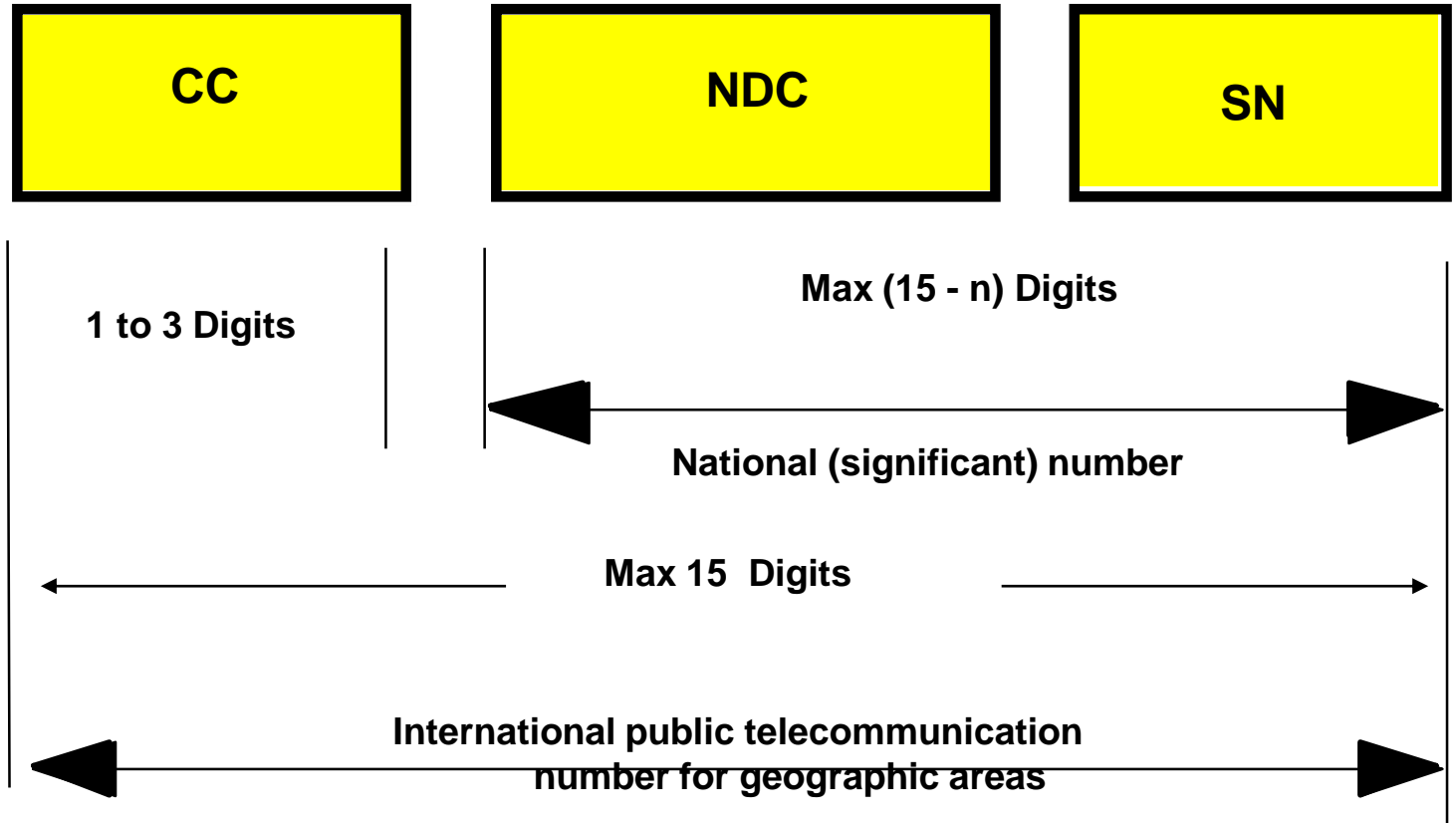


# Setting the Scene Part 1

## - Numbers and Identifiers Structure

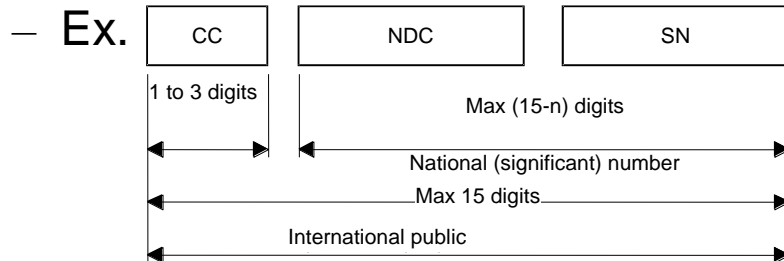
# E.164 numbers



# Le plan de numérotage international E.164

- E.164 is both

- A **format** defined by the recommendation...



