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Contents

Foreword 5

1 Scope 7

2 Normative references 7

3 Definitions 8

4 Symbols and abbreviations 8

5 Description 9
5.1 Size of subaddress 9

6 Procedures 9
6.1 Provision and withdrawal 9
6.1.1 Calling subscriber 9
6.1.2 Called subscriber 9
6.2 Normal procedures 9
6.2.1 Activation, deactivation and registration 9
6.2.2 Erasure 9
6.2.3 Invocation and operation 10
6.2.3.1 Calling user side 10
6.2.3.2 Called user side 10
6.2.4 Interrogation 10
6.3 Exceptional procedures 11
6.3.1 Activation, deactivation and registration 11
6.3.2 Erasure 11
6.3.3 Invocation and operation 11
6.3.4 Interrogation 11

7 Intercommunication considerations 11
7.1 Interworking with non-ISDNs 11
7.2 Interworking with private ISDNs 11

8 Interaction with other supplementary services 12
8.1 Advice of charge services 12
8.1.1 Charge advice at call set-up 12
8.1.2 Charge advice during the call 12
8.1.3 Charge advice at the end of a call 12
8.2 Call waiting 12
8.3 Call hold 12
8.4 Call transfer services 12
8.4.1 Explicit call transfer 12
8.4.2 Single step call transfer 12
8.5 Number identification services 12
8.5.1 Calling line identification presentation 12
8.5.2 Calling line identification restriction 12
8.5.3 Connected line identification presentation 13
8.5.4 Connected line identification restriction 13
8.6 Closed user group 13
8.7 Completion of calls to busy subscriber 13
8.8 Conference services 13
8.8.1 Conference call, add-on 13
8.8.2 Meet me conference 13
8.9 Direct dialling in 13
8.10 Diversion services 13

8.10.1 Call forwarding unconditional 13
8.10.2 Call forwarding busy 13
8.10.3 Call forwarding no reply 14
8.10.4 Call deflection 14
8.11 Freephone 14
8.12 Malicious call identification 14
8.13 Multiple subscriber number 14
8.14 Subaddressing 14
8.15 Terminal portability 14
8.16 Three party 14
8.17 User-user signalling 14

History 15

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 standpoint;

- 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 ETS details the stage 1 aspects (overall service description) for the Subaddresing (SUB) supplementary service. The stage 2 and stage 3 aspects are detailed in ETS 300 060 (1991) and ETS 300 061 (1991), respectively.

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1 Scope

This standard defines the stage one of the subaddressing (SUB) 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.

Charging principles are outside the scope of this standard.

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

The Subaddressing (SUB) supplementary service allows the called (served) user to expand his addressing capacity beyond the one given by the ISDN number.

The SUB supplementary service is applicable to all telecommunication services.

This standard is applicable to the stage two and stage three standards for the ISDN SUB 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 standards 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 standard 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 standard 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] ETS 300 089 (1991): "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; service description".

[6] ETS 300 094 (1991): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; service description".

[7] CCITT Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".

3 Definitions

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

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

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

supplementary service: 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].

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

Maximum Authorised Length of Subaddress Accepted by Network (MALSAN): The maximum number of subaddress octets that the network can accept and transmit.

NOTE 1: As described in subclause 5.1, four octets may be the value of MALSAN for the first implementation. This could be changed to a greater value at a later date and then be dependent on the requested telecommunication service.

NOTE 2: In practice, the originating network may apply one value in accordance with its own possibilities and a second value, which is more restrictive, may apply at another point. This could for example occur in some cases of international communications. For any fixed communication, the real value of MALSAN parameter will be the shortest length accepted by all crossed networks.

basic access: See CCITT Recommendation Q.9 [7], § 1, definition 1551.

primary rate access: See CCITT Recommendation Q.9 [7], § 1, definition 1552.

4 Symbols and abbreviations

SUB	Subaddressing
ISDN	Integrated Services Digital Network
MALSAN	Maximum Authorised Length of Subaddress Accepted by Network

5 Description

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

The SUB supplementary service allows the called (served) user to expand his addressing capacity beyond the one given by the ISDN number.

A subaddress, if presented by a calling user, shall be delivered unchanged to the called (served) user. Only the served user shall define the significance of the subaddress. Applications can be for example:

1) to select or to prefer a specific terminal at a called customer's termination;

2) to invoke a specific process in a terminal at a called customer's termination.

5.1 Size of subaddress

The maximum size of the subaddress is 20 octets. However, for a certain period of time, the size of a subaddress can be limited to a maximum of four octets, either within certain networks or between certain networks.

6 Procedures

6.1 Provision and withdrawal

6.1.1 Calling subscriber

For the calling subscriber, provision shall be without any prior arrangement with the service provider. However, a prior arrangement may be introduced for exceeding the initial value (four octets) of the MALSAN parameter.

6.1.2 Called subscriber

For the called subscriber, provision may be general without any prior arrangement or by prior arrangement with the service provider.

Withdrawal shall be done by the service provider at the subscriber's request or for administrative reasons.

6.2 Normal procedures

6.2.1 Activation, deactivation and registration

Not applicable.

NOTE: Registration may be provided by an appropriate user-terminal procedure (because a subaddress is stored within the terminal).

