begin the implementation of expansion Options 1 and 3 will commence. Prior to reaching twenty (20) spare Country Codes, ITU-T can revisit other available expansion options in order to delay the time of exhaust of 3-digit Country Codes (e.g. the return of a spare decade for assignment as 3-digit country codes, countries that may voluntarily wish to integrate their numbering plans, use of 0XX country codes following the use of spare decades of 3-digit country codes, etc.). If such options are not practicable, ITU-T will prepare and disseminate the notification and education process to inform the worldwide telecommunications community of expansion to 4-digit country codes.

## 6.3 Implementation of Phase I

The implementation to 4-digit country codes will occur 5 years after the date at which twenty (20) 3-digit country codes remain. After the assignment of the country code that leaves only twenty country codes remaining, ITU-T will determine and specify a date certain for expansion, e.g. Time "E". At such time, ITU-T will prepare and disseminate the awareness and education campaign to inform the worldwide telecommunications community of the expansion changes.

During this 5-year transition period, the worldwide telecommunications providers will need to prepare their networks to support 4-digit country codes. During the transition period, the procedures and criteria for the assignment of Country Codes will remain the same.

Once Options 1 and 3 are implemented, country code assignments will be in the 4-digit format, except for those special circumstances to be defined by the ITU-T as further study, e.g. an additional code for IFS. Consequently, there will be no parallel running[2] because no country is changing its existing Country Code. Only new assignments will be made with 4-digit Country Codes.

There will be no need to change domestic dialling procedures since the international access prefix remains unchanged.

# 7 Phase II

This clause is for further study.

Table 2 represents the potential Phase II expansion options.

[2] Parallel running is maintaining a dual dialling sequence, for a limited time, to allow for the transition between the old and the new numbering plan.

**Table 2/E.193 – Phase II Expansion options**

| Option | Description | Format | Codes gained |
|---|---|---|---|
| 4 | Countries who have blocked the use of "0" in national numbering plans. Plan for both 1- and 2-digit CCs | N0X<br>NX0 | 20<br>30 |
| 5 | Expand 1-digit CCs to 2 digits | 10 and 70 | 180 |
| 6a | Expand 2-digit CCs to 3 digits | NX(X) | 405 |
| 6b | Multinational 2-digit CCs | NX + (X) | 9 × (Y) |
| 7 | Expand all 1-digit CCs to 2 digits<br>Expand some 2-digit CCs to 3 digits | 10 and 70<br>NX(X) | 180<br>9 × (Y) |
| 8 | Expand all 1-digit and 2-digit CCs to 3 digits | N(X)(X) | 603 |
| 9 | Create 4-digit CCs based on population < 100 000 | NXX(X) | 225# |
| Y Number of countries changed from 2- to 3-digit Country Codes<br># The codes gained would not increase the supply of 3-digit Country Codes, but make available for assignment 225 4-digit codes | | | |

The need for implementation of any Phase II expansion option will be re-evaluated after experience is gained from Phase I implementation.

For further details and description of these Phase II options, please refer to A.4.2.

## 8 Recommendation History

Version 1 WP 1 Meeting – October/November 1997

Version 2 Q.1 Rapporteur's – February 1998

Version 3 SG 2 Geneva – March 1998

Version 4 Q.1 Rapporteur's – June 1998

Version 5 Q.1 Rapporteur's – September 1998

Version 6 SG 2 Geneva – November 1998

Version 7 SG 2 Geneva – May 1999

ANNEX A

## E.164 Country Code Expansion Report

### A.1 Scope

This annex provides the assumptions, and assessment criteria against which each of the E.164 Country Code expansion options was evaluated. This annex also identifies each of the expansion options that were considered.

### A.2 Assumptions

The following was a list of the assumptions that was utilized to determine whether an expansion option was viable or not. The comparative analysis of the options to the assumptions was the first step in the option selection process. Any option that did not conform to all of the assumptions was eliminated from further consideration. Unless otherwise indicated, the assumptions pertain to both Phase I and Phase II. The assumptions are not listed in any significant order. An acceptable expansion option:

1) Must conform to all the principles contained in Recommendation E.190.

2) Must increase the quantity of country codes and/or extend the life of the current Country Code resources in order to ensure the ongoing availability of additional codes to meet Country Code demand.

3) Must create sufficient resources to satisfy anticipated future demand for at least 25 years, if the alternative requires significant network and support system enhancement/modification.

