



# SLOVENSKI STANDARD SIST EN 300 356-20 V4.3.1:2004

01-april-2004

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Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 4 for the international interface; Part 20: Completion of Calls on No Reply (CCNR) supplementary service [ITU-T Recommendation Q.733, clause 5 (1999) modified]

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**Ta slovenski standard je istoveten z: EN 300 356-20 Version 4.3.1**

**ICS:**

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
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# ETSI EN 300 356-20 V4.3.1 (2001-07)

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*European Standard (Telecommunications series)*

**Integrated Services Digital Network (ISDN);  
Signalling System No.7 (SS7);  
ISDN User Part (ISUP) version 4 for the international interface;  
Part 20: Completion of Calls on No Reply (CCNR)  
supplementary service**

[ITU-T Recommendation Q.733, clause 5 (1999) modified]

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**Reference**

REN/SPAN-01082-20

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**Keywords**ISDN, ISUP, SS7, supplementary service, CCNR,  
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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 20 of a multi-part deliverable covering the ISDN User Part (ISUP) version 4 for the international interface, as identified below:

- Part 1: "Basic services [ITU-T Recommendations Q.761 to Q.764 (1999) modified]";
- Part 2: "ISDN supplementary service [ITU-T Recommendation Q.730 (1999) modified]";
- Part 3: "Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993) modified]";
- Part 4: "Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993) modified]";
- Part 5: "Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993) modified]";
- Part 6: "Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993) modified]";
- Part 7: "Terminal Portability (TP) supplementary service [ITU-T Recommendation Q.733, clause 4 (1993) modified]";
- Part 8: "User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1997) modified]";
- Part 9: "Closed User Group (CUG) supplementary service [ITU-T Recommendation Q.735, clause 1 (1993) modified]";
- Part 10: "Subaddressing (SUB) supplementary service [ITU-T Recommendation Q.731, clause 8 (1992) modified]";
- Part 11: "Malicious Call Identification (MCID) supplementary service [ITU-T Recommendation Q.731, clause 7 (1997) modified]";
- Part 12: "Conference Call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993) and implementors guide (1998) modified]";
- Part 14: "Explicit Call Transfer (ECT) supplementary service [ITU-T Recommendation Q.732, clause 7 (1996) and implementors guide (1998) modified]";
- Part 15: "Diversion supplementary service [ITU-T Recommendation Q.732, clauses 2 to 5 (1999) modified]";
- Part 16: "Call Hold (HOLD) supplementary service [ITU-T Recommendation Q.733, clause 2 (1993) modified]";
- Part 17: "Call Waiting (CW) supplementary service [ITU-T Recommendation Q.733, clause 1 (1992) modified]";

- Part 18: "Completion of Calls to Busy Subscriber (CCBS) supplementary service [ITU-T Recommendation Q.733, clause 3 (1997) modified]";
- Part 19: "Three-Party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1996) and implementors guide (1998) modified]";
- Part 20: "Completion of Calls on No Reply (CCNR) supplementary service [ITU-T Recommendation Q.733, clause 5 (1999) modified]";**
- Part 21: "Anonymous Call Rejection (ACR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993)]";
- Part 31: "Protocol Implementation Conformance Statement (PICS) proforma specification for basic services";
- Part 32: "Test Suite Structure and Test Purposes (TSS&TP) specification for basic services";
- Part 33: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for basic services";
- Part 34: "Protocol Implementation Conformance Statement (PICS) proforma specification for supplementary services";
- Part 35: "Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services";
- Part 36: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for supplementary services".

In accordance with ITU-T Recommendation I.130 [1], the following three level structure is used to describe the supplementary telecommunication 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.

The present document details the stage 3 aspects (signalling system protocols and switching functions) needed to support the CCNR supplementary service. The stage 1 aspects are detailed in EN 301 134 [4].

NOTE: Currently no stage 2 document exists.

<b>National transposition dates</b>	
Date of adoption of this EN:	13 July 2001
Date of latest announcement of this EN (doa):	31 October 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2002
Date of withdrawal of any conflicting National Standard (dow):	30 April 2002

## Endorsement notice

The elements of ITU-T Recommendation Q.733, clause 5 (1999) apply, with the following modifications.

NOTE: New or modified text is indicated using sidebars. In addition, underlining and/or strike-out are used to highlight detailed modifications where necessary.

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# Global modifications to ITU-T Recommendation Q.733, clause 5

Insert the following two clauses (Scope and References) at the start of clause 2.

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## Scope

The present document specifies the stage three of the Completion of Calls on No Reply (CCNR) supplementary service for the ISDN as provided by the European public telecommunications operators by means of the Signalling System No.7 protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunication service (see ITU-T Recommendation I.130 [1]).

The present document specifies the additional requirements where the service is provided to the user via an intermediate ISDN.

The present document does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN.

Although the present document applies only to the international interconnection, the specification of functions, formats and codes of messages and signals, and actions performed at originating and destination local exchanges are retained. Formats, codes and procedures marked for national use are included for informative purposes for the international interface specification. If these items so marked are supported within a national network and operator's network, then it is proposed that they shall be supported in this manner.