- ... and **values** allocated/assigned in a tree-like structure

- CC (country codes) assigned by the ITU

- To Member States eg Brazil 55, and administered by administrations or private entities through delegations

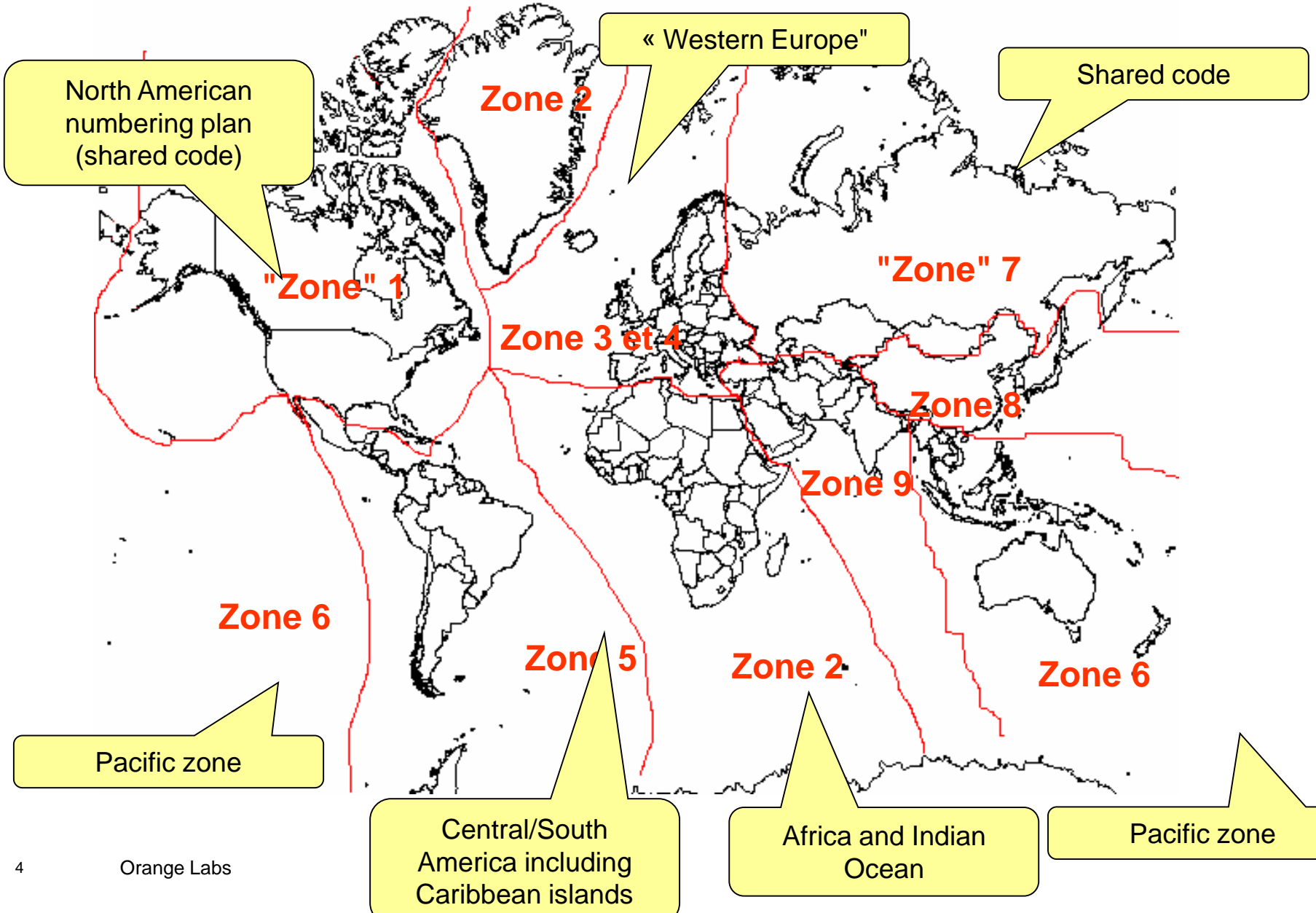
- To the ITU itself and administered directly by the ITU eg 800, 882883...