4) Must be compatible with existing and developing network capabilities to ensure that deployed and anticipated network technologies, functions, and services will remain viable if the option were to be implemented.

5) Must support a transition plan that provides an effective evolution from the existing E.164 numbering plan to the expanded numbering plan, including, if required, the parallel running of the existing and new numbering resources.

6) Must be implementable in sufficient time to permit an orderly transition.

7) Must not impede the evolution of the telecommunications industry and telecommunications services to ensure that the implementation of the expansion option will not, by itself, preclude developing telecommunications technologies, capabilities, functions and services.

8) Must maintain the hierarchical structure and format of the number as defined in Recommendation E.164, e.g. the order of the CC and NSN.

9) Must provide sufficient capacity to meet each numbering resource assignee's needs.

10) Must not knowingly interfere with the public policy goals and requirements of existing countries served by E.164 numbering resources.

## A.3 Assessment criteria

This subclause describes the criteria which have been established to assess the various Country Code expansion options.

### A.3.1 End user considerations

Any expansion option to increase the quantity of available country codes will have some impact on the users (e.g. the general public) of the numbering plan. Therefore, the expansion option should be examined based on the degree of impact from the perspective of the general public. The following four areas should be examined to understand these impacts:

#### A.3.1.1 Degree of stability

Any expansion option to increase the quantity of available country codes will affect all end users. The expansion option, including any transitional steps leading to its adoption, should minimize the frequency and extent of number changes required to implement the new plan, e.g. relative number of impacted users.

#### A.3.1.2 Easy to understand

The changes due to the expansion option should cause minimal telecommunications users' confusion. Any changes should be easily applied consistently, uniformly and ubiquitously to all end users.

#### A.3.1.3 Easy to use

Of primary importance is the requirement that any expansion option to increase the quantity of available country codes be easy to use. This will likely be perceived by the public in terms of how the new expansion option differs from the existing format. The expansion option to increase the quantity of available country codes should attempt to minimize the number of new digits required, while balancing this need with the requirement for additional functionality and flexibility that will be necessary in the numbering plan in the future. A logical transition plan will be necessary. This transition plan must ensure easy access to the public network.

#### A.3.1.4 Clarity of purpose

E.164 Country Codes convey to the end user certain information, including in some cases, the service associated with the number. For example UIFN (i.e. the 800 country code) numbers convey no charge to the calling party. The expansion option to increase the quantity of available country codes should retain the same type of number recognition for different types of services.

### A.3.2 Network operation considerations

The current format of an E.164 number is inherent in all phases of call processing and, therefore, embedded in the functions provided in almost all network elements. The major areas/elements potentially impacted by a change in length or format include digit analysis and translations required for call routing, the signalling associated with call setup and the use of special features, the functions supported by operations support systems (OSSs), the services offered by operator services systems, and recording and billing systems.

If the expansion option selected increases the length of an E.164 country code, more than 7 digits may need to be analysed in order to determine the country of destination, the most appropriate network routing, and the appropriate charging.

In addition, adding a digit(s) to the country code may expand some national numbering plans beyond the existing 15-digit international length. Care should be taken to closely examine the impacts on the network elements.

Given the difficulties in modifying network elements, consideration should be given to the expansion option that minimizes the need for additional digit analysis and should maintain the current maximum 15-digit international number length.

Due to the potential impacts on network elements, e.g. signalling, billing systems, operations support systems and operator service systems, an expansion option that provides other similar attributes but requires either 8 or more digits analysis or more than a 15-digit format should receive less consideration than one that does not.

### A.3.3 Numbering resource utilization/efficiency

The expansion option to increase the quantity of available country codes should not negatively impact the efficient assignment and utilization of country codes in order to increase the life expectancy of the new set of country code resources. The expansion option to increase the quantity of available country codes must not preclude emerging methods for better utilizing country code resources.

### A.3.4 Support of competitive market structure

In order to support a competitive market structure it is essential that the expansion option to increase the quantity of available E.164 resources, in and of itself, introduces no discrimination in the present, and in the future, between or among service providers and the services that they offer.

Also, the expansion option should not disadvantage one telecommunication application, country (consider e.g. relative number of impacted users), or network, over another.

### A.3.5 Uniform availability of numbers

The expansion option to increase the quantity of available E.164 numbering resources must provide additional country codes which can be used by all segments of industry.

### A.3.6 Evolution/transition

In general, the transition plan should be relatively simple, without multiple complex activities which add layers of difficulty that the user may not understand, and allow sufficient time for the transition.

