



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

I.253.1

**INTEGRATED SERVICES DIGITAL
NETWORK (ISDN)
GENERAL STRUCTURE AND SERVICE CAPABILITIES**

**CALL WAITING (CW)
SUPPLEMENTARY SERVICE**

Recommendation I.253.1



Geneva 1990



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FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation I.253.1 was prepared by Study Group I and was approved under the Resolution No. 2 procedure on the 2 July 1990.

CCITT NOTE

In this Recommendation, the expression "Administration" is used for shortness to indicate both a telecommunication Administration and a recognized private operating agency.

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Recommendation I.253.1**CALL WAITING (CW) SUPPLEMENTARY SERVICE¹⁾****1 Definition**

The **Call Waiting service** is a supplementary service which 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).

2 Description**2.1 General description**

The ISDN Call Waiting service allows an out-of-band notification to subscriber B of the incoming call; this is the assumed case for this definition (for optional in-band indications, see Annex A).

The maximum number of calls that can be handled (e.g. active, held, alerting, waiting) for each ISDN number on a given interface is specified at subscription time.

Note - The situation where at least one B-channel is available may be, for a given terminal, a situation similar to the one where all B-channels are busy. A terminal receiving a call request and already having an active call, may process the new incoming call in the same way as it would have processed a call if no B-channel were available, i.e. react positively to the incoming call request.

Moreover, when at least one B-channel is free, any compatible busy terminal of subscriber B can react positively to an incoming call.

2.2 Specific terminology

Throughout this Recommendation the following terminology will be used:

Subscriber B: the subscriber who is provided by the network with the Call Waiting service on a particular interface.

User B: the user who reacts to the call waiting at B.

User C: the user who has originated a call to B which causes the Call Waiting service to be invoked.

User A: represents a user who is engaged in a call with user B (this call can be in any state).

User Response timer T1: this timer specifies the period the network will wait for a positive response, from a terminal at B, to the offered call. It is part of the basic call and has a value of a few seconds.

No Answer timer T2: this optional timer specifies the period the network will wait for a response (answer), from user B, to the offered call from user C. The value of this timer is between 0.5 and 2 minutes.

¹⁾ This Recommendation replaces the text of Recommendation I.253, § 1 of the CCITT *Blue Book*.

2.3 *Qualifications on the applicability to telecommunication services*

This supplementary service is considered meaningful when applied to the Telephony teleservice and the speech and 3.1 kHz audio bearer services. Furthermore, it may also be meaningful when applied to other services.

3 **Procedures**

3.1 *Provision/withdrawal*

Call Waiting (CW) can be provided on a subscription basis or, as a network provider option, be generally available to all users without subscription. Call Waiting can be withdrawn for administrative reasons.

As part of each applicable bearer service or teleservice, there is an option specifying the maximum number of information channels which can be used (occupied) on the interface for each ISDN number, all ISDN numbers or subsets of ISDN numbers. Call Waiting for bearer services or teleservices occurs when an attempt is made to exceed these limits.

As a network provider option, Call Waiting can be offered with several subscription options. The options apply separately to each ISDN number and service combination. For each subscription, only one value can be selected. Subscription options are summarized below:

<i>Subscription options</i>	<i>Value</i>
Calls that can wait	– All – Others are for further study
Calling user receives notification call is waiting	– No – Yes

In addition, the following subscription options can be specified for each ISDN number, all ISDN numbers, or subsets of ISDN numbers on each interface:

<i>Subscription options</i>	<i>Value</i>
Maximum number of calls which can be waiting	– One – l, where $1 \leq l \leq n - m$

Note – The parameters m (maximum number of information channel) and n (maximum number of total calls present) are defined in the relevant basic service description (refer to Recommendation I.231 and I.241).

The use of T2 is a service provider option. When used, the value of T2 shall be set by the service provider as a default value subject to change only by the service provider.

3.2 *Normal procedures*

3.2.1 *Activation/deactivation*

The CW supplementary service is activated by the service provider at provision.

The CW supplementary service is deactivated by the service provider at withdrawal.

Registration does not apply