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

International operation – Maritime mobile service and public land mobile service

The international identification plan for public networks and subscriptions

Recommendation ITU-T E.212

ITU-T E-SERIES RECOMMENDATIONS

OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T E.212

The international identification plan for public networks and subscriptions

Summary

Recommendation ITU-T E.212 defines a unique international identification plan for public fixed and mobile networks providing users with access to public telecommunication services. The ITU-T E.212 identification plan was originally developed for use in public land mobile networks (PLMNs). The plan is hierarchical and identifies geographic areas, networks and subscriptions. The main body of this Recommendation describes the pure identification plan.

History

Edition	Recommendation	Approval	Study Group	Unique ID[*]
1.0	ITU-T E.212	1984-10-19		11.1002/1000/3197
2.0	ITU-T E.212	1988-11-25		11.1002/1000/440
3.0	ITU-T E.212	1998-11-13	2	11.1002/1000/4528
3.1	ITU-T E.212 (1998) Amd. 1	2003-05-02	2	11.1002/1000/6245
4.0	ITU-T E.212	2004-05-28	2	11.1002/1000/7186
4.1	ITU-T E.212 (2004) Amd. 1	2007-02-08	2	11.1002/1000/8849
5.0	ITU-T E.212	2008-05-15	2	11.1002/1000/9300
5.1	ITU-T E.212 (2008) Amd. 1	2008-09-23	2	11.1002/1000/9523
5.3	ITU-T E.212 (2008) Amd. 2	2010-11-18	2	11.1002/1000/9114
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[*] To access the Recommendation, type the URL http://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID. For example, http://handle.itu.int/11.1002/1000/11 830-en.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 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.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. 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, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

Table of Contents

Recommendation ITU-T E.212

The international identification plan for public networks and subscriptions

1 Scope

This Recommendation describes a unique and unambiguous identification plan for subscriptions and the format of the IMSI. It establishes procedures for the assignment of fields of the IMSI in a manner that prevents duplication.

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; 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. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T E.101]   Recommendation ITU-T E.101 (2009), *Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks in the E-series Recommendations.*

[ITU-T E.164]   Recommendation ITU-T E.164 (2010), *The international public telecommunication numbering plan.*

[ITU-T E.164.1]   Recommendation ITU-T E.164.1 (2006), *Criteria and procedures for the reservation, assignment and reclamation of E.164 country codes and associated identification codes (ICs).*

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

3 Definitions

Whenever the term "country", "destination country" or "originating country" is used in this Recommendation, it identifies a specific country, a group of countries in an integrated numbering plan or a specific geographical area.

The terms "Operator" and "National numbering plan administrator" are defined in [ITU-T E.101].

This Recommendation defines the following terms:

3.1   home network: The network responsible for the subscription identified by the elements within the IMSI.

3.2   international mobile subscription identity (IMSI): The IMSI is a string of decimal digits, up to a maximum length of 15 digits, which identifies a unique subscription. The IMSI consists of three fields: the mobile country code (MCC), the mobile network code (MNC), and the mobile subscription identification number (MSIN).

3.3   mobile country code (MCC): The MCC is the first field of the IMSI and is three digits in length and identifies a country. The Director of TSB may assign more than one MCC to a country. MCCs in the 90x range are non-geographic MCCs (country-agnostic) and are administered by the Director of TSB.

3.4 **mobile network code (MNC)**: The MNC is the second field of the IMSI, it is two or three digits in length and is administered by the respective national numbering plan administrator. MNCs under MCC ranges 90x are administered by the Director of TSB. The MNC, in combination with the MCC, provides sufficient information to identify the home network.