- NDC/SN assigned by Member States (or by delegation) in ranges generally

- SN assigned by service providers (operators, third parties...)

- Country Codes are both a geographic and tariff " marker"

# Historic distribution of the E.164 numbering plan



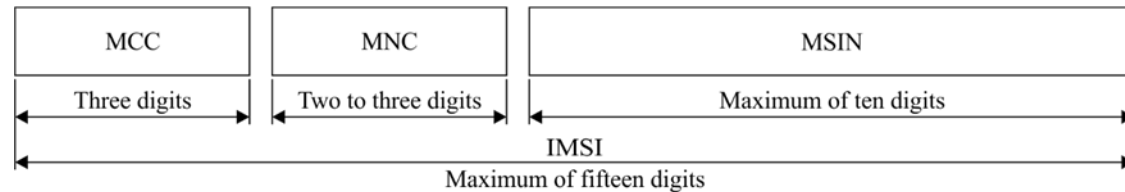
## E.164: geographic distribution and "geopolitical dynamics"

- 1966
  - +37 is assigned to German Democratic Republic
- 1968 (White Book)
  - Mexico and Honduras leave the North American NP +1
  - Turkey leaves Zone 3 (*Europe*) to Zone 9 (*Middle East/Asia*)
- 1972 (Green Book)
  - Costa Rica, El Salvador, Honduras, Nicaragua and Panama leave Zone 1 for Zone 6 (*Central/south America*)
- 1989: German reunification: former German Democratic Republic joins +49
- After 1989, newly created countries within Zone 7 get their “own” CCs:
  - Zone 3 (*Europe*): 1993: Lithuania, Latvia, Estonia, Moldova (etc.)
  - Zone 9 (*Moyen/Proche Orient - Asie*): Azerbaijan, Georgia
  - Kazakhstan remains +7 shared with Russia
- 1997: split of former Czechoslovakia: +42 is split into 3 digit CCs
- Split of former Yugoslavia: +38 is split: Serbia, Montenegro,...

# Governance of E.164 Country Codes

- Allocated by the ITU
  - for global services e.g. UIFN, network identity codes
    - Criteria in ITU-T Recommendations
    - Direct assignment
  - For country codes
    - Criteria in ITU-T Recommendations
    - Indirect assignment of N(S)N
    - Structure, use and management is a national matter within the context of Recommendation ITU-T E.164

# E.212 International Mobile Subscription Identifier



MCC Mobile country code  
MNC Mobile network code  
MSIN Mobile subscription identification number  
IMSI International mobile subscription identity

