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Digitalno omrežje z integriranimi storitvami (ISDN) - Dopolnilna storitev konferenčni klic z dodajanjem (CONF) - Funkcijske zmogljivosti in informacijski pretoki

Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Functional capabilities and information flows

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols & Switching (SPS) 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 3 aspects (signalling system protocols and switching functions) to support the Conference call, add-on (CONF) supplementary service. The stage 1 and stage 3 aspects are detailed in ETS 300 183 (1992) and ETS 300 185 (1993), respectively.

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1 Scope

This standard defines stage two of the Conference call, add-on (CONF) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage two identifies the functional capabilities and the information flows needed to support the service as described in stage one. The stage two description also identifies user operations not directly associated with a call (see CCITT Recommendation I.130 [1]).

This standard is specified according to the methodology specified in CCITT Recommendation Q.65 [2].

This standard does not formally describe the relationship between this supplementary service and the Basic Call but where possible this information is included for guidance.

In addition this standard does not specify the requirements where the service is provided to the user via a private ISDN. This standard does not specify the requirements for the allocation of defined functional entities within a private ISDN; it does, however, specify which functional entities may be allocated to 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.

The CONF supplementary service provides a user with the ability to have a multi-connection call, i.e. a simultaneous communication between more than two parties.

The CONF supplementary service is defined for all telecommunication services carrying speech.

This standard is applicable to the stage three standards for the ISDN Conference call, add-on (CONF) supplementary service. The term stage three is 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, as a capability or possibility, this shall be reflected in the text of the relevant 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 Q.65 (1988): "Stage 2 of the method for the characterisation of services supported by an ISDN".

[3] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".

[4] CCITT Recommendation Q.71 (1988): "ISDN 64 kbit/s circuit mode switched bearer services".

[5] ETS 300 183 (1992): "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Service description".

[6] CCITT Recommendation Z.100 (1988): "Functional Specification and Description Language (SDL)".

[7] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means used to describe them".

3 Definitions

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

Backward connection: that part of a normal call that connects a served user's CCA with a CC located with the Service Providing Entity (SPE).

Conferee: a conference participant not being the conference controller.

Conference controller: the served user controlling the conference.

Forward connection: the connection between a Call Control (CC) located with the SPE and a conferee's Call Control Agent (CCA).

Integrated Services Digital Network (ISDN): see CCITT Recommendation I.112 [3], § 2.3, definition 308.

Multi Connection Call Control (MCCC): a call control entity with the ability to control one connection directly and several others via One Connection Call Control (OCCC) entities.

One Connection Call Control (OCCC): a call control entity with the ability to control a single connection for a MCCC entity.

Party: either a conferee or the conference controller.

Service; telecommunications service: see CCITT Recommendation I.112 [3], § 2.2, definition 201.

Supplementary service: see CCITT Recommendation I.210 [7], § 2.4.

4 Symbols and abbreviations

CC	Call Control
CCA	Call Control Agent
CONF	Conference call, add-on
FEA	Functional Entity Action
ISDN	Integrated Services Digital Network
LE	Local Exchange
MCCC	Multi Connection Call Control
OCCC	One Connection Call Control
PTNX	Private Telecommunications Network eXchange
SDL	Specification and Description Language
SPE	Service Providing Entity
TE	Terminal Equipment

5 Description

The CONF supplementary service can be invoked from the idle state. As a network option, the CONF supplementary service can be invoked from an existing active call.

When the CONF supplementary service is invoked, conference resources (e.g. a "bridge") are allocated to the served user. In the case of invocation from an active call, this shall be automatically connected by the network to the conference resources.

Once a conference is active, parties may be added, dropped, isolated (i.e. prevented from communicating with the conference), reattached or split (i.e. removed from the conference but remain connected to the conference controller).

6 Derivation of a functional model

6.1 Functional model description

The model has been based on the concept that the served user maintains by means of FE1 a single relation to the centre of the conference FE2. FE2 has the ability to have simultaneous relations with all the conferees.

This concept has been depicted in figure 1.

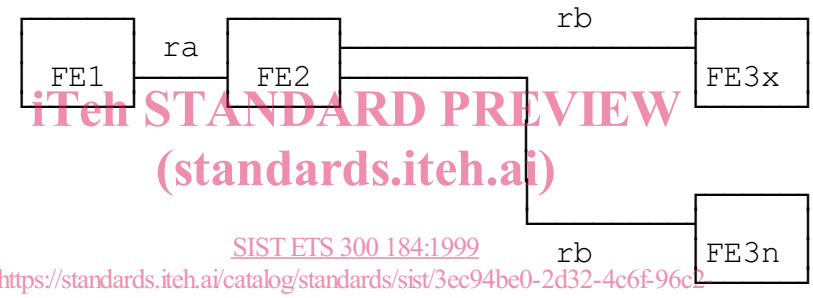

Figure 1

6.2 Description of functional entities

FE1: Originating service agent

FE2: Service providing entity

FE3: Destination service agent

6.3 Relation with a basic service

The relationship with a basic service is shown in figure 2. The model for basic call handling is defined in CCITT Recommendation Q.71 [4].

