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Technical Specification

Digital cellular telecommunications system (Phase 2+); Immediate Service Termination (IST) Service description - Stage 1 (GSM 02.32 version 8.0.1 Release 1999)



GSM®

GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS



Reference

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Special Mobile Group (SMG).

The present document defines the Immediate Service Termination (IST) Service description (Stage 1) within the digital cellular telecommunications system (Phase 2/Phase 2+).

The contents of the present document may be subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of the present document it will then be re-submitted for formal approval procedures by ETSI with an identifying change of release date and an increase in version number as follows:

Version 8.x.y

where:

- 8 GSM Phase 2+ Release 1999;
- x the second digit is incremented for changes of substance, i.e. technical enhancements, corrections, updates, etc.;
- y the third digit is incremented when editorial only changes have been incorporated in the specification.

1 Scope

The present document 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 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.
- For this Release 1999 document, references to GSM documents are for Release 1999 versions (version 8.x.y).

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

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and 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 the present document are listed in GSM 01.04 and the following apply:

FIGS	Fraud Information Gathering System
IST	Immediate Service Termination

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): Status of Technical Specification GSM 02.32

Status of Technical Specification GSM 02.32: stage 1 of IST		
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		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
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