NOTE: In the case where a national signalling system behaves differently, the international gateway exchange is to support both the national network concerned and the international network.

Charging aspects are outside the scope of the present document.

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## References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] ITU-T Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] ETSI ETS 300 121 (1992): "Integrated Services Digital Network (ISDN); Application of the ISDN User Part (ISUP) of CCITT Signalling System No.7 for international ISDN interconnections (ISUP version 1)".
- [3] ETSI EN 300 356-1: "Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 4 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1999) modified]".
- [4] ETSI EN 301 134 (V1.1.1): "Integrated Services Digital Network (ISDN); Completion of Calls on No Reply (CCNR) supplementary service; Service description".
- [5] ETSI ETS 300 186 (1993): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Service description".

- [6] ETSI ETS 300 187/C1 (1994): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Functional capabilities and information flows".
- [7] ETSI EN 300 356-2: "Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 4 for the international interface; Part 2: ISDN supplementary service [ITU-T Recommendation Q.730 (1999) modified]".
- [8] ETSI EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
- [9] ETSI ETS 300 188-1 (1993): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

## Throughout the text of ITU-T Recommendation Q.733, clause 5

Replace references as shown in table 1.

**Table 1**

Reference in ITU-T Recommendation Q.733, clause 5	Modified reference
ITU-T Recommendation I.254.2	ETS 300 186 [5]
ITU-T Recommendation Q.84, clause 2	ETS 300 187 [6]
ITU-T Recommendation Q.730	ITU-T Recommendation Q.730 as modified by EN 300 356-2 [7]
ITU-T Recommendation Q.761	ITU-T Recommendation Q.761 as modified by EN 300 356-1 [3]
ITU-T Recommendation Q.762	ITU-T Recommendation Q.762 as modified by EN 300 356-1 [3]
ITU-T Recommendation Q.763	ITU-T Recommendation Q.763 as modified by EN 300 356-1 [3]
ITU-T Recommendation Q.764	ITU-T Recommendation Q.764 as modified by EN 300 356-1 [3]
ITU-T Recommendation Q.767	ETS 300 121 [2]
ITU-T Recommendation Q.931	ITU-T Recommendation Q.931 as modified by EN 300 403-1 [8]
ITU-T Recommendation Q.954, clause 2	ETS 300 188-1 [9]

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## Clause 3

Modify the definition of "Retain option" as follows:

**Retain option:** The retain option, if supported in both the originating and destination network, will maintain the CCNR request in the destination B queue, if a CCNR call has failed due to destination busy condition. ~~or because the destination B does not answer the CCNR call.~~

Delete the definition of "Destination B does not answer the CCNR call" (it is not applicable).

### Subclause 9.3.1.2 d)

Replace the entire subclause 9.3.1.2.d) as follows:

- d) The CCNR call is successfully offered to destination B

If the originating local exchange has sent an Initial Address message including the CCSS parameter and receives an ACM (subscriber free) or CPG (alerting) or Connect message, then

- the originating local exchange shall release the transaction resources. The CCNR request shall be deactivated and user A shall be informed accordingly. If user A attempts to activate CCNR again, one of the following procedures shall apply:
  - if the received ACM/CPG contained a CCNR Possible indicator the procedures of subclause 9.1.1.1 shall be followed;
  - if the received ACM/CPG did not contain a CCNR Possible indicator, interworking is applied and the procedures of subclause 11.1 shall be followed.



NOTE 2: Some networks may take action to reduce the probability of network congestion on the CCNR call.

### Subclause 9.3.5.1

Replace text (second paragraph after "iii)") as follows:

When the destination local exchange has sent an Address Complete message (with subscriber free), a CPG (alerting) message or a Connect message, the destination local exchange shall:

### Subclause 9.3.5.2 d)

Replace the entire subclause 9.3.5.2 d) as follows:

d) The CCNR call is successfully offered to destination B.

- If the destination local exchange sends an ACM(subscriber free) or CPG(alerting) or Connect message, then the corresponding CCNR request shall be cancelled. The destination local exchange shall release its resources.
- If user A activates CCNR again, this activation shall be considered as a new CCNR request, which will be put at the end of the destination B queue upon receipt of a new CcnrRequest invoke component from the originating local exchange. In this case the CCNR duration timers CCNR-T3 and CCNR-T7 shall be restarted and user A shall receive a confirmation.

### Subclause 9.5.4.1 a)

Delete the very last hyphenated item (it is not applicable):

—CFNR, if the retain option is not supported, see 10.10.2.2 e).

### Subclause 9.5.4.1 b)

Replace the two hyphenated items as follows:

Upon sending of the Address Complete message (with subscriber free), Call Progress message (with alerting) or Connect message from the destination local exchange.

### Subclause 10.2.2

Delete the entire subclause 10.2.2 (it is not applicable).

### Subclause 10.10.2.2 c)

Replace the two hyphenated items as follows:

- either the CCNR call is treated as "the CCNR call is successfully offered to destination B" (see subclause 9.3.5.2 d);
- or the TC-dialogue is terminated by destination B according to subclause 9.5.4.1.b). After expiry of the No Reply timer, the call is forwarded as a normal call. The CCSS parameter in the forwarded Initial Address message is deleted.

