# MSISDN

**MSISDN** (pronounced /'em es ai es di en/ or *misden*) is a number uniquely identifying a subscription in a GSM or a UMTS mobile network. Simply put, it is the telephone number to the SIM card in a mobile/cellular phone. This abbreviation has several interpretations, the most common one being "Mobile Station International Subscriber Directory Number".[1]

The MSISDN together with IMSI are two important numbers used for identifying a mobile subscriber. The latter is stored in the SIM, i.e. the card inserted into the mobile phone, and each IMSI uniquely identifies the mobile station, its home wireless network, and the home country of the home wireless network, while the former is the number used for routing calls to the subscriber. IMSI is often used as a key in the HLR ("subscriber database") and MSISDN is the number normally dialed to connect a call to the mobile phone. A SIM has a unique IMSI that does not change, while the MSISDN can change in time, i.e. different MSISDNs can be associated with the SIM.

The MSISDN follows the numbering plan defined in the ITU-T recommendation E.164.

## 1 Abbreviation

Depending on source or standardization body, the abbreviation MSISDN can be written out in several different ways. These are today the most widespread and common in use.

## 2 MSISDN Format

The ITU-T recommendation E.164 limits the maximum length of an MSISDN to 15 digits. 1-3 digits are reserved for country code. Prefixes are not included (e.g., 00 prefixes an international MSISDN when dialing from Sweden). Minimum length of the MSISDN is not specified by ITU-T but is instead specified in the national numbering plans by the telecommunications regulator in each country.

In GSM and its variant DCS 1800, MSISDN is built up as

MSISDN = CC + NDC + SN
CC = Country Code
NDC = National Destination Code, identifies one or part of a PLMN
SN = Subscriber Number

In the GSM variant *PCS 1900*, MSISDN is built up as

MSISDN = CC + NPA + SN
CC = Country Code
NPA = Number Planning Area
SN = Subscriber Number

The Country Code identifies a country or geographical area, and may be between 1-3 digits. The ITU defines and maintains the list of assigned country codes.

### 2.1 Example

MSISDN: 7307406945

For further information on the MSISDN format, see the ITU-T specification E.164..

## 3 See also

- E.164
- International Mobile Equipment Identity (IMEI)
- International Mobile Subscriber Identity (IMSI)
- SIM card
- Mobile phone
- GSM
- HLR
- E.214

## 4 References

[1] The conclusion ("most common") is drawn from the recent documentation from 3GPP and OMA, please see the Abbreviation section above

[2] 3GPP Vocabulary

[3] ITU-T Q.1741-4

[4] OMA Dictionary

[5] GSM 03.03

[6] GSMA Acronyms

[7] ITU Vocabulary

# 5   External links

- http://www.3gpp.org, GSM 03.03 (see section 3.3)

- http://www.openmobilealliance.org

- http://www.itu.int, E.164, E.212, E.213, E.214

- http://www.gsmworld.com

- http://www.msisdn.org/

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