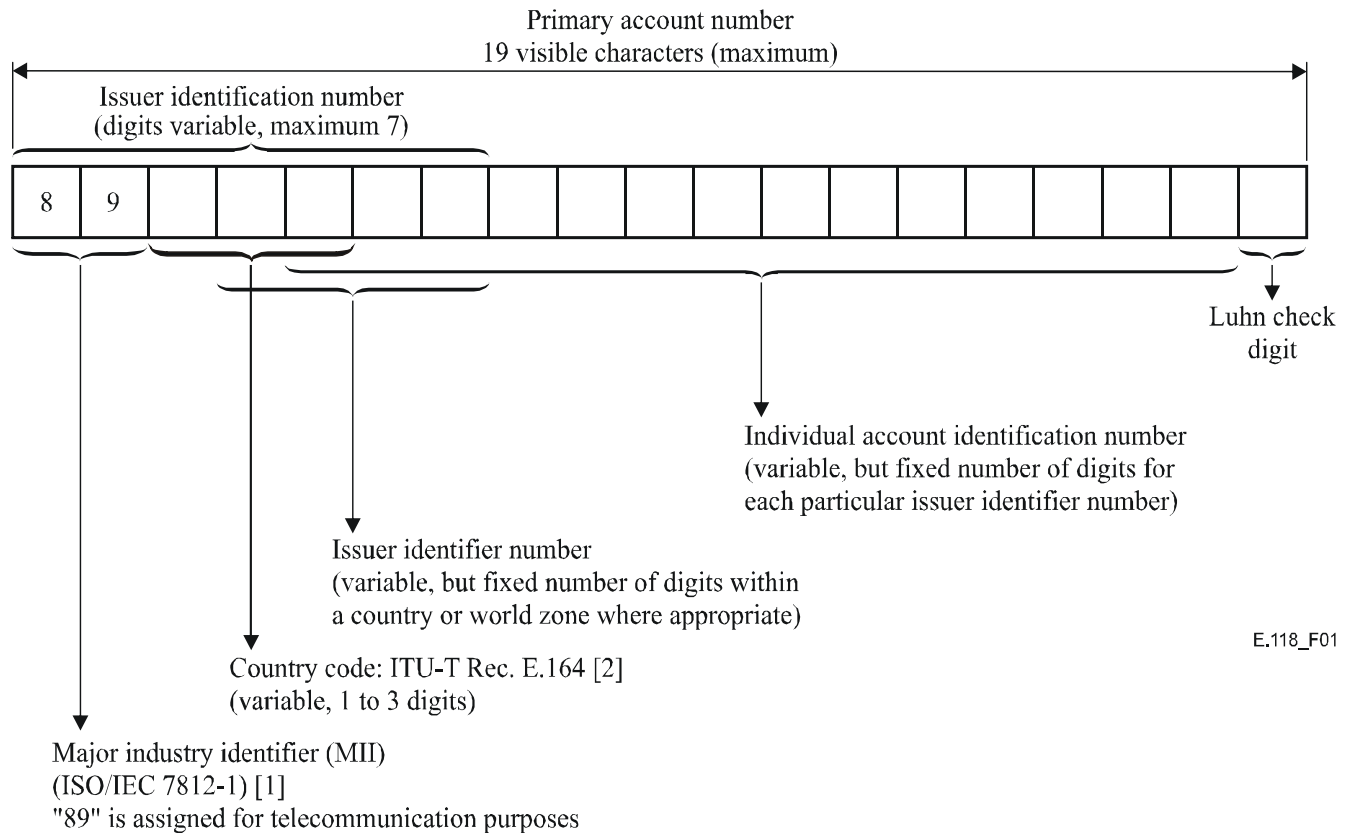
E.212(16)\_F01

# Governance of E.212 Country Codes

- Allocated by the ITU
  - for support of global networks (i.e. MCC 901)
    - Criteria in ITU-T Recommendations
    - Direct assignment
  - For (mobile) country codes
    - MCC originated as x.25 Data country codes
    - Criteria in ITU-T Recommendations
    - Indirect assignment of MNC's
    - Structure, use and management is a national matter within the context of Recommendation ITU-T E.212