3.5 **mobile subscription identification number (MSIN)**: The MSIN is the third field of the IMSI, it is up to 10 digits in length, and is administered by the relevant MNC assignee to identify individual subscriptions.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

IMSI   International Mobile Subscription Identity

MCC   Mobile Country Code

MNC   Mobile Network Code

MSIN   Mobile Subscription Identification Number

TSB   Telecommunication Standardization Bureau

UPT   Universal Personal Telecommunication

5 Considerations

The considerations that form the basis for this international identification plan for networks and subscriptions are as follows:

a)   The assignment of E.212 resources is in conformance with the principles in [ITU-T E.190].

b)   There may be more than one public network offering such services in a country.

c)   The MNC consists of 2 or 3 digits and the length of the MNC is a national matter.

d)   The number of digits of the MSINs is determined by the relevant MNC assignee in accordance with the national policy.

e)   The IMSI shall not exceed 15 digits in length.

f)   For 90x MCCs, the length of MNCs is determined by the Director of TSB and the length of the MSINs is determined by the relevant MNC assignee in accordance with the relevant ITU-T Recommendations.

g)   The IMSI assigned to a subscription under this identification plan should not be directly related to numbers assigned to that same subscription under "The international public telecommunications numbering plan" [ITU-T E.164].

h)   The IMSI should, if necessary, enable:

    1)   determination of the home network;

    2)   identification of subscriptions, when information about a specific subscription is exchanged between networks;

    3)   identification of subscriptions for charging and billing purposes;

    4)   identification and management of subscription, e.g., for registering, authenticating, signalling, retrieving, providing, changing and updating of subscription data.

i)   The IMSI is not intended to be used for dialling purposes.

This list is not exhaustive.

6 IMSI structure, format and assignment procedures

6.1 Structure and format of the IMSI

The IMSI structure and format are as shown in Figure 1.

MCC	MNC	MSIN
Three digits	Two to three digits	Maximum of ten digits

IMSI
Maximum of fifteen digits

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MCC   Mobile country code
MNC   Mobile network code
MSIN   Mobile subscription identification number
IMSI   International mobile subscription identity
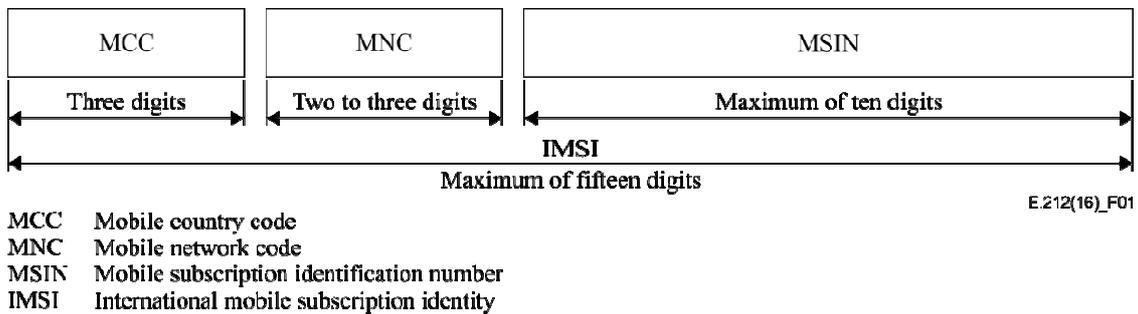
Figure 1 – Structure and format of the IMSI

6.2 IMSI assignment procedures

6.2.1 The Director of TSB assigns MCCs in accordance with Annexes A and C.

6.2.2 MNCs associated with geographic MCCs are administered by the national numbering plan administrator within each country in accordance with the principle in Annex B.

6.2.3 MSINs are administered by the relevant MNC assignee in accordance with relevant national or ITU-T Recommendations.

6.2.4 In principle, only one IMSI should be assigned to each subscription, although multiple subscriptions may be associated with a SIM/USIM/UICC/embedded SIM card.

Annex A

Criteria and procedures for the assignment and reclamation of shared ITU-T E.212 mobile country codes (MCC) for networks and their respective mobile network codes (MNCs)

(This annex forms an integral part of this Recommendation.)

