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**Integrated Services Digital Network (ISDN);
Malicious Call Identification (MCID) supplementary service
Service description**

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

In accordance with CCITT Recommendation I.130 [1], the following three level structure is used to describe the supplementary telecommunications services as provided by European public telecommunications operators under the pan-European Integrated Services Digital Network (ISDN):

- Stage 1: is an overall service description, from the user's stand-point;
- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and
- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

This standard details the stage 1 aspects (overall service description) for the Malicious Call Identification (MCID) supplementary service. The stage 2 and stage 3 aspects are detailed in ETS 300 129 (1992) and ETS 300 130 (1992) respectively.

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1 Scope

This standard defines the stage one of the Malicious Call Identification (MCID) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage one is an overall service description from the user's point of view (see CCITT Recommendation I.130 [1]), but does not deal with the details of the human interface itself.

This standard defines the interworking requirements of private ISDNs with the public ISDN.

In addition this standard specifies the base functionality where the service is provided to the user via a private ISDN.

This standard does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN but does include interworking requirements of other networks with the public ISDN.

Interactions with supplementary services not listed in Clause 8 are outside the scope of this standard.

Charging principles are outside the scope of this standard.

The MCID supplementary service enables a user to request that the source of an incoming call is identified and registered by the network.

The MCID supplementary service is applicable to all circuit switched telecommunications services.

This standard is applicable to the stage two and stage three standards for the ISDN MCID supplementary service. The terms "stage two" and "stage three" are also defined in CCITT Recommendation I.130 [1]. Where the text indicates the status of a requirement (i.e. as strict command or prohibition, as authorisation leaving freedom, or as a capability or possibility), this shall be reflected in the text of the relevant stage two and stage three standards.

Furthermore, conformance to this standard is met by conforming to the stage three standard with the field of application appropriate to the equipment being implemented. Therefore no method of testing is provided for this standard.

2 Normative references

This ETS incorporates, by dated or 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] CCITT Recommendation I.130 (1988): "Method for the characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".
- [3] CCITT Recommendation E.164 (1988): "Numbering plan for the ISDN era".
- [4] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means to describe them".
- [5] CCITT Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".

3 Definitions

For the purposes of this standard, the following definitions apply:

Calling party number: A number provided by the public network which identifies either the calling party or at least the access into the public network of the call from the calling user.

Served user: A called user to whom the Malicious Call Identification (MCID) supplementary service has been provided.

Subaddress: See CCITT Recommendation E.164 [3], § 11.2.

Basic access: See CCITT Recommendation Q.9 [5], § 1, definition 1551.

Primary rate access: See CCITT Recommendation Q.9 [5], § 1, definition 1552.

Integrated Services Digital Network (ISDN): See CCITT Recommendation I.112 [2], § 2.3, definition 308.

Service; telecommunication service: See CCITT Recommendation I.112 [2], § 2.2, definition 201.

Supplementary services: See CCITT Recommendation I.210 [4], § 2.4.

ISDN number: A number conforming to the numbering plan and structure specified in CCITT Recommendation E.164 [3].

Called party number: A CCITT Recommendation E.164 [3] number provided by the calling user, when originating the call in order to identify the called user in the call.

4 Symbols and abbreviations

MCID	Malicious Call Identification
ISDN	Integrated Services Digital Network
PSTN	Public Switched Telephone Network

5 Description

The MCID supplementary service shall apply to the basic access and to the primary rate access.

The MCID supplementary service enables an incoming call to be identified and registered. The following call information shall be registered:

- called party number;
- calling party number;
- local time and date of the invocation in the network serving the called user; and
- as a service provider option: calling party subaddress (if provided by the calling user).

The information shall not be available to the terminal equipment under the control of the called user nor the calling user. The information shall be stored at a location(s) under the control of the network operator.

The MCID supplementary service can either be invoked during the active phase of the call, or after the active phase for a limited period (see subclause 6.2.3) but never after call termination by the served user.

In some networks, the MCID supplementary service can be invoked automatically by the network on calls to the served user that are not answered.