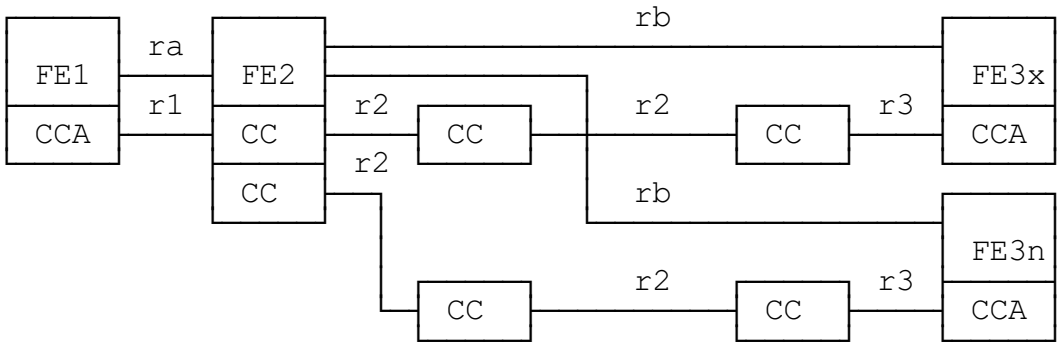

Figure 2

7 Information flows

7.1 Information flow diagrams

The following information flow diagrams are identified:

- Figure 3: Requesting a new conference call;
- Figure 4: Change normal call into conference call;
- Figure 5: Adding a new conferee;
- Figure 6: Isolating a conferee;
- Figure 7: Reattaching a conferee;
- Figure 8: Dropping a conferee from the conference;
- Figure 9: Splitting a conferee from the conference;
- Figure 10: Call clearing by conferee;
- Figure 11: Ending the conference.

NOTE: FE3x is the functional entity which belongs to that party which is explicitly identified by the conference controller (e.g. DROP party-X). FE3n are the functional entities which belong to the parties not identified by the conference controller (e.g. all parties except party-X).

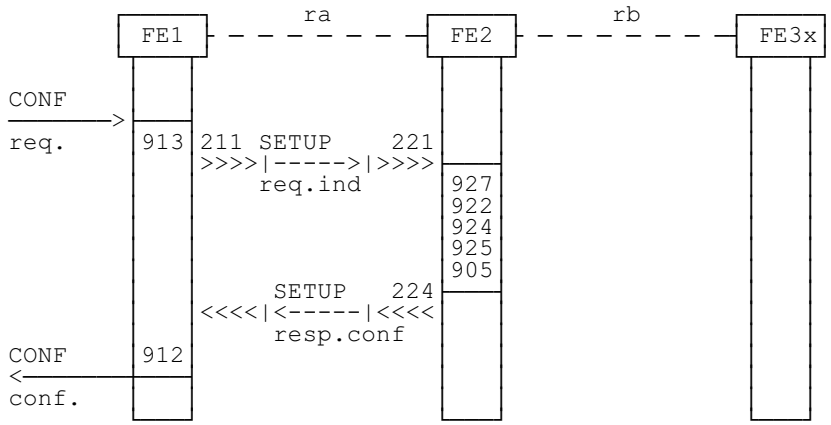

Figure 3: Requesting a new conference call from idle call state

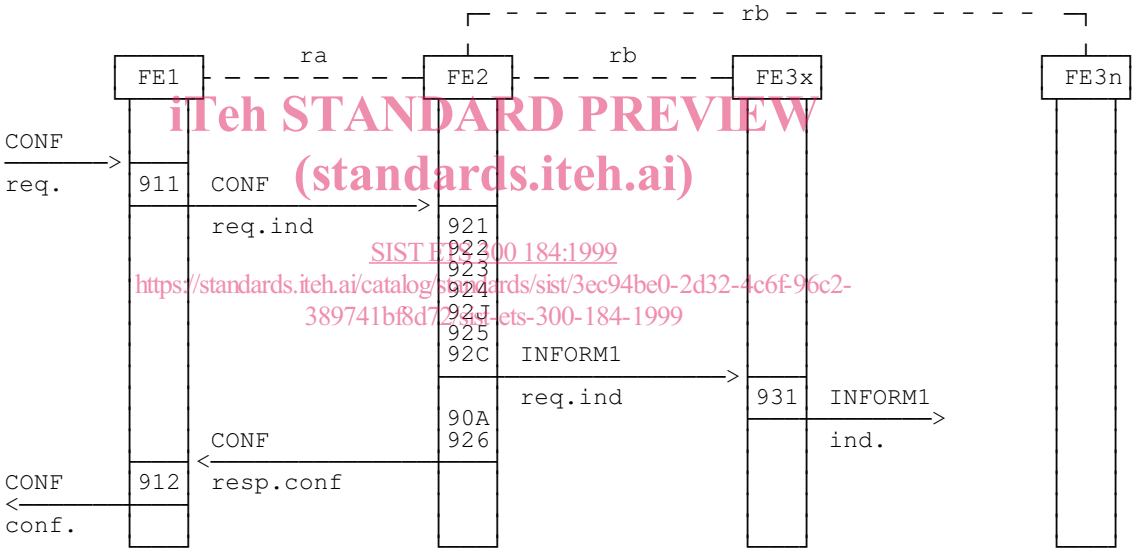

Figure 4: Change normal call into conference call