A.1 Introduction

The Director of TSB assigns and reclaims E.212 mobile country codes (MCCs) for countries and shared MCCs for networks according to this Recommendation. The Director of TSB is also responsible for the assignment and reclamation of mobile network codes (MNCs) for shared MCCs for networks. Mobile subscription identification numbers (MSINs) are administered by the MNC assignee.

A.2 Scope

This annex is intended to provide advice to the Director of TSB on how to assign MNCs under shared MCCs for networks. It describes the procedures and criteria to be utilized by the Director of TSB for the assignment and reclamation of mobile network codes (MNCs) associated with shared MCCs for networks.

A.3 Principles for assignment

A.3.1 In accordance with this Recommendation, the shared MCC resources assigned to networks shall consist of a 3-digit shared MCC for networks followed by a 2- or 3-digit MNC.

A.3.2 For a specific shared MCC for networks, the length of all MNCs within that MCC shall be the same.

A.3.3 Both the shared MCC(s) for networks, and the specific MNC(s) associated with a shared MCC for networks, will be assigned by the Director of TSB.

A.3.4 Subsequent shared MCCs for networks and/or MNCs that are part of shared MCCs for networks can be assigned by the Director of TSB in the event of exhaustion or another substantiated reason.

A.4 Criteria for assignment

Throughout the following clauses, when using the term "applicant", it is assumed that the applicant is either an operator or is a group of operators. However, it should be noted that many national numbering plan administrators require that applicants correspond with the ITU-TSB only via that national numbering plan administrator. It should also be recognized that it may be a national numbering plan administrator presenting an application on behalf of an applicant rather than the applicant making a direct approach to the Director of TSB.

A.4.1 The applicant must be a Member State or a Sector Member of the ITU or an Associate Member of the relevant ITU-T Study Group and must maintain its membership as long as it has reserved or is assigned the requested resource.

A.4.2 The Director of TSB receives a written request from an applicant for assignment.

A.4.3 The applicant requesting the numbering resource must affirm that it has overall responsibility, or a contract with the entity that has overall responsibility, for the management, operation, and maintenance of the network that will utilize the requested resource.

A.4.4 It is a national matter whether requests for codes require national numbering plan administrator review or approval. The applicant shall certify that it has met all of its country's national, legal and/or regulatory requirements for submission of the application.

A.4.5 The applicant must also affirm that all national, regulatory, and legal requirements of the countries in which the applicant's network will operate and provide service are met at the time of network implementation.

A.4.6 If an applicant has been granted a shared E.164 country code resource per [ITU-T E.164.1] for the network cited in the application, it can be assumed that it has fulfilled the following criteria for assignment (see clauses A.4.1, A.4.3 and A.4.7). The applicant must certify that it continues to meet these criteria. However, if the application is for a network that is not associated with a shared E.164 country code resource, all of the criteria must be addressed.

A.4.7 The applicant must demonstrate that the international network infrastructure it intends to use will contain connecting physical nodes in two or more countries. In the case of satellite terminals, serving mobile terminals in two or more countries will satisfy this requirement.

A.4.8 The applicant is required to state the planned date of commercial implementation in at least two countries, or in geographical areas in two different countries.

A.4.9 The applicant will affirm that the requested resources will be used for offering public telecommunication services between two or more countries within a maximum of 1 year from the date of assignment.

A.4.10 The applicant must demonstrate that the use of a MNC under a shared MCC for networks is an appropriate, efficient and effective method to identify terminals or users of the network for routing, addressing and billing purposes. The applicant must attach substantiating documentation justifying this fact. The applicant will affirm that it complies with interworking requirements among public networks.

A.4.11 The applicant must demonstrate that other reasonable technical and operational alternatives (e.g., use of national resources) are not appropriate. The applicant must attach substantiating documentation justifying this fact.

