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Setting the Scene Part 2

- Use of the Resources

Requirements for telephone Numbers

- International Number vs. National only Number
  - role of escape digits
- Numbering Plans vs. Dialling Plans
  - Structure vs. Use
- Meet the various needs of stakeholders
  - Consumers
  - Operators (Incumbent and New Entrants)
  - Regulators
- One structure to cover multiple uses and roles
  - Geographic/non Geographic
  - Fixed/Mobile

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Options for Number Plans

- Open Dialling Plan, codes and numbers
- Closed Dialling Plan
- Mixture of both
- Long term, natural migration to Closed Dialling Plans?

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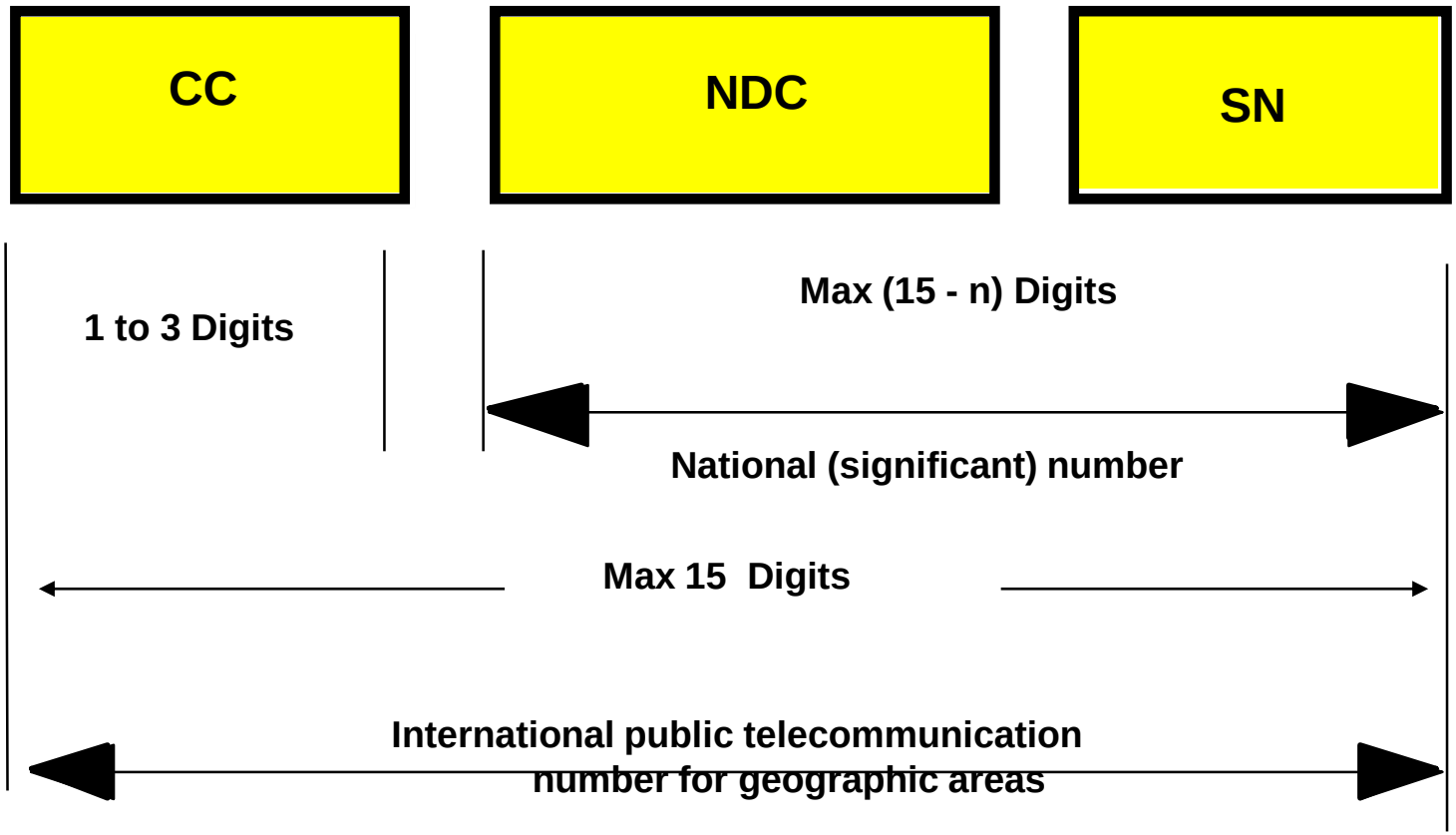
E.164 numbers



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Open Dialling Plans

- Each element of the E.164 National Significant Number is dialled
  - Subscriber Number = Local Number
  - N(S)N = National Number
  - (but networks should always allow use of both)

How does the network "know" the difference

EITHER

- Use of an "escape" digit (such as "0") at the start of the number

OR

- A rule must be established to determine whether the number string dialled is "local" or "national"

- Decision is made by the type of signalling being used

- User does not distinguish between dialling and numbering Plan

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Closed dialling plans

- The N(S)N is dialled in entirety
- No escape digit
- No impact on incoming International calls
- No differentiation between signalling systems

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Impact of Dialling Plans

- Impact use of digits in the NNP
- Recommended international dialling code is “00”
- Escape digits normally omitted on incoming international calls e.g.
  - (National) 0 1234 567890
  - (International) +44 1234 567890
- Mobiles use +
  - But not all mobile use international format for CLI
  - Specified in Recommendation ITU-T E.123

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Benefits of Closed Dialling Plans

- Easier to administer

ADVANTAGES

- More flexible
- Number space more fully usable
- Easier to remember

BUT……

- May become anti-competitive if care is not taken
- Results in loss of local dialling, hence longer numbers always dialled
- Can place greater requirements on equipment design
- Old PSTN used to be “local dialling” native

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Requirements for E.212 Codes

- Identifies both Subscriber and Station
- Used to Manage roaming and mobility
- Replaces the use of Telephone Numbers for routeing
- National and Global use
- Extra-territorial use vs. Permanent Roaming
- M2M/IoT a driver for E.212 Resources

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Issuer Identifier Numbers

- Originally used on Home Country Direct Cards
- Assigned by Administrations
- Registered by ITU subject to a registration fee
- Used to identify SIMs
  - GSMA
  - Physical and eSIMS
- Increased demand for wireless M2M/IoT Implementations
- Replacement of physical SIMs with “virtual” SIMs

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Embedded SIMs

- No decision….still under discussion
- Embedded SIMs also called Embedded Universal Integrated Circuit Card (eUICC)
- Not Physical
- Can be altered over the Air (OTA) interface

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