6.2.2 Erasure

Not applicable.

NOTE: Erasure may be provided by an appropriate user-terminal procedure (because a subaddress is stored within the terminal).

6.2.3 Invocation and operation

Subaddress information can be provided by the calling user in the call set-up phase. The SUB supplementary service shall be invoked when subaddress information is sent from the network to the called (served) user.

6.2.3.1 Calling user side

During the call-set up phase the calling user can insert the destination subaddress information which shall then be transported transparently by the network from the originating terminal to the destination terminal.

During the call set-up phase the calling user can also insert its own subaddress to complement the calling number identification (see ETS 300 089 [5]).

NOTE: Delivery of both these pieces of information from the calling user to the network is part of the basic call.

6.2.3.2 Called user side

The subaddress that complements the called user's ISDN number shall be transferred transparently through the network and shall be sent from the destination network to the called user's terminal(s).

This subaddress information shall be used by the called user's terminal(s) in association with the requested service indications to check the ability to accept the incoming call. In the case where subaddress is not included by the calling user, the destination network shall always provide a normal call offering without subaddress information to the called user's terminal(s) (except where other supplementary services apply).

The called user's terminal which is finally selected for the incoming call can also insert its own subaddress in the response to complement the called number identification (see ETS 300 094 [6]).

NOTE 1: Delivery of this information from the called user to the network is part of the basic call mechanism.

NOTE 2: If different kinds of terminals are attached to the same interface, e.g. in passive bus configurations, it cannot be guaranteed that the SUB supplementary service will be processed correctly in terms of terminal selection, especially in cases where terminals which support the SUB supplementary service as a terminal selection criterion and terminals which do not support this servec are attached to the same interface. In these cases those terminals which do not support the SUB supplementary service, or those which use the subaddress only internally to invoke a specific process, will react to every incoming call based only on the check of the indicated requested service and/or multiple subscriber number (if any and if applicable). At such an interface, the SUB supplementary service procedures may be overridden by the basic call procedures and, if applicable, by the procedures of the multiple subscriber number supplementary service.

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 provision of the SUB supplementary service requires a prior arrangement with the service provider and if the called user has not subscribed to the SUB supplementary service, the network shall not send a called user's subaddress with the incoming call request.

When subaddress information is used by the called user's terminal(s) and any subaddress without significance is received by the called party, then the incoming call can be rejected, or ignored.

Every subaddress exceeding the MALSAN value shall be discarded by the network. No indication shall be returned to the calling user.

6.3.4 Interrogation

Not applicable.

7 Intercommunication considerations

In the case of interworking between private ISDNs, if the subaddress cannot be transported to the destination side due to different network capabilities, the subaddress shall be discarded. The calling user shall not be given an indication that this has occurred.

NOTE: It is expected that discarding of subaddresses will occur only during an interim period of time.

7.1 Interworking with non-ISDNs

The SUB supplementary service is not available if at least one of the two parties involved is not an ISDN subscriber.

If the subaddress cannot be transmitted to the destination side, no indication shall be sent to the calling user.

NOTE The calling user will be aware of the interworking situation through normal call procedures, and by that means will know if the subaddress cannot be transmitted to the destination side.

7.2 Interworking with private ISDNs

In the case of interworking between a public and a private ISDN, if the subaddress cannot be transmitted to the destination side due to different network capabilities, the subaddress shall be discarded. The calling user shall not be given an indication that this has occurred.

NOTE : It is expected that discarding of subaddresses will occur only during an interim period of time.

8 Interaction with other supplementary services

8.1 Advice of charge services

8.1.1 Charge advice at call set-up

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

8.1.2 Charge advice during the call

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

8.1.3 Charge advice at the end of a 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 services

8.4.1 Explicit call transfer

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

8.4.2 Single step call transfer

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

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.

NOTE: If the called user subscribes to the calling line identification presentation supplementary service, the calling party subaddress (if provided by the calling user) and the calling party number are presented to the called user.

8.5.2 Calling line identification restriction

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

8.5.3 Connected line identification presentation

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

NOTE: If the calling user subscribes to the connected line identification presentation supplementary service, the connected party subaddress (if provided by the connected user) and the connected party number are presented to the calling user.

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.

NOTE: The subaddress of the calling terminal, if provided in the initial call set-up, can be used to select this originating terminal when notifying or recalling the calling user.

8.8 Conference services

8.8.1 Conference call, add-on

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

8.8.2 Meet me conference

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

8.9 Direct dialling in

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

8.10 Diversion services

8.10.1 Call forwarding unconditional

The subaddress associated with the original called party number shall not be forwarded if the call is forwarded.

8.10.2 Call forwarding busy

The subaddress associated with the original called party number shall not be forwarded if the call is forwarded.

8.10.3 Call forwarding no reply

The subaddress associated with the original called party number is delivered to the original called party and shall not be forwarded if the call is forwarded.

8.10.4 Call deflection

The subaddress associated with the original called party number is delivered to the original called party and shall not be forwarded if the call is deflected.

8.11 Freephone

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

8.12 Malicious call identification

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

8.13 Multiple subscriber number

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

8.14 Subaddressing

Not applicable.

8.15 Terminal portability

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

8.16 Three party

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

8.17 User-user signalling

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

History

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