A.4.12 The applicant may apply for a subsequent MNC under the following circumstances:

• the current assignment is approaching exhaustion;

• the applicant can demonstrate that the resource will be utilized by a distinct shared network. Such a request will be treated as a new application;

• other substantiated reasons with proper justification.

A.4.13 Additional assignments of MNCs will be based on confirmation that the existing resource is being used in an efficient manner (e.g., that the format and length of the numbering plan is appropriate). The applicant must provide substantiated information that the resource is approaching exhaustion. The terms and conditions of the original assignment must be met.

A.4.14 The applicant will annually certify that the resource which has been assigned to it continues to be in operation and will also reaffirm its prime contact details through the submission of a status notification to the Director of TSB.

A.5 Assignment

A.5.1 Requests for the assignment of a shared MCC+MNC to a network will be addressed in writing to the Director of TSB. The written request should be submitted on official company letterhead and signed by an appropriate company representative. The signature of the appropriate company representative affirms that, in the applicant's view, all the criteria are met. This written request shall include:

a)   A planned code activation date in order to determine the relevant urgency of the request;

b)   Sufficient information so that the request can be analysed to satisfy the criteria given in clause A.4 (e.g., provide evidence that criteria will be complied with by the activation date, planned network architecture and call flows);

c)   Evidence of payment of any applicable fee.

A.5.2   In making decisions, the Director of TSB consults with the appropriate ITU-T Study Group, if necessary.

A.5.3   Provided the criteria in clause A.4 are met, an applicant's request for assignment of a MNC under a shared MCC for networks will be granted by the Director of TSB and, if necessary, with consultation of the relevant ITU-T Study Group.

A.5.4   Within a given shared MCC for networks, applicants will receive MNCs in sequential order.

A.5.5   After the assignment has been made, the Director of TSB will respond in writing to the applicant and include appropriate information for their ongoing responsibility as contained in this Recommendation and [ITU-T E.190]. In addition, the assignment will be published in the appropriate media (e.g., the ITU Website (TIES) and in the Operational Bulletin).

A.5.6   An assignment can be requested for non-commercial trials or testing purposes for a period of up to two years. The code subsequently assigned can be used only for non-commercial trial and testing purposes.

A.6   Voluntary return of unused MNCs

A.6.1   If an applicant or assignee determines that a MNC assigned to its network is no longer required, the Director of TSB shall be notified of that fact in writing.

A.6.2   The Director of TSB will respond in writing to the applicant acknowledging the return of the MNC.

A.6.3   The Director of TSB is to publish the date of the return of the MNC in the appropriate media (e.g., ITU website (TIES) and in the Operational Bulletin).

A.6.4   The returned MNC(s) should not be reassigned for a period of 2 years.

A.6.5   At the end of the aging two-year period, the Director of TSB will return a code to spare status.

A.7   Criteria for reclamation

A.7.1   The assigned MNC is subject to reclamation if any of the following occurs:
•   the assigned MNC is not implemented;
•   the network no longer satisfies the assignment criteria;
•   the network is not operational between at least two countries; or
•   the MNC is not in use for a period of 2 years.

A.8   Reclamation

A.8.1   If a shared MCC+MNC for networks meets the reclamation criteria provided in clause A.7.1, the Director of TSB will notify the assignee in writing that the code is subject to reclamation.

A.8.2   At the time of reclamation of an assigned MNC code under a shared MCC for networks, the Director of TSB shall publish the date of MNC reclamation via the appropriate media (e.g., ITU website (TIES), and in the Operational Bulletin).

A.8.3   The returned MNCs should not be reassigned for a period of 2 years from the date of reclamation.

A.8.4   At the end of the two-year period, the Director of TSB will return a code to spare status.

A.8.5   A code is to be reclaimed if the applicant has not certified on an annual basis that the code is being used in accordance with the reservation or assignment request or has not also provided the applicant's prime contact details and an affirmation that the applicant is a Member State, a Sector Member or an Associate Member of the relevant ITU-T Study Group.