6 Procedures

6.1 Provision and withdrawal

The MCID supplementary service shall be provided or withdrawn after prior arrangement with the service provider.

As a network option, a subscription option may be provided to enable automatic invocation of the MCID supplementary service on calls to the served user which are not answered.

6.2 Normal procedures

6.2.1 Activation, deactivation and registration

The MCID supplementary service shall be activated at provision and deactivated at withdrawal.

The MCID supplementary service requires no registration.

6.2.2 Erasure

Not applicable.

6.2.3 Invocation and operation

The served user can invoke the MCID supplementary service on an incoming call. Such an invocation shall only be successful if it is requested during the active phase of a call, or after the active phase during a limited period (see below), but never after call termination by the served user.

The called user shall be informed if the invocation of the MCID supplementary service is accepted by the network.

Successful invocation shall result in the registration of the called party number, the calling party number, the local time and date of the invocation and, as a service provider option, the calling party subaddress (if any).

If during the active phase of a call the calling user terminates the call first, and if the MCID supplementary service has not already been invoked for that call, the served user can invoke the MCID supplementary service during the limited time the network is awaiting the called user's reaction to the indication that the calling user has terminated the call.

If the option described in subclause 6.1 is subscribed to by the served user, the network shall invoke the MCID supplementary service automatically at the termination of all or certain calls which have not been answered. The determination of which calls are subject to automatic invocation is outside the scope of this standard.

In addition, some networks can restrict the automatic invocation of the MCID supplementary service in order to avoid the registration of information concerning unanswered calls which may necessitate the storage of an excessive amount of data. For example, automatic invocation may be:

- automatic invocation only on "short" unanswered calls, i.e. those which are terminated within a certain time interval after delivery (e.g. 10 seconds);
- automatic invocation only during certain periods of the day (e.g. night hours).

NOTE: As a national option, the call may continue to be presented after the calling user has cleared in order to enable the called user to accept the call and invoke the MCID supplementary service. The procedures for this are outside the scope of this standard, and will not affect terminal interchangeability.

6.2.4 Interrogation

Not applicable.

6.3 Exceptional procedures

6.3.1 Activation, deactivation and registration

Not applicable.

6.3.2 Erasure

Not applicable.

6.3.3 Invocation and operation

If a served user attempts to invoke the MCID supplementary service, either before answer or after the called party has cleared, then the MCID supplementary service shall not be invoked and the served user shall be informed of the reason.

If a called user, who is not provided with the MCID supplementary service, attempts to invoke the MCID supplementary service, then the attempt to invoke the MCID supplementary service shall be rejected by the network and the user shall be informed of the reason. No call information shall be registered.

6.3.4 Interrogation

Not applicable.

7 Intercommunication considerations

NOTE: The provision of call information for the purpose of the MCID supplementary service on calls between different networks will be subject to bilateral agreement between the service providers involved. Furthermore, the provision of call information for MCID purposes across international boundaries will be subject to bilateral agreements between the legal authorities of the countries involved.

7.1 Interworking with non-ISDNs

When interworking between the PSTN and the ISDN occurs and if the number of the calling user is not available, then, as a network option, information about the routing (e.g. point of entry of the call into the ISDN) of the call can be registered.

NOTE: In addition, as a national option, when interworking between PSTN and ISDN occurs the holding of the whole connection or a part of the connection may be provided until the intervention of the service provider. This option is beyond the scope of this standard.

7.2 Interworking with private ISDNs

The MCID supplementary service can be provided to a private ISDN.

In this case, a user on a private ISDN can send a request for invocation of the MCID supplementary service to the public ISDN in the case of an incoming call from the public ISDN to a user on the private ISDN.

NOTE: A legal authority may request information from the private network operator in order to assist the identification of a malicious caller in the private network.

8 Interaction with other supplementary services

8.1 Advice of charge services

8.1.1 Charging information at call set-up time

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.1.2 Charging information during the call

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.1.3 Charging information at the end of the call

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.2 Call waiting

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.3 Call hold

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.4 Call transfer

8.4.1 Explicit call transfer

The transferring user cannot invoke the MCID supplementary service on a call after transfer of that call has been successfully invoked.

