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Zasebno telekomunikacijsko omrežje (PTN) – Specifikacija, funkcijski model in informacijski pretoki - Dopolnilna storitev: vpad v klic

Private Telecommunication Network (PTN); Specification, functional models and information flows; Call intrusion supplementary service

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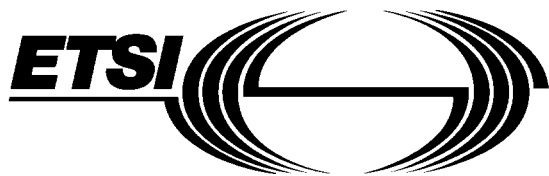
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Foreword

This European Telecommunication Standard (ETS) has been produced by the European Computer Manufacturers Association (ECMA) on behalf of its members and those of the European Telecommunications Standards Institute (ETSI).

This ETS is one of a series of standards defining services and signalling protocols applicable to Private Telecommunication Networks (PTNs). The series uses the ISDN concepts as developed by the ITU-T (formerly CCITT) and is also within the framework of standards for open systems interconnection as defined by ISO.

This ETS specifies the Call Intrusion supplementary service.

The ETS is based upon the practical experience of ECMA member companies and the results of their active and continuous participation in the work of ISO, ITU-T, ETSI and other international and national standardization bodies. It represents a pragmatic and widely based consensus.

This ETS was produced by ECMA using the ECMA guidelines for the production of standards and using the ECMA stylesheet. In order to avoid undue delays in the approval process for this ETS it has been agreed that this ETS will not be converted to the ETSI stylesheet.

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1 Scope

This European Telecommunication Standard (ETS) specifies the Call Intrusion supplementary service (SS-CI), which is applicable to basic services supported by Private Telecommunication Networks (PTNs). Basic services are specified in ETS 300 171.

Call Intrusion (SS-CI) is a supplementary service which, on request from the served user, enables the served user to establish communication with a busy called user (user B) by breaking into an established call between user B and a third user (user C).

Service specifications are produced in three stages, according to the method described in ETS 300 387. This ETS contains the stage 1 and stage 2 specifications of SS-CI. The stage 1 specification (clause 6) specifies the supplementary service as seen by users of PTNs. The stage 2 specification (clause 7) identifies the Functional Entities involved in the supplementary service and the information flows between them.

The purpose of the stage 1 and stage 2 specifications is to guide and constrain the work on signalling protocols at stage 3. Stage 3, the definition of the network and access layer 3 signalling protocols to support the supplementary service, is defined in separate standards.

NOTE 1

For this ETS, stage 2 does not consider the split of functionality between a functional TE at user B and the local PTNX. TE functions and local PTNX functions at user B are included in the same Functional Entity.

2 Conformance

In order to conform to this ETS, a stage 3 standard shall specify signalling protocols and equipment behaviour that are capable of being used in a PTN which supports the supplementary service specified in this ETS. This means that, to claim conformance, a stage 3 standard is required to be adequate for the support of those aspects of clause 6 (stage 1) and clause 7 (stage 2) which are relevant to the interface or equipment to which the stage 3 standard applies.

3 References

| | |
|-------------|--|
| ETS 300 171 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Control aspects of circuit mode basic services (1992) |
| ETS 300 173 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Identification supplementary services (ISSD) (1992) |
| ETS 300 189 | Private Telecommunication Network (PTN); Addressing (1992) |
| ETS 300 237 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Name identification supplementary services (1993) |
| ETS 300 256 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Diversion supplementary services (1993) |
| ETS 300 258 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Path replacement additional network feature (1993) |
| ETS 300 260 | Private Telecommunication Network (PTN); Specification, functional models and information flows; Call transfer supplementary service (1993) |

| | |
|----------------------------|--|
| ETS 300 361 | Private Telecommunication Network (PTN); Specification, functional model and information flows; Call offer supplementary service (1994) |
| ETS 300 363 | Private Telecommunication Network (PTN); Specification, functional model and information flows; Do not disturb and do not disturb override supplementary services (1994) |
| ETS 300 365 | Private Telecommunication Network (PTN); Specification, functional model and information flows; Call completion supplementary services (1994) |
| ETS 300 387 | Private Telecommunications Network (PTN); Method for the specification of basic and supplementary services (1994) |
| ETS 300 415 | Private Telecommunication Network (PTN); Terms and definitions (1995) |
| CCITT Recommendation I.112 | Vocabulary of terms for ISDNs (1988) |
| CCITT Recommendation I.210 | Principles of telecommunication services supported by an ISDN and the means to describe them (1988) |
| CCITT Recommendation I.221 | Common specific characteristics of services (1988) |
| CCITT Recommendation Z.100 | Specification and Description Language (SDL) (1988) |

4 Definitions

For the purpose of this ETS the following definitions apply:

4.1 External definitions

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This ETS uses the following terms defined in other documents:

| | |
|---|--------------------|
| – Basic Service | (CCITT Rec. I.210) |
| – Calling Party Name | ETS 300 237 |
| – Connection | (CCITT Rec. I.112) |
| – Integrated Services Digital Network | (CCITT Rec. I.112) |
| – Name | ETS 300 237 |
| – Network Determined User Busy | (CCITT Rec. I.221) |
| – Number | ETS 300 189 |
| – Private Telecommunication Network Exchange (PTNX) | (ETS 300 415) |
| – Public | (ETS 300 415) |
| – Service | (CCITT Rec. I.112) |
| – Signalling | (CCITT Rec. I.112) |
| – Subaddress | ETS 300 189 |
| – Supplementary Service | (CCITT Rec. I.210) |
| – Private Telecommunication Network | (ETS 300 415) |
| – Terminal Equipment | (ETS 300 415) |
| – User | (ETS 300 171) |
| – User Determined User Busy | (CCITT Rec. I.221) |

This ETS refers to the following basic call Functional Entities (FEs) defined in ETS 300 171:

- Call Control (CC)
- Call Control Agent (CCA)

This ETS refers to the following basic call inter-FE relationships defined in ETS 300 171:

- r1
- r2
- r3

This ETS refers to the following basic call information flows defined in ETS 300 171:

- DISCONNECT request/indication
- RELEASE request/indication
- RELEASE response/confirmation
- SETUP request/indication
- SETUP response/confirmation

This ETS refers to the following basic call information flow elements defined in ETS 300 171:

- Destination number
- Connection type

This ETS refers to the following information flow elements defined in ETS 300 173:

- Originating number
- Originating subaddress

4.2 Busy

A property of a user for whom either a Network Determined User Busy or User Determined User Busy condition exists.

4.3 Conference type connection

A connection between the served user, user B and user C, where all users have user information connection with each other.

4.4 Consultation

Invocation of SS-CI after the calling user has been informed that a call has failed because of busy at the destination.

4.5 Consultation timer

A timer governing the time in which the calling user is allowed to request invocation of SS-CI after being informed that a call has failed because of busy at the destination. The duration of the timer is an implementation option.

4.6 Established call

The active call that is selected for intruding on.

4.7 Forced release

The release of the established call on request from the served user during the intrusion state.

4.8 Immediate invocation

Invocation of SS-CI as part of the initial call set up.

4.9 Impending intrusion state

The condition of an established call and an intruding call after provision of an impending intrusion warning notification and before establishment of communication between the served user and user B.

4.10 Impending intrusion warning notification

A notification provided before communication is established between the served user and user B.

4.11 Implementation option

An option for the implementor of the service to include or not to include in the service providing system.

4.12 Intruding call

A call in which the served user requests SS-CI.

4.13 Intrusion state

The condition of an established call after establishment of communication between the served user and user B and prior to termination of SS-CI or invocation of Wait On Busy (WOB).

4.14 Intruding call connected notification

A notification provided on establishment of communication between the served user and user B.

4.15 Isolation

The breaking of the user information connection to and from user C during the intrusion state.

4.16 Path retention

The retaining of the network connection between the originating CC and the destination CC so that a supplementary service (such as SS-CI) can be invoked without establishing a new connection.

4.17 Served user

The user who requests SS-CI.

4.18 Time to intrusion

The duration of the impending intrusion state.

4.19 User B

The wanted user that is subject to the call intrusion.

4.20 User C

The other user in the established call.

4.21 WOB state

A state that can be entered from the intrusion state and in which the intruding call is disconnected from user B and is waiting for user B to answer the call.

5 List of acronyms

| | |
|------|---|
| ANF | Additional Network Feature |
| CC | Call Control (Functional Entity) |
| CCA | Call Control Agent (Functional Entity) |
| CCBS | Call Completion to Busy Subscriber |
| CCNR | Call Completion No Reply |
| CFB | Call Forwarding Busy |
| CFNR | Call Forwarding No Reply |
| CFU | Call Forwarding Unconditional |
| CI | Call Intrusion |
| CICL | Call Intrusion Capability Level |
| CIPL | Call Intrusion Protection Level |
| CLIP | Calling Line Identification Presentation |
| CLIR | Calling/Connected Line Identification Restriction |
| CNIP | Calling Name Identification Presentation |
| CNIR | Calling/Connected Name Identification Restriction |
| CO | Call Offer |
| COLP | Connected Line Identification Presentation |
| CONP | Connected Name Identification Presentation |
| CT | Call Transfer |
| DND | Do Not Disturb |
| DNDO | Do Not Disturb Override |
| FE | Functional Entity |
| ISDN | Integrated Services Digital Network |
| NDUB | Network Determined User Busy |
| PTN | Private Telecommunication Network |
| PTNX | Private Telecommunication Network Exchange |
| SDL | Specification and Description Language |
| SS | Supplementary Service |
| TE | Terminal Equipment |
| UDUB | User Determined User Busy |
| WOB | Wait On Busy |

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