A.9   Reconsideration process

An applicant for a MNC associated with a shared MCC for networks who has been denied an assignment can request a reconsideration of the denial to the Director of TSB in the following manner. The reconsideration could include a presentation by the applicant to the relevant ITU-T Study Group.

A.9.1   In response to a letter of denial from the Director of TSB, the applicant can submit a supplement to its original application that responds to the reason(s) for denial contained in the letter. The applicant should submit its request for reconsideration, in writing, to the Director of TSB. In order to be considered by the Director of TSB, the response must include new or clarifying information. The submission should present the position of the applicant regarding the application and its denial, including its justification for this reconsideration. The applicant must attach to the submission a copy of the original application, the supplement to it, and the letter of denial from the Director of TSB. The applicant may also present the reconsideration at the Study Group meeting. If the reconsideration is to be presented to the relevant ITU-T Study Group, it should be submitted at least two months prior to the ITU-T Study Group meeting.

A.9.2   The Director of TSB will consult with the relevant ITU-T Study Group and/or its delegated representatives. The relevant ITU-T Study Group and/or its delegated representatives will then provide advice to the Director of TSB regarding the amended application and the contents of the submitted supplement to the original application.

A.9.3   If the Director of TSB determines that, based on the new information, the reservation or assignment should be made, the applicant will be so informed as per the procedures in clause A.5.5.

A.9.4   If the Director of TSB determines that the application is still to be denied after proper consultation with the concerned Study Group, the applicant will be so informed and the reason(s) for the denial will be provided.

Annex B

Principles for the assignment of mobile network codes (MNCs) within geographic MCCs

(This annex forms an integral part of this Recommendation.)

1) MNCs under geographic MCCs are administered by the respective national numbering plan administrator who has responsibility for specifying criteria for assignment, conditions of use and procedures for reclamation at the national level in accordance with this Recommendation.

2) The applicant must demonstrate a need for the resource and must further demonstrate that other reasonable technical and operational alternatives (e.g., use of already assigned MNCs, use of national allocated or assigned shared MNCs, use of embedded SIM) are not appropriate. The applicant must attach substantiating documentation justifying this fact.

3) As required, applicants for MNCs must comply with applicable standards and national regulations relative to the provisioning of public telecommunication services. The applicant will affirm that it complies with interworking requirements among public networks.

4) MNCs are to be assigned to permit the most effective and efficient use of a finite resource in order to defer, as long as practical, the need to request additional MCC resources. For networks and services to be provided in more than one country, excluding mobile roaming services, an applicant for an MNC under a geographic MCC should be encouraged to apply to the ITU for the assignment of an MNC under a shared MCC (Annex A) to avoid the need for multiple assignments of MNCs under different geographic MCCs.

5) A country's national numbering plan administrator may assign one MNC within an MCC assigned to that country by the Director of TSB to the applicant if the applicant demonstrates compliance with the criteria established by the administrator including the respective right to apply for an MNC. The administrator may assign additional MNCs if the applicant meets the criteria for additional assignments established by the national numbering plan administrator, e.g., testing, national roaming, another mobile system.

6) MNCs are to be assigned to applicants and used by assignees for public networks offering public telecommunication services. In addition MNCs may be assigned to other applicants (e.g. for GSM-R networks) and these assignments are to be made according to procedure and criteria established by the national numbering plan administrator.

7) The assignment of MNCs to small geographic areas within a country is not recommended because it is not an efficient or effective use of the MNC resource.

8) MSINs are to be assigned by the MNC assignee to their subscribed users. A user may have multiple IMSIs.

9) IMSIs are a public resource. The assignment of any portion of an IMSI (i.e., MNC, MSIN) does not imply ownership of the resource by either the entity to which it is assigned or by the national numbering plan administrator.

