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Digital cellular telecommunications system (Phase 2) (GSM); Subscriber data management; Stage 2 (GSM 03.16)

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ICS:

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
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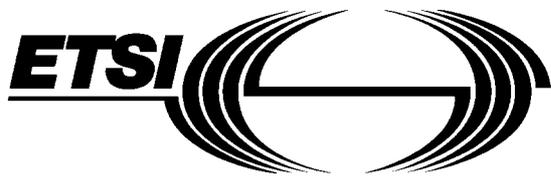
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**Digital cellular telecommunications system (Phase 2);
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(GSM 03.16)**

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Foreword

This second edition European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee (TC) of the European Telecommunications Standards Institute (ETSI).

This ETS specifies the stage 2 description of the subscriber data management. This ETS corresponds to GSM Technical Specification (GSM-TS) GSM 03.16 version 4.2.1.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS is not in accordance with the ETSI/PNE rules.

Reference is made within this ETS to GSM Technical Specifications (GSM-TS) (note).

Reference is also made within this ETS to GSM 03.8x series. The specifications in the series can be identified, with their full title, within the normative reference clause of this ETS by the last two digits of their GSM reference number e.g. GSM 03.8x series, refers to GSM 03.81, GSM 03.82, etc.

NOTE: TC-SMG has produced documents which give the technical specifications for the implementation of the Digital cellular telecommunications system. Historically, these documents have been identified as GSM Technical Specifications (GSM-TS). These TSs may have subsequently become I-ETSS (Phase 1), or ETSS (Phase 2), whilst others may become ETSI Technical Reports (ETRs). GSM-TSs are, for editorial reasons, still referred to in current GSM ETSS.

Transposition dates	
Date of adoption of this ETS:	4 October 1996
Date of latest announcement of this ETS (doa):	29 February 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 August 1997
Date of withdrawal of any conflicting National Standard (dow):	31 August 1997

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1 Scope

This second edition European Telecommunication Standard (ETS) gives the stage 2 description of the subscriber data management handling between the Home Location Register (HLR) and the Visitor Location Register (VLR).

A number of procedures require updating of subscriber information from HLR to VLR:

- location updating;
- restoration;
- modification of data by the operator;
- modification of data by the subscriber via the Mobile Station (MS).

Only the rules for the updating of subscriber data from the HLR to the VLR are described in this ETS. Public Land Mobile Network (PLMN) specific and Unstructured Supplementary Service Data (USSD) subscriber data are out of scope of this ETS.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

- [1] GSM 01.04 (ETR 100): "Digital cellular telecommunications system (Phase 2); Abbreviations and acronyms".
- [2] GSM 02.01 (ETS 300 500): "Digital cellular telecommunications system (Phase 2); Principles of telecommunication services supported by a GSM Public Land Mobile Network (PLMN)".
- [3] GSM 02.02 (ETS 300 501): "Digital cellular telecommunications system (Phase 2); Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)".
- [4] GSM 02.03 (ETS 300 502): "Digital cellular telecommunications system (Phase 2); Teleservices Supported by a GSM Public Land Mobile Network (PLMN)".
- [5] GSM 02.04 (ETS 300 503): "Digital cellular telecommunications system (Phase 2); General on supplementary services".
- [6] GSM 03.07 (ETS 300 525): "Digital cellular telecommunications system (Phase 2); Restoration procedures".
- [7] GSM 03.08 (ETS 300 526): "Digital cellular telecommunications system (Phase 2); organization of subscriber data".
- [8] GSM 03.11 (ETS 300 529): "Digital cellular telecommunications system (Phase 2); Technical realization of supplementary services".
- [9] GSM 03.15 (ETS 300 533): "Digital cellular telecommunications system (Phase 2); Technical realization of operator determined barring".
- [10] GSM 03.81 (ETS 300 542): "Digital cellular telecommunications system (Phase 2); Line identification supplementary services - Stage 2".
- [11] GSM 03.82 (ETS 300 543): "Digital cellular telecommunications system (Phase 2); Call Forwarding (CF) supplementary services - Stage 2".

