



# SLOVENSKI STANDARD SIST ETS 300 426 E1:2005

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**Zasebno telekomunikacijsko omrežje (PTN) – Medcentralni signalizacijski protokol  
- Dopolnilna storitev: vpad v klic**

Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Call intrusion supplementary service

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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 signalling protocol for use at the Q reference point in support of the Call Intrusion (CI) 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 signalling protocol for the support of the Call Intrusion supplementary service (SS-CI) at the Q reference point between Private Telecommunication Network Exchanges (PTNXs) connected together within a Private Telecommunication Network (PTN).

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

The Q reference point is defined in ISO/IEC 11579-1.

Service specifications are produced in three stages and according to the method specified in ETS 300 387. This ETS contains the stage 3 specification for the Q reference point and satisfies the requirements identified by the stage 1 and stage 2 specifications in ETS 300 425.

The signalling protocol for SS-CI operates on top of the signalling protocol for basic circuit switched call control, as specified in ETS 300 172, and uses certain aspects of the generic procedures for the control of supplementary services specified in ETS 300 239.

The impact on the protocol of interactions between the supplementary service specified in this ETS and other supplementary services is outside the scope of this ETS.

This ETS is applicable to PTNXs which can interconnect to form a PTN.

## 2 Conformance

In order to conform to this ETS, a PTNX shall satisfy the requirements identified in the Protocol Implementation Conformance Statement (PICS) proforma in annex B.

## 3 References

- [SIST ETS 300 426 E1:2005](http://standards.iteh.ai/catalog/standards/sist-ets-300-426-e1-2005)  
standards.iteh.ai/catalog/standards/sist-ets-300-426-e1-2005
- ISO/IEC 11579-1 Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Reference configurations for PISN exchanges (PINX) (1994)
- ETS 300 171 Private Telecommunication Network (PTN); Specification, functional models and information flows; Control aspects of circuit mode basic services (1992)
- ETS 300 172 Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Circuit mode basic services (1994)
- ETS 300 196 Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol (1993)
- ETS 300 239 Private Telecommunication Network (PTN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services (1993)
- 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)
- ETS 300 425 Private Telecommunication Network (PTN); Specification, functional model and information flows; Call intrusion supplementary service (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 Z.100 Specification and Description Language (SDL) (1988)

## 4 Definitions

For the purpose of this ETS the following definitions apply.

### 4.1 External definitions

This ETS uses the following terms defined in other documents:

- Application Protocol Data Unit (APDU) (ETS 300 239)
- Basic Service (CCITT Recommendation I.210)
- Call, Basic Call (ETS 300 239)
- Coordination Function (ETS 300 239)
- Notification (ETS 300 239)
- Originating PTNX (ETS 300 172)
- Private Telecommunication Network Exchange (PTNX) (ETS 300 415)
- Public ISDN (ETS 300 415)
- Signalling (CCITT Recommendation I.112)
- Supplementary Service (CCITT Recommendation I.210)
- Private Telecommunication Network (ETS 300 415)
- Terminal Equipment (ETS 300 415)
- Terminating PTNX (ETS 300 172)
- Transit PTNX (ETS 300 172)
- User (ETS 300 171)

### 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, the wanted user and the unwanted user, where all users have user information connection with each other.

### 4.4 Established call

The active call that is selected for intruding on.

### 4.5 Forced release

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

### 4.6 Impending intrusion warning notification

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

**4.7 Inter-PTNX link**

The totality of a signalling channel and a number of user information channels at the Q reference point.

**4.8 Intruding call**

A call in which the served user requests call intrusion.

**4.9 Isolation**

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

**4.10 Path retention**

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

**4.11 Served user**

The user who requests SS-CI.

**4.12 Wanted user**

The called user in the intruding call.

**4.13 Unwanted user**

The user other than the wanted user in the established call.

**4.14 Unwanted user PTNX** (standards.itech.ai)

The PTNX of the unwanted user.

**4.15 Wait on busy** <https://standards.itech.ai/catalog/standards/sist/49445b4f-977d-49ae-b62c-1921a078429e/sist-ets-300-426-e1-2005>

A condition in which the intruding call is disconnected from the called user and is waiting for the called user to become not busy.