10) Should an assignee transfer control of all or a portion of its business using its assigned MNC under an existing arrangement, then the use of the assigned MNC may be transferable by the national numbering plan administrator.

11) The national numbering plan administrator should:

    a) Assign MNCs in a fair, timely and impartial manner to any applicant that meets the criteria for assignment.

    b) Assign MNCs on a first-come, first-served basis from the available pool of unassigned MNCs.

    c) Make all assignments based on the procedures and criteria as detailed in the assignment guidelines/conventions/regulations/laws.

    d) Notify the Director of TSB of the assignment of an MNC within 90 days, using the MNC notification form available on the ITU website.

12) MNC reclamation principles:

    a) The national numbering plan administrator may reclaim the resource if any of the principles or criteria for assignment is no longer fulfilled.

    b) An MNC resource that is reclaimed may be available for assignment within a specified period of time. The MNC may be reassigned, if feasible, if a limited number of MSINs have been assigned by the former operator. Duplicate MSINs within a reassigned MNC should not be permitted.

    c) Notify the Director of TSB of the withdrawal of an MNC within 90 days, using the MNC notification form available on the ITU website.

Annex C

Procedures for the assignment of an additional MCC to a country

(This annex forms an integral part of this Recommendation.)

1) A national numbering plan administrator may request the assignment of an additional mobile country code (MCC) in writing to the Director of TSB.

2) A national numbering plan administrator may apply for a subsequent MCC when an existing MCC is approaching exhaustion. Exhaustion is defined as having less than 20% of the MNC resource available within an MCC, and the administrator should notify the Director of TSB. When a country has less than 30 % of the MNC resource available, the national numbering plan administrator is encouraged to provide information about its present usage and assignments of MNCs to the Director of TSB.

3) The national numbering plan administrator must provide substantiated information that this resource is approaching exhaustion.

4) An additional assignment will be based on confirmation that the existing resource is being used in an efficient and effective manner.

5) The written request should be submitted and signed by the national numbering plan administrator. This written request should include a planned date of implementation so that the ITU Operational Bulletin can be updated accordingly.

6) At the time of application, an Administration may also request the reservation of up to one additional MCC for future use. This reservation should be on an exception basis and the Administration should provide compelling evidence for the need for such a reservation. The evidence should demonstrate why the additional assigned MCC is not sufficient to address the emerging need for ITU-T E.212 resources.

7) These procedures may be updated depending on the future needs and requirements of national numbering plan administrators, the telecommunications industry, and the availability of unassigned ITU-T E.212 MCC resources.

8) National numbering plan administrators can notify to the Director of TSB of MNC assignments according to the form published on http://www.itu.int/ITU-T/inr/forms/mnc.html.

Annex D

Use of mobile subscription identification number (MSIN)

(This annex forms an integral part of this Recommendation.)

As a general practice, the initial or leading digits of the MSIN may be used to provide for example:

- operational efficiencies;
- internal numbering planning;
- regulatory compliance;
- hardware and software accommodation;
- sharing the MNC resource amongst providers;
- identification of HLRs;
- identification of geographic areas.

Annex E

The use of an MCC+MNC in a country other than the country to which the MCC has been assigned by the Director of TSB

(This annex forms an integral part of this Recommendation.)

E.1   Introduction

Extra-territorial use of an MCC+MNC is the term used to describe the situation where an MCC+MNC that has been assigned to an operator in one country, Country A, is used in another country, Country B, through a base station established in Country B. Extra-territorial use does not include situations where a subscriber in one country receives services from a base station in another country, nor does it address roaming issues.

The extra-territorial use of an MCC+MNC:

*   should not negatively impact services being provided by any other operators,
*   is on an exceptional basis and is subject to this annex,
*   is not intended to include situations where a subscriber in one country receives service from a base station located in another country (e.g., cross-border coverage leakage), or roaming,
*   must comply with all national regulations of each of the Administrations.