- [12] GSM 03.83 (ETS 300 544): "Digital cellular telecommunications system (Phase 2); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 2".
- [13] GSM 03.84 (ETS 300 545): "Digital cellular telecommunications system (Phase 2); Multi Party (MPTY) supplementary services - Stage 2".
- [14] GSM 03.85 (ETS 300 546): "Digital cellular telecommunications system (Phase 2); Closed User Group (CUG) supplementary services - Stage 2".
- [15] GSM 03.86 (ETS 300 547): "Digital cellular telecommunications system (Phase 2); Advice of Charge (AoC) supplementary services - Stage 2".
- [16] GSM 03.88 (ETS 300 548): "Digital cellular telecommunications system (Phase 2); Call Barring (CB) supplementary services - Stage 2".
- [17] GSM 03.90 (ETS 300 549): "Digital cellular telecommunications system (Phase 2); Unstructured supplementary services operation - Stage 2".
- [18] GSM 09.02 (ETS 300 599): "Digital cellular telecommunications system (Phase 2); Mobile Application Part (MAP) specification".

3 Definitions and abbreviations

3.1 Definitions

Subscriber data to be stored in the HLR and VLR are defined in GSM 03.08 and GSM 03.8x and GSM 03.9x-series of technical specifications.

Shared subscriber data:

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Common subset of subscriber data defined to be stored in both the HLR and VLR. Subscriber data only stored in the HLR is not part of shared subscriber data. Shared subscriber data includes:

BS	Bearer Service (see GSM 02.02);
TS	Teleservice (see GSM 02.03);
BSG	Basic Service Group (see GSM 02.01, GSM 02.04 and GSM 03.11);
EBSG	Elementary Basic Service Group (see GSM 03.11);
CBSG	Collective Basic Service Group (see GSM 03.11).

Mandatory data:

Data required to form a self-consistent set of subscriber data. The context governs whether a specific parameter is mandatory, e.g. the data set for a specific service may be optional, however if data for this service is present, then parameters within this data set may be mandatory.

Mandatory data is defined by the service description (see e.g. GSM 03.6x, GSM 03.8x and GSM 03.9x-series of technical specifications and GSM 03.15) and by PLMN defined requirements.

NOTE 1: The above definition is seen from a semantic point of view. Semantically, mandatory parameters may be defined as syntactically optional or mandatory by the protocol.

Optional data:

Data which is defined as subscriber data, but which is not required to form a self-consistent set of subscriber data; the context governs whether a specific parameter is optional.

Optional data is data which is defined by the service description (see e.g. GSM 03.6x, GSM 03.8x and GSM 03.9x-series of technical specifications and GSM 03.15) or by PLMN defined requirements but is not defined as mandatory data.

NOTE 2: The above definition is seen from a semantic point of view. Semantically optional parameters are always defined as syntactically optional by the protocol.

Missing data:

Data which is mandatory in a given context but is not received nor is valid data available locally.

Unexpected data:

Data which is received and cannot be further processed. This may be either:

- optional data not required in a given context; or
- optional or mandatory data, required in this context but received with an unexpected value.

Overlapping data:

Two different cases of overlapping within subscriber data are possible:

- two or more parameters are to be stored at the same address in the data structure (see subclause 4.4);
- two or more BSGs within a BSG list include or are identical with one and the same EBSG.

The following **groups of subscriber information** are defined:

- subscriber information (Group A):
 - International Mobile Subscriber Identity (IMSI);
 - basic Mobile Station International ISDN Number (MSISDN);
 - category;
 - subscriber status;
- basic service information (Group B):
 - Bearer Service list;
 - Teleservice list.
- Supplementary Service (SS) information (Group C):
 - forwarding information;
 - call barring information;
 - Closed User Group (CUG) information;
 - SS Data;
- Operator Determined Barring (ODB) information (Group D):
 - ODB Data;
- roaming restriction information (Group E):
 - roaming restriction due to unsupported feature;
- regional subscription information (Group F):
 - regional subscription data.

3.2 Abbreviations

Abbreviations used in this ETS are listed in GSM 01.04.