If, after transfer has been completed, a transferred-to user successfully invokes the MCID supplementary service, then the network shall register the identity of both transferred-to users and the identity of the transferring user.

8.4.2 Single step call transfer

The transferring user cannot invoke the MCID supplementary service on a call after transfer of that call has been successfully invoked.

If, after transfer has been completed, a transferred-to user successfully invokes the MCID supplementary service, then the network shall register the identity of both transferred-to users and the identity of the transferring user.

8.5 Number identification services

8.5.1 Calling line identification presentation

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.5.2 Calling line identification restriction

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

NOTE: When the MCID supplementary service is invoked the number of an incoming call is registered in the network regardless of whether the calling user has activated the calling line identification restriction supplementary service or not.

8.5.3 Connected line identification presentation

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.5.4 Connected line identification restriction

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.6 Closed user group

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.7 Completion of calls to busy subscriber

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.8 Conference services

8.8.1 Conference call, add-on

No impact, i.e. neither supplementary services shall affect the operation of the other supplementary service.

8.8.2 Meet-me conference

No impact, i.e. neither supplementary services shall affect the operation of the other supplementary service.

8.9 Direct dialling in

If the direct dialling in supplementary service is provided to the served user of the MCID supplementary service, then the MCID supplementary service shall be provided either globally for the whole access, or, as a network option, for specific ISDN numbers forming part of the direct dialling in supplementary service according to access arrangements.

In both cases, the complete ISDN number of the called user shall be registered.

8.10 Diversion services

8.10.1 Call forwarding unconditional

The MCID supplementary service can be invoked for a forwarded call. In addition to the normal operation of the MCID supplementary service, the identity of the first diverting user shall be registered and, as a network option, the last diverting user can be registered.

Once forwarding has taken place, the forwarding user cannot invoke the MCID supplementary service.

8.10.2 Call forwarding busy

The MCID supplementary service can be invoked for a forwarded call. In addition to the normal operation of the MCID supplementary service, the identity of the first diverting user shall be registered and, as a network option, the last diverting user can be registered.

Once forwarding has taken place, the forwarding user cannot invoke the MCID supplementary service.

8.10.3 Call forwarding no reply

The MCID supplementary service can be invoked for a forwarded call. In addition to the normal operation of the MCID supplementary service, the identity of the first diverting user shall be registered and, as a network option, the last diverting user can be registered.

Once forwarding has taken place, the forwarding user cannot invoke the MCID supplementary service.

The MCID supplementary service shall not be automatically invoked when an alerting call is terminated due to the invocation of the call forwarding no reply supplementary service.

8.10.4 Call deflection

The MCID supplementary service can be invoked for a deflected call. In addition to the normal operation of the MCID supplementary service, the identity of the first diverting user shall be registered and, as a network option, the last diverting user can be registered.

Once deflection has taken place, the deflecting user cannot invoke the MCID supplementary service.

The MCID supplementary service shall not be automatically invoked when an alerting call is terminated due to the invocation of the call deflection supplementary service.

8.11 Freephone

In the case where the freephone supplementary service applies a number translation, both the called freephone number and the number resulting from the translation shall be registered.

NOTE: During a certain period from the introduction of ISDN, not all networks may support the registration of the called freephone number.

8.12 Malicious call identification

Not applicable.

8.13 Multiple subscriber number

If the multiple subscriber number supplementary service is provided to the served user of the MCID supplementary service, invocation of the MCID supplementary service shall be provided either globally for the whole access or on a per multiple subscriber number basis, according to access arrangements.

8.14 Sub-addressing

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.15 Terminal portability

The called user cannot invoke the MCID supplementary service for a call which is suspended by the called user.

If the calling user clears while the call has been suspended by the called user, the called user cannot resume the call and hence cannot invoke the MCID supplementary service on that call.

8.16 Three party service

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

8.17 User-to-user signalling

No impact, i.e. neither supplementary service shall affect the operation of the other supplementary service.

History

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