The operator using an MCC+MNC extra-territorially must provide unique and unambiguous information to its roaming partners in order to allow them to identify the location of their subscribers. The extra-territorial use of an MCC+MNC should be communicated to the international community by those Administrations which have permitted such usage.

E.2   Procedure to be followed for implementation of the extra-territorial use of an MCC+MNC

In the event that an operator wishes to implement the extra-territorial use of an MCC+MNC, it will seek the approval of the Administrations of both Country A and Country B.

The operator will apply to each of the Administrations, providing the information required by these Administrations. It is suggested that the Administrations should obtain from the operator the information they will need to complete Form A (see Appendix I), in addition to any other documentation required.

The Administrations should confer together on the extra-territorial use of the MCC+MNC. On reaching a decision, they should notify the operator that applied for extra-territorial use of the MCC+MNC, and all other PLMNs operating in either or both of Country A and Country B, accordingly.

In the event that both of the Administrations agree that an operator can use the MCC+MNC extra-territorially, then each of the Administrations will advise the Director of TSB of the following:

*   the MCC+MNC that is to be used extra-territorially;
*   the countries where an MCC+MNC is being used extra-territorially;
*   the name of the operator(s) that are using an MCC+MNC extra-territorially;
*   the MSIN range used by the operator in each country.

It is expected that normal roaming practices, tariffing, and other country identification mechanisms of Country B, will be followed.

Each of the Administrations will notify the Director of TSB of the extra-territorial use of an MCC+MNC by completing Form A.

The Director of TSB shall publish the extra-territorial use via the appropriate media (e.g., ITU website, Operational Bulletin).

E.3   Voluntary return of an MNC

If an operator determines that the part of an MCC+MNC resource being used extra-territorially is no longer required, then the operator will notify the National Administration of the MCC (Country A) of that fact in writing.

The National Administration of the MCC will respond in writing to the applicant acknowledging the return of that part of the MCC+MNC and, in turn, notify the Director of TSB and all PLMNs operating in either Country A or Country B, or in both.

The Director of TSB is to publish the date of the return of the part of the MCC+MNC for extra-territorial use in the appropriate media (e.g., ITU website (TIES), and in the Operational Bulletin).

E.4   Criteria for cancellation of extra-territorial use

The assigned part of the MCC+MNC is subject to cancellation by either the National Administration of Country A or of Country B if, for example, any of the following occurs:

•   The assigned part of the MCC+MNC is not implemented;

•   The network no longer satisfies the assignment criteria;

•   The network is not operational; or

•   The assigned part of the MCC+MNC is not in use for a period of two years.

E.5   Cancellation procedures

The operator will cease to use that portion of the MCC+MNC for extra-territorial use upon the request of either Country A or Country B. If either country initiates the cancellation, then it should formally notify the other country of this request. Upon notification, the countries should collaborate to cancel the authorization that has been issued to the operator for the extra-territorial use.

Upon agreement, both countries will notify the Director of TSB by completing Form B (see Appendix II). They should also notify all PLMNs operating in either Country A or Country B, or in both.

The Director of TSB shall publish the date of cancellation of the extra-territorial use via the appropriate media (e.g., ITU website (TIES), and in the Operational Bulletin).

Annex F

Illustration of uses of ITU-T E.212 resources

(This annex forms an integral part of this Recommendation.)

F.1   Introduction

The purpose of this annex is to illustrate some of the uses of the identification resources described and defined in this Recommendation. The identification plan was originally devised for use by national cellular radio systems known as public land mobile networks (PLMNs). The identification resources are essential to the operation of cellular radio systems. The identification resources are also essential for fixed and global networks (e.g., global satellite networks, maritime, aeronautical, etc.) to provide innovative services (e.g., nomadic service, messaging service, authentication, presence, etc.), above all in the NGN context.

