

**Integrated Services Digital Network (ISDN);
Signalling System No.7 (SS7);
ISDN User Part (ISUP) version 4 for the international interface;
Part 17: Call Waiting (CW) supplementary service**

[ITU-T Recommendation Q.733, clause 1 (1992) modified]



Reference

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Keywords

ISDN, ISUP, SS7, supplementary service, CW,
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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN), and is now submitted for the Vote phase of the ETSI standards Two-step Approval Procedure.

The present document is part 17 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 three aspects (signalling system protocols and switching functions) needed to support the Call Waiting (CW) supplementary service. The stage 1 and stage 2 aspects are detailed in ETS 300 056 [2] and ETS 300 057 [3], respectively.

| Proposed national transposition dates | |
|----------------------------------------------------------------------------------------|---------------------------------|
| Date of latest announcement of this EN (doa): | 3 months after ETSI publication |
| Date of latest publication of new National Standard or endorsement of this EN (dop/e): | 6 months after doa |
| Date of withdrawal of any conflicting National Standard (dow): | 6 months after doa |

Endorsement notice

The elements of ITU-T Recommendation Q.733, clause 1 (1992), 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.

Global modifications to ITU-T Recommendation Q.733, clause 1

Insert the following two clauses (Scope and References) at the start of clause 1.

1 Scope

The present document specifies the stage three of the Call Waiting (CW) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by the European public telecommunications operators by means of the Signalling System No.7 protocol for the ISDN User Part (ISUP). 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 does not specify the additional protocol requirements where the service is provided to the user via a telecommunications network that is not an ISDN.

The present document does not specify the additional protocol requirements for the national signalling interface.

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 concerned national and international network.

The CW supplementary service permits a subscriber to be notified of an incoming call (as per basic call procedures) with an indication that no interface information channel is available. The user then has the choice of accepting, rejecting or ignoring the waiting call (as per basic call procedures).

The CW supplementary service is considered meaningful when applied to the telephony teleservice and the speech and 3,1 kHz audio bearer services.

2 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 300 056 (1991): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Service Description".
- [3] ETSI ETS 300 057 (1992): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Functional capabilities and information flows".
- [4] ETSI EN 300 058-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

- [5] 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)".
- [6] 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]".
- [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 (V1.3.2): "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]".

Throughout the text of ITU-T Recommendation Q.733, clause 1

Replace references as shown in table 1.

Table 1

| Reference in ITU-T Recommendation Q.733, clause 1 | Modified reference |
|----------------------------------------------------------|------------------------------------------------------------|
| ITU-T Recommendation I.253.1 | ETS 300 056 [2] |
| ITU-T Recommendation Q.83, clause 1 | ETS 300 057 [3] |
| 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 [6] |
| ITU-T Recommendation Q.762 | ITU-T Recommendation Q.762 as modified by EN 300 356-1 [6] |
| ITU-T Recommendation Q.763 | ITU-T Recommendation Q.763 as modified by EN 300 356-1 [6] |
| ITU-T Recommendation Q.764 | ITU-T Recommendation Q.764 as modified by EN 300 356-1 [6] |
| ITU-T Recommendation Q.767 | ETS 300 121 [5] |
| ITU-T Recommendation Q.931 | ITU-T Recommendation Q.931 as modified by EN 300 403-1 [8] |
| ITU-T Recommendation Q.953, clause 2 | EN 300 058-1 [4] |

Subclause 1.5.2.2.1

Replace "succeeding" by "preceding".

Subclause 1.5.2.3.1

Replace "succeeding" by "preceding".

Subclause 1.5.2.3.2

Replace the complete text by:

"If the national network does not support the CW supplementary service, the outgoing international gateway exchange shall discard the corresponding Generic notification indicator parameter and the call shall be completed according to the basic call procedure as described in ITU Recommendation Q.764 as modified by EN 300 356-1 [6]".

Subclause 1.5.2.4.1

Replace "succeeding" by "preceding".

Subclause 1.5.2.4.2

Replace the complete text by:

"No exceptional procedures are identified".

Subclause 1.6.2

Replace the complete text by:

"No impact on ISUP".

Subclause 1.6.19

Replace the complete text by:

"No impact on ISUP".

Subclause 1.7, first sentence

Replace the first sentence by:

"In case of interworking with networks which do not provide the CW supplementary service, the notification will be lost".

Annex ZA (informative): Coding of the compatibility information

It is recommended that the parameter compatibility information for the generic notification parameter should be coded as follows:

a) Nth upgraded parameter:

0010 1100 generic notification parameter.

b) Instruction indicators:

bit A: Transit at intermediate exchange indicator;
 0 transit interpretation;

bit B: Release call indicator;
 0 do not release call;

bit C: Send notification indicator;
 0 do not send notification;

bit D: Discard message indicator;
 0 do not discard message (pass on);

bit E: Discard parameter indicator;
 0 do not discard parameter (pass on);

bits GF: Pass on not possible indicator;
 10 discard parameter;

bits JI: Broadband/narrowband interworking indicator;
 00 pass on.

History

| Document history | | |
|------------------|----------------|------------------------------------------------------|
| Edition 1 | February 1995 | Publication as ETS 300 356-17 |
| V3.1.3 | August 1998 | Publication |
| V4.1.1 | September 2000 | Public Enquiry PE 20010126: 2000-09-27 to 2001-01-26 |
| V4.1.2 | May 2001 | Vote V 20010713: 2001-05-14 to 2001-07-13 |
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