### A.3.7 Administration

Administration of the additional country codes obtained as a result of any expansion option to increase the quantity of available country codes should continue to allow TSB ease of administration.

### A.3.8 Not impose disproportionate burden

Not impose a disproportionate burden on a specific country(ies)/assignee(s).

## A.4 Description and discussion of proposed expansion options

### A.4.1 Phase I – Country Code Expansion options – No changes required

This subclause describes options which would increase the supply of Country Codes without expanding or changing any of the existing Country Codes. It is recognized that combinations and permutations of these expansion options exist.

| Option | Description | Format | Codes gained |
|---|---|---|---|
| 1 | Use existing spare 3-digit CCs and increase CC length to 4 digits | NXX(X) | 9 × (Z) |
| 2 | Use CCs in format "0XX" | 0XX | 99[a)] |
| 3 | Shared Country Code for Global Services | CCC + X(X) | TBD |
| TBD To be determined<br>Z Number of 3-digit Country Codes reserved for expansion<br>a) The maximum codes gained would be 99, since the Country Code 000 will not be assigned | | | |

### A.4.2 Phase II – Country Code Expansion options – Changes required

This subclause describes options which would increase the supply of Country Codes by changing the digit length of some of the existing Country Codes. It is recognized that combinations and permutations of these expansion options exist.

| Option | Description | Format | Codes gained |
|---|---|---|---|
| 4 | Countries who have blocked the use of "0" in national numbering plans. Plan for both 1- and 2-digit CCs | N0X<br>NX0 | 20<br>30 |
| 5 | Expand 1-digit CCs to 2 digits | 10 and 70 | 180 |
| 6a | Expand 2-digit CCs to 3 digits | NX(X) | 405 |
| 6b | Multinational 2-digit CCs | NX + (X) | 9 × (Y) |
| 7 | Expand all 1-digit CCs to 2 digits<br>Expand some 2-digit CCs to 3 digits | 10 and 70<br>NX(X) | 180<br>9 × (Y) |
| 8 | Expand all 1-digit and 2-digit CCs to 3 digits | N(X)(X) | 603 |
| 9 | Create 4-digit CCs based on population < 100 000 | NXX(X) | 225# |
| Y Number of countries changed from 2- to 3-digit Country Codes<br># The codes gained would not increase the supply of 3-digit Country Codes, but make available for assignment 225 4-digit codes | | | |

- Code 000 would not be utilized as Country Code. It has been proposed that Country Codes in the 0XX format would not be assigned until all the existing 3-digit Country Codes were exhausted.

### A.4.3 Description of Expansion options

#### A.4.3.1 Phase I

**Option 1**

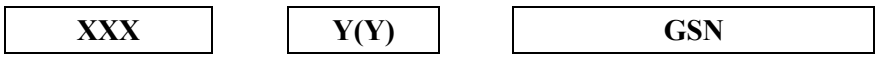
This plan would increase the quantity of useable E.164 Country Codes by converting spare 3-digit country codes to 4-digit country codes. For each of these 3-digit country codes which were expanded, nine new country codes would be made available in the 4-digit format.

**Option 2**

Presently, the Country Codes in the "0" range are not assignable. Up until 31 December 2000, the E.164 Country Code "0" is being used as an escape code between the E.164 and the X.121 numbering plans. After 31 December 2000, the use of the escape code "0" will be discontinued. Consequently, ITU-T will reclaim the escape code "0". For example, this would make 99 new 3-digit Country Codes in the format 0XX because the Country Code 000 would not be used.

**Option 3**

This option introduces a structure for country codes for global services as shown below. In this structure, a country code can be shared by services, potentially of similar nature from a user perspective.




XXX Shared country code for global services (3 digits in length)
Y(Y) Service identification code (1 or 2 digits in length: for further study)
GSN Global subscriber number

#### A.4.3.2 Phase II

In this phase, any country that is required to change its country code can, in consultation with TSB, elect to choose the value of the additional digit(s) added to its existing country code.

**Option 4**

Countries with 1 and 2-digit Country Codes could not assign the digit zero as the first digit of their national numbering plan, thereby creating the possibility of creating additional 3-digit country codes.