The potential offered by NGN should be given consideration as the current fixed networks. The potential for NGN to be hybrid networks containing both wireline and wireless links and with the ability to provide convergent services should not prevent the assignment of an appropriate ITU-T E.212 identification resource, for the purposes of identification and authentication for access to the convergent services.

Maintaining and extending the use of a unique and unambiguous international identification plan allows the identification of resources to be used within national networks, between networks in the same country and between networks in different countries to facilitate access to international communication services and their applications.

F.2   Mobile networks (PLMN)

The use of the ITU-T E.212 identification resources and its associated component parts permit the identification at country, network and user levels. The resource identifies the subscription and billing relationships.

F.3   Fixed networks (PSTN)

The use of the ITU-T E.212 identification resource in the fixed network facilitates:

•   aspects of personal mobility whereby a user may move between compatible terminals and retain its subscribed access to service;

•   the authentication and verification of a user request for service which may be used on the basis of manual entry or automated reading device;

•   fixed networks emulating applications of the cellular mobile networks such as SMS or TEXT messaging;

•   interaction between users of fixed and mobile networks.

F.4   Satellite and non-terrestrial networks

The initial requirements were for the global mobile-satellite systems, but these have been expanded to cover regional satellite systems and other non-terrestrial networks. An MCC is allocated and assignment of MNCs are made by the Director of TSB and this resource is shared on the basis of MNCs being assigned to successful applicants. For the international telephone service, this shared identification resource can be associated with the corresponding ITU-T E.164 Country Code plus Identification Code (CC + IC).

F.5   Universal personal telecommunication (UPT)

The ITU-T E.212 identification resource may also be used in the UPT service for purposes, such as the authentication and identification of UPT subscriptions. In UPT, the IMSI is called the personal user identity (PUI).

F.6   Services used globally

The ITU-T E.212 identification resource may be used by services in more than one country by the network which has been assigned the International shared ITU-T E.212 resources in accordance with the assignment criteria. The applicant should affirm:

a)   that the identification resource will be used to support global services that are based on well recognized and implemented international standards;

b)   the relevant international standards on which the service is based;

c)   a description of the proposed service;

d)   acceptance that any infringement of the reservation and assignment criteria and directly related ITU-T Recommendations, by any third party which the applicant through a contract subsequently sub-allocates part of the assigned resource to, may result in the total assigned resource being reclaimed.

F.7   Networks

Networks in this clause are defined in [ITU-T E.164]. The ITU-T E.212 identification resource may be used in support of the service offered by the applicant.

Appendix I

Form A: Notification of the use of an MCC/MNC extra-territorially

(This appendix does not form an integral part of this Recommendation.)

To be returned to the Director of TSB Fax No.: +41 22 730 5853

This form should be used by each of the Administrations to notify the Director of TSB that the Administration has agreed that an operator can use an MCC+MNC of Country A in Country B.

MCC/MNC: _____

Administration Contact-Person Name: _____

Address: _____

Telephone: _____ **Fax:** _____ **Email:** _____

MCC/MNC	Operator(s) Name	Country B – Where the MCC/MNC is to be used extra-territorially	MSIN range to be used in Country A	MSIN range to be used in Country B

Appendix II

Form B: Notification of the cancellation of use of an MCC/MNC extra-territorially

(This appendix does not form an integral part of this Recommendation.)

To be returned to the Director of TSB Fax No.: +41 22 730 5853

This form should be used by each of the Administrations to notify the Director of TSB that the Administration has agreed that an operator can cancel the use of an MCC+MNC of Country A in Country B.

MCC/MNC: _____

Administration Contact-Person Name: _____

Address: _____

Telephone: _____ **Fax:** _____ **Email:** _____

MCC/MNC	Operator(s) Name	Country B – Where the MCC/MNC is used extra-territorially	MSIN range used in Country A	MSIN range used in Country B

Bibliography

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[b-ITU-T E.214]   Recommendation ITU-T E.214 (2005), *Structure of the land mobile global title for the signalling connection control part (SCCP).*

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