# E.118 Issuer Identification Numbers

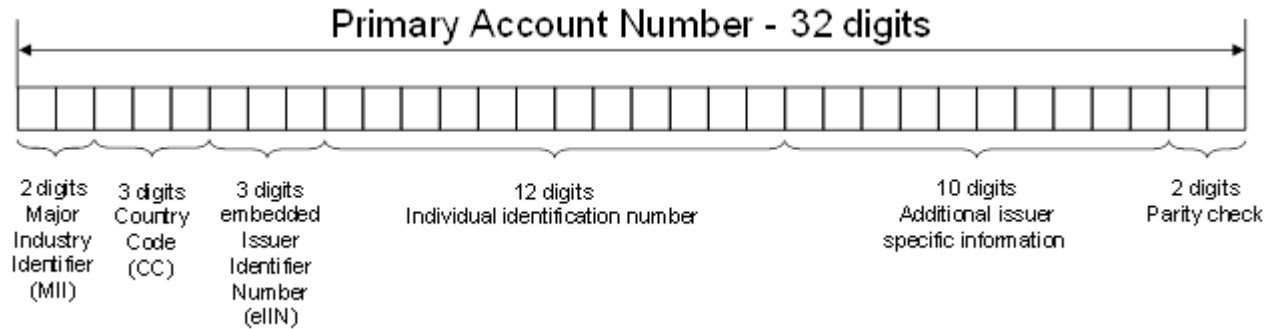


E.118\_F01

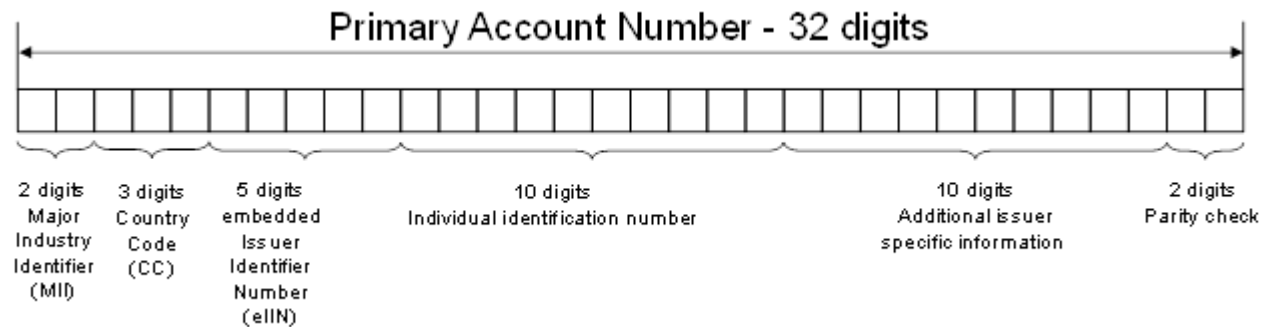
# Governance of Issuer Identifier Numbers (IINs)

- Major Issuer Identifier assigned by ISO and not changed
- Re-use of E.164 country Code
- National Assignment of the IIN
- Process to register is defined in Rec. ITU-T E.118

# Use Of IIN in eSIMs



or



# Governance for Embedded SIMS

- In the ITU – no decision....still under discussion

# ITU-T Numbering Recommendations

- E.164 The International public telecommunication plan
- E.212 The international identification plan for public networks and subscriptions
- E.118 The International Charge Card

# International Numbering related Recommendations

## Some important ITU-T numbering related recommendations

- E.156 Guidelines for ITU-T action on reported misuse of E.164 number resources
- E.157 International calling party number delivery
- E.161.1 Guidelines to select Emergency Number for public telecommunications networks
- E.164.1 Criteria and procedures for the reservation, assignment and reclamation of E.164 country codes and associated identification codes (ICs)
- E.164.3 Principles, criteria and procedures for the assignment and reclamation of E.164 country codes and associated identification codes for groups of countries
- E.190 Principles and responsibilities for the management, assignment and reclamation of E-series International numbering resources

# Use of E.164 Numbers for Global Services

- E.152 International Freephone
- E.153 Home Country Direct
- E.154 International Shared Cost Service
- E.155 International premium Rate Service
- E.168 Application of E.164 numbering plan for Universal Personal Telecommunications

# Structure of Global/Universal Numbers

- E.169: Application of Recommendation E.164 numbering plan for universal international numbers for international telecommunications services using country codes for global services
- E.169.1: Application of Recommendation E.164 numbering plan for universal international freephone numbers for international freephone service
- E.169.2: Application of Recommendation E.164 numbering plan for universal international premium rate numbers for the international premium rate service
- E.169.3: Application of Recommendation E.164 numbering plan for universal international shared cost numbers for international shared cost service



# ITU Operational Bulletin

- The Operational Bulletin is created in 1966 in order to facilitate the exchange of information among administrations/ROAs for the good running of telecommunication services.
- Administrations/ROAs or other service providers may communicate to TSB any kind of official service information which is vital to smooth and efficient operation of international telecommunication services,
- The Bulletin is published on the 1 and 15 of each month in cooperation with the Maritime Section of BR.
- All communications published in the Bulletin should have the approval of the administrations.
- As from 1 January 2010, the Bulletin has been disseminated electronically with free on-line access.