For example, Integrated Numbering Plan Area 1 would not use zero in the first digit of their national numbering plan, thereby enabling country codes 10X to be created. This would create 10 new country codes. The example would be the same for the countries served by the Russian Federation and would yield 20 new 3-digit Country Codes. Countries with 2-digit country codes would also not use zero in the first digit of their national numbering plans. This could create about 40 additional country codes. As an illustration, country codes 440, 330, 810, etc. would become spare country codes.

NOTE – The implementation of Option 4 may preclude some countries from achieving Assumption 5, parallel running, when wishing to implement Expansion Options 5, 6a, 7 and 8. In effect, Option 4 impacts on other expansion options and needs to be carefully evaluated in relation to the other expansion options in Phase II.

**Option 5**

The countries served by the North American Numbering Plan (NANP) and the countries within the Russian Federation are the only countries with a 1-digit country code ("1" and "7", respectively). The proposal, under this option, would be to expand each of the 1-digit Country Codes to 2 digits. As an example, the countries served by the NANP would receive the Country Code "10" and countries served by the Russian Federation would receive the Country Code "70". This would then

free up 90 new 3-digit country codes in each of these numbering ranges for a total of 180 new Country Codes; 11X – 19X and 71X – 79X.

**Option 6a**

The existing 2-digit Country Codes would be expanded to 3-digit codes. Since there are 45 countries with a 2-digit Country Code, this would increase the supply of Country Codes by 405. If both of these options were accepted the quantity of country codes would be increased by 585.

**Option 6b**

This option requires that one or more decades of spare CCs be reserved for the creation of one or more multinational environments, where each country is identified by a 3-digit code. The implementation of this option is voluntary between the participating countries.

Each country participating in this option would be assigned a 3-digit CC, and their existing 2-digit CC shall be returned. For many of the existing countries with a 2-digit CC, this could be the advantage that would trigger the release of a number of 2-digit CCs. Each release of a 2-digit CC would yield nine additional 3-digit CCs.

**Option 7**

The countries served by the North American Numbering Plan (NANP) and the countries within the Russian Federation are the only countries with a 1-digit country code ("1" and "7", respectively). The proposal, under this option, would be to expand each of the 1-digit Country Codes to 2 digits. As an example, the countries served by the NANP would receive the Country Code "10" and countries served by the Russian Federation would receive the Country Code "70". This would then free up 90 new 3-digit country codes in each of these numbering ranges for a total of 180 new Country Codes; 11X – 19X and 71X – 79X.

In addition, some of the countries with 2-digit Country Codes may be subject to expand their Country Code to 3 digits. At this time, there is no agreed criteria to decide what countries are subject to this type of expansion. There have been some proposals which would use population statistics to determine if any country's Country Code is subject to expansion. The yield on this plan would be dependent on the number of countries selected. For every country whose Country Code was expanded, the number of available 3-digit Country Codes would be increased by 9.

As an example, if population is used as a criteria, then the 44 countries with a 2-digit Country Code be divided into two groups. The Y most populated countries, the size of Y yet to be determined, would retain their 2-digit Country Code, whereas the less populated countries (44 – Y) would expand to a 3-digit Country Code. Therefore, the implementation of the new 3-digit Country Codes will increase the number of available 3-digit Country Codes by $9 \times (44 - Y)$.

**Option 8**

This option proposes that all countries be assigned a 3-digit Country Code. For example, the countries served by the NANP and the Russian Federation would expand their existing 1-digit Country Code to 3 digits and that all countries with an existing 2-digit Country Code would be assigned a 3-digit Country Code. Under this option, the supply of Country Codes would be increased by 603 (99 + 99 + 405).

**Option 9**

This alternative proposes that if countries have a population of less than 100 000, then those countries would receive a 4-digit CC. In this case, 25 3-digit country code holders would be eligible to receive 4-digit Country Codes. For each of these 3-digit country codes which were expanded, nine new country codes would be made available in the 4-digit format. This would mean that 225 4-digit codes would be available for new applications.

A subsequent proposal would be to use 4-digit codes for all "small" global services and "small" countries.

## APPENDIX I

## Rationale for Elimination of Expansion Options

### I.1 Shared Country Codes for regional areas

This option proposed that country codes be shared by regional areas. At the time of this Recommendation, there had not been an agreement to assign E.164 Country Codes to regional areas. Consequently, any expansion option that proposed sharing a resource that is not currently assignable cannot be supported.

In addition, this expansion option was not detailed enough to determine the additional yield on the number of country codes. During the discussion it appeared that the additional yield, even if regional country codes were assigned, was not sufficient enough to warrant further consideration.

### I.2 Bibliography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