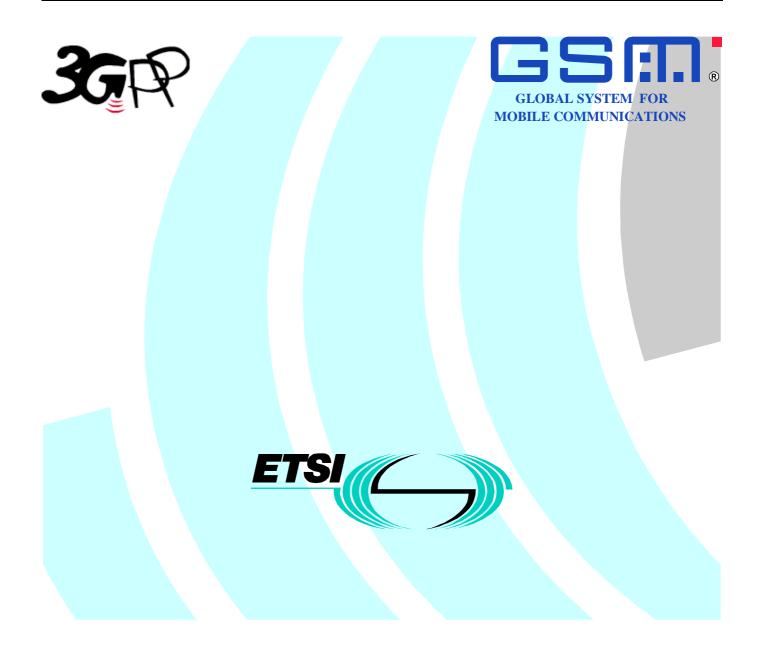# ETSI TS 142 032 V4.0.0 (2001-03)

Technical Specification

Digital cellular telecommunications system (Phase 2+);
Immediate Service Termination (IST);
Service description - Stage 1
(3GPP TS 42.032 version 4.0.0 Release 4)

GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS

Reference

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Foreword

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

This Technical Specification specifies the stage 1 description of the Immediate Service Termination (IST) service which provides the means for the HPLMN to terminate all the activities of an HPLMN subscriber in a VPLMN.

The purpose of this network feature is to enable the HPLMN to control the activities of its subscribers, particularly while they are roaming. If the HPLMN decides (based upon information received via Fraud Information Gathering System (FIGS) or other systems) that a roaming subscriber is behaving in a fraudulent or suspicious manner, the HPLMN can terminate all activities of the subscriber, including calls (including transferred and diverted calls) that are in progress.

This procedure can also be used to terminate all the activities of a subscriber when the subscription has ended.

The primary aim is to enable service providers/network operators to use IST to reduce the amount of money that they lose because of roaming fraud.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1]   GSM 01.04: "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this specification the following definitions apply:

subscriber activities: subscriber activities that must be terminated. These can be call related events (e.g. call set-up, call termination) or the invocation of call related and call independent supplementary services (e.g. Call Hold, Call Waiting, Call Transfer, Call Forwarding, Unstructured Supplementary Service Data (USSD)).

3.2 Abbreviations

Abbreviations used in this specification are listed in GSM 01.04.

For the purposes of this specification the following abbreviations apply:

IST   Immediate Service Termination
FIGS   Fraud Information Gathering System

4   Immediate Service Termination (IST)

4.1   Description

It shall be possible for the Home Public Lands Mobile Network (HPLMN) to instruct any PLMN to terminate immediately all the activities of a specified HPLMN subscriber.

Immediate Service Termination (IST) is controlled by the HPLMN and can be triggered by the HPLMN only.

A subscriber shall be specified by the International Mobile Subscriber Identity (IMSI).

For subscribers that are marked as subscribed to a CAMEL-based service, IST shall be possible using Customised Applications for Mobile network Enhanced Logic (CAMEL).

IST shall also be possible for subscribers who are not marked as subscribed to any CAMEL-based service (see Annex A).

4.2   Applicability

This network feature applies to all subscribed Bearer Services and Teleservices of the subscriber, except for emergency calls.

4.3   Normal procedure

The HPLMN will normally direct a request for IST for a particular subscriber to the current Visited PLMN (VPLMN) of that subscriber and the PLMN visited by the subscriber immediately prior to visiting the current VPLMN

> NOTE: In practice, the IST command will be sent to individual Mobile-services Switching Centres (MSCs), and not to "VPLMNs" as a whole (but such detail is for Stage 2 and not Stage 1). IST will therefore be sent to all MSCs in which the subscriber has (or may have) an active call, as logged by the HPLMN. These MSCs may be confined to the current VPLMN or may include MSC(s) in the PLMN visited by the subscriber immediately prior to visiting the current VPLMN (or PLMNs visited even earlier).

The VPLMN shall confirm receipt of the IST command.

The VPLMN shall then terminate all activities of that subscriber in the VPLMN including ongoing calls and forwarded, deflected and transferred calls. The call records of calls terminated by the operation of IST shall contain a field indicating that the call terminated because of the operation of IST.

The VPLMN shall then confirm to the HPLMN that all subscriber activities in that VPLMN have been terminated.

If the specified subscriber has no activities in the VPLMN then the VPLMN shall inform the HPLMN of this.

4.4   Exception procedures

If after sending an IST command to a VPLMN, the HPLMN does not receive a positive acknowledgement from the VPLMN indicating receipt and comprehension of the IST command, the HPLMN should assume that the VPLMN does not support IST.

5   Security requirements between HPLMN and VPLMN

It is expected that there will be a need for authentication and confidentiality of the communication made between PLMNs.

These issues are for study under other work items within the SMG10 work programme.

Annex A (Informative): Normal procedure

IST has been defined to work in co-ordination with existing GSM facilities.

1) The HPLMN changes the subscriber's entry in the HLR to prevent the resumption of activity in the HPLMN and VPLMN after IST has terminated all subscriber activity.

2) The HPLMN sends a MAP "Cancel Location" command to the VLR to prevent the resumption of activity by the subscriber within the VPLMN without reference to the HPLMN.

3) The HPLMN sends an IST command to the VPLMN, (possibly a specific MAP message).

4) The VPLMN confirms receipt and comprehension of the command.

5) The VPLMN terminates all activities of the subscriber indicated by the command.

6) The VPLMN confirms to the HPLMN that all subscriber activities have been terminated.

Annex B (Informative):
Change History

Status of Technical Specification GSM 02.32: stage 1 of IST		
Date	**Version**	**Comments**
		No Phase 1 version
June 1997	1.0.0	to SMG#22 for information
March 1998	2.0.0	to SMG#25 for approval
March 1998	7.0.0	TS approved by SMG#25. IST is part of Release 98
June 1998	7.1.0	CR 02.32-A001 (cat C) approved by SMG#26
August 1999	7.1.1	R98 publication version
April 2000	8.0.0	R99 publication version

Change history						
TSG SA#	**Spec**	**Version**	**CR**	**<Phase>**	**New Version**	**Subject/Comment**
SP-11	02.32	8.0.0	-	Rel-4	42.032 v 4.0.0	Upgrade to Release 4 (3GPP numbering)

History

Document history		
V4.0.0	March 2001	Publication