# Sample ITU Operational Bulletin

- ITU Operational Bulletin No. 1087 (1.XI.2015) *1 November 2015*
- Contact: [tsbtson@itu.int](mailto:tsbtson@itu.int)
- Main Content:
  - Lists annexed to previous OBs.
  - Approval of ITU-T Recommendations.
  - Service Restrictions.
  - Call-Back and Alternative Calling Procedures (PP Res. 21).
  - New assignments, changes, deletions of numbering resources.
  - NNPs notifications (details are published in the NNP ITU-T website).

ITU Operational Bulletin		
www.itu.int/itu-t/bulletin		
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# Notification forms

<https://www.itu.int/en/ITU-T/inr/forms/Pages/default.aspx>

## Notification Forms

- ▶ Assignment of Data Network Identification Codes (DNIC) by the Administrations (According to ITU-T Recommendation X.121 (10/00))
- ▶ Assignment or withdrawal of International Signalling Point Codes (ISPC) for Signalling System No. 7 (According to ITU-T Recommendation Q.708 (03/99))
- ▶ Assignment or withdrawal of Mobile Network Code (MNC) for the international identification plan for mobile users (According to ITU-T Recommendation E.212)
- ▶ Notification of the extra-territorial use/withdrawal of an MCC/MNC
- ▶ Change of tones used in national networks (According to ITU-T Recommendation E.180)
- ▶ Dialling procedures (According to ITU-T Recommendation E.164 (05/97))
- ▶ ITU Carrier Codes (According to ITU-T Recommendation M.1400)
- ▶ Issuer Identifier Number for the international telecommunication charge card issued by the telecommunication Administrations (According to ITU-T Recommendation E.118 (02/01))
- ▶ Names of Administration Management Domains (ADMD) and other information concerning the implementation of Message Handling Services (According to ITU-T F.400 and X.400 series Recommendations)
- ▶ Assignment of International Network Identification Codes for Public Frame Relay Data Networks and ATM networks numbered under the E.164 numbering plan (According to ITU-T Recommendation X.125 (09/98))
- ▶ Available information regarding the identification of national authorities for the assignment of ITU-T Recommendation T.35 terminal provider codes
- ▶ Notification Form of the List of Recognized Operating Agencies (ROAs)
- ▶ Notification forms for National Numbering Plan (According to Recommendation ITU-T E.129 (01/2013))

# Annex to ITU OB

## Lists Annexed

OB No.		Position on	Rec.
1125	List of Signalling Area/Network Codes (SANC)	01/06/2017	Q.708
1125	List of terrestrial trunk radio mobile country codes	01/06/2017	E.218 (2017)
1117	List of Mobile Country or Geographical Area Codes	01/02/2017	E.212
1114	List of Recommendation ITU-T E.164 assigned country codes	15/12/2016	E.164
1111	Mobile Network Codes (MNC) for the international identification plan for public networks and subscriptions (According to Recommendation ITU-T E.212 (09/2016))	01/11/2016	E.212
1109	List of International Signalling Point Codes (ISPC) (According to Recommendation ITU-T Q.708 (03/99))	01/10/2016	Q.708

## List of International Signalling Point Codes (ISPC) for signalling system No. 7 (According to Recommendation ITU-T Q.708 (03/99))

Country/ Geographical Area			
ISPC	DEC	Unique name of the signalling point	Name of the signalling point operator
<b>Afghanistan</b>			
4-024-0	8384	AWCC	AWCC
4-024-1	8385	AWCC	AWCC
4-024-2	8386	AWCC	AWCC
4-024-3	8387	Afghan Telecom	Afghan Telecom
4-024-4	8388	Kamss3-TV	MTN
4-024-5	8389	Hemss1-Herat	MTN
4-024-6	8390	Roshan	TDCA (dba Roshan)
4-024-7	8391	Roshan	TDCA (dba Roshan)
4-025-0	8392	Roshan	TDCA (dba Roshan)
4-025-1	8393	Roshan	TDCA (dba Roshan)
4-025-2	8394	Roshan	TDCA (dba Roshan)
4-025-3	8395	AWCC	AWCC
4-025-4	8396	AWCC	AWCC
4-025-5	8397	Afghan Telecom	Afghan Telecom