**5 List of acronyms**

APDU	Application Protocol Data Unit
ASN.1	Abstract Syntax Notation no. 1
CICL	Call Intrusion Capability Level
CIPL	Call Intrusion Protection Level
ISDN	Integrated Services Digital Network
NFE	Network Facility Extension
PICS	Protocol Implementation Conformance Statement
PTN	Private Telecommunication Network
PTNX	Private Telecommunication Network Exchange
SDL	Specification and Description Language
SS-CI	Call Intrusion Supplementary Service
WOB	Wait On Busy

## 6 Signalling protocol for the support of SS-CI

### 6.1 SS-CI description

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

SS-CI is applicable to all circuit mode basic services defined in ETS 300 172.

### 6.2 SS-CI operational requirements

#### 6.2.1 Requirements on the Originating PTNX

Call establishment procedures for the outgoing side of an inter-PTNX link and call release procedures, as specified in ETS 300 172, shall apply.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply. In addition, the generic procedures for notification, as specified in ETS 300 239 for an End PTNX, shall apply.

#### 6.2.2 Requirements on the Terminating PTNX

Call establishment procedures for the incoming side of an inter-PTNX link and call release procedures, as specified in ETS 300 172, shall apply.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply. In addition, the generic procedures for notification, as specified in ETS 300 239 for an End PTNX, shall apply.

#### 6.2.3 Requirements on a Transit PTNX

Basic call procedures, as specified in ETS 300 172 for a Transit PTNX, shall apply.

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for a Transit PTNX, shall apply. In addition, the generic procedures for notification, as specified in ETS 300 239 for a Transit PTNX, shall apply.

For SS-CI the requirements are limited to the passing on of Facility information elements for which the destination, as indicated in the NFE, is not the Transit PTNX.

#### 6.2.4 Requirements on the unwanted user PTNX

Generic procedures for the call-related control of supplementary services, as specified in ETS 300 239 for an End PTNX, shall apply. In addition, the generic procedures for notification, as specified in ETS 300 239 for an End PTNX, shall apply.

## 6.3 SS-CI coding requirements

## 6.3.1 Operations

The operations defined in Abstract Syntax Notation number 1 (ASN.1) in table 1 shall apply.

Table 1 - Operations in support of SS-CI

Call-Intrusion-Operations	{iso(1) identified-organization(3) icd-ecma(0012) standard (0) qsig-call-intrusion (203) call-intrusion-operations (0)}
DEFINITIONS EXPLICIT TAGS ::=	
BEGIN	
IMPORTS	OPERATION, ERROR FROM Remote-Operation-Notation {joint-iso-ccitt(2) remote-operations(4) notation (0)} Extension FROM Manufacturer-specific-service-extension-definition {iso(1) identified-organization(3) icd-ecma(0012) standard(0) qsig-generic-procedures(165) msi-definition(0)} notAvailable, supplementaryServiceInteractionNotAllowed FROM General-
Errors	{ccitt(0) identified-organisation(3) etsi(0) 196 general-errors (2)};
ptn OBJECT IDENTIFIER	::= { iso(1) identified-organization(3) icd-ecma(0012) private-isdn-signalling-domain (9)}
PathRetain	::= OPERATION ARGUMENT PathRetainArg -- this operation may be used by other supplementary services -- using other values of argument
ServiceAvailable	::= OPERATION ARGUMENT ServiceAvailableArg -- this operation may be used by other supplementary services -- using other values of argument
CallIntrusionRequest	::= OPERATION ARGUMENT CIRequestArg RESULT CIRequestRes ERRORS {notAvailable, notBusy, temporarilyUnavailable, notAuthorized, unspecified, supplementaryServiceInteractionNotAllowed}
CallIntrusionGetCIPL	::= OPERATION ARGUMENT DummyArg RESULT CIGetCIPLRes
CallIntrusionForcedRelease	::= OPERATION ARGUMENT DummyArg RESULT DummyResult ERRORS {notAvailable, unspecified, supplementaryServiceInteractionNotAllowed}
CallIntrusionIsolate	::= OPERATION ARGUMENT DummyArg RESULT DummyResult ERRORS {notAvailable, unspecified, supplementaryServiceInteractionNotAllowed}