### Subclause 10.21

Delete the entire subclause (it is not applicable).

### Subclause 10.22

Delete the entire subclause (it is not applicable).

**Subclause 10.23**

Delete the entire subclause (it is not applicable).

**Subclause 10.24**

Delete the entire subclause (it is not applicable).

**Subclause 10.25**

Delete the entire subclause (it is not applicable).

**Add the following subclauses 10.27, 10.28, 10.29:****10.27 Message Waiting Indication (MWI)**

No impact on either ISUP or CCNR ASE.

**10.28 Outgoing Call Barring (OCB)**

When the CCNR call is barred, the corresponding CCNR request shall be deactivated.

**10.29 Selective Call Forwarding (SCF)**

No impact on either ISUP or CCNR ASE.

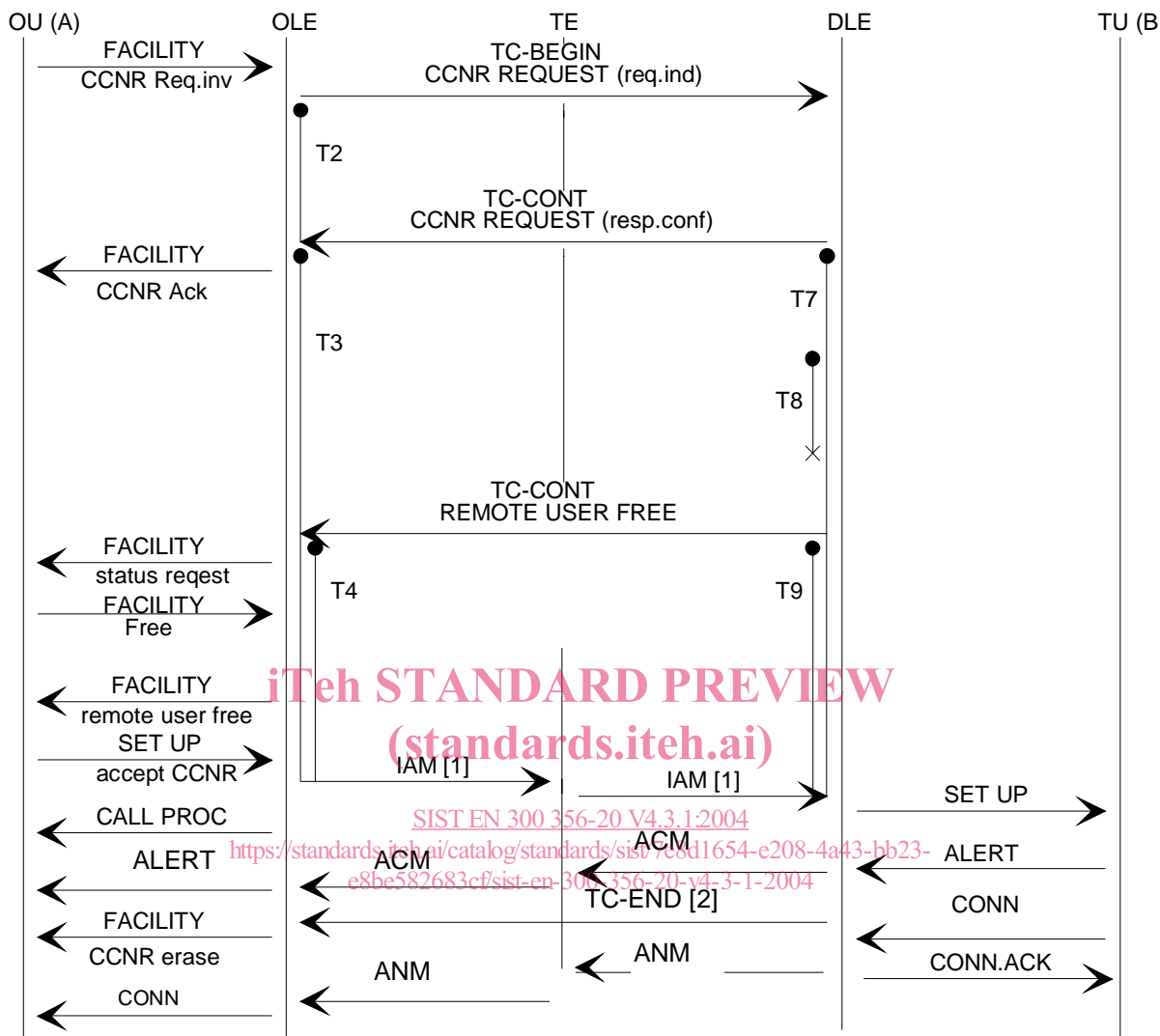
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Subclause 12.2

Replace the figure and the notes by the following:



- 1) IAM with:
  - ISUP required;
  - CCSS parameter.
- 2) The case where the destination local exchange sends TC-END is shown.