



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

I.253.3

(07/96)

SERIES I: INTEGRATED SERVICES DIGITAL
NETWORK

Service capabilities – Supplementary services in ISDN

**Call completion supplementary services:
Completion of calls to busy subscribers**

ITU-T Recommendation I.253.3

(Previously CCITT Recommendations)

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ITU-T RECOMMENDATION I.253.3

CALL COMPLETION SUPPLEMENTARY SERVICES: COMPLETION OF CALLS TO BUSY SUBSCRIBERS

Source

ITU-T Recommendation I.253.3 was prepared by ITU-T Study Group 1 (1993-1996) and was approved under the WTSC Resolution N°1 procedure on the 19th of July 1996.

FOREWORD

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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Recommendation I.253.3**CALL COMPLETION SUPPLEMENTARY SERVICES: COMPLETION OF CALLS TO BUSY SUBSCRIBERS***(Geneva, 1996)***1 Definition**

The **completion of Calls to Busy Subscribers (CCBSs) supplementary service** enables a calling user A, upon encountering a busy destination B, to be notified when the busy destination B becomes free and to have the service provider reinitiate the call to the specified destination B if user A desires.

2 Description**2.1 General description**

The CCBS supplementary service is applicable to users who are connected to the network via a basic access or a primary rate access.

The CCBS supplementary service enables user A, upon encountering a busy destination B, to have the call completed without having to make a new call attempt when destination B becomes free.

When user A requests the CCBS supplementary service, the network will monitor for destination B becoming free.

When destination B becomes free, then the network will wait a short time as defined in the destination B idle guard timer in order to allow the resources to be reused for originating a call. If the resources are not reused by destination B within this time, then the network will automatically recall user A.

When user A accepts the CCBS recall, then the network will automatically generate a CCBS call to destination B.

2.2 Specific terminology

For the purposes of this Recommendation, the following definitions apply.

2.2.1 user A: The user who originated the call and to whom the CCBS supplementary service is provided.

2.2.2 destination B: The entity that was addressed in the original call set-up.

2.2.3 CCBS request: An instance of an activation of the CCBS supplementary service which is held in a queue pending the correct conditions for the CCBS supplementary service to be completed.

2.2.4 CCBS recall: A network-to-user indication, informing user A that the network is ready to initiate a CCBS call to destination B and that the network is awaiting a response to this indication from user A.

2.2.5 CCBS call: Call set-up by the network from user A to destination B resulting from user A's acceptance of a CCBS recall.

2.2.6 busy: See clause 2/I.221.

2.2.7 network determined user busy: See clause 2/I.221.

2.2.8 user determined user busy: See clause 2/I.221.

2.2.9 free: Destination B is considered free when it is not busy.

2.2.10 CCBS busy: Any one of the following conditions will cause user A to be considered as CCBS busy:

- maximum number of calls reached at user A;
- no B-channels available at user A;
- CCBS recall pending on user A.

2.2.11 retention timer: This timer specifies the amount of time that the network retains all of the information supplied by the calling user when the call encounters busy. This timer is part of the basic call procedures. Although this timer is optional for the basic call procedures, it is needed for the operation of the CCBS supplementary service. The minimum value of the timer shall be 15 seconds.

2.2.12 CCBS service duration timer: This timer specifies the maximum time the CCBS supplementary service will remain activated for user A within the network. The value of this timer is a network option, typically 15-45 minutes.

2.2.13 CCBS recall timer: This timer specifies the maximum time the network will wait for a response from user A to a CCBS recall. The value of this timer is between 10 and 20 seconds.

2.2.14 destination B idle guard timer: This timer specifies the amount of time the network will wait after destination B has become free before informing user A. The value of this timer is between 0 and 15 seconds.

2.2.15 compatible terminal: A terminal which can support the bearer service or teleservice requested for the original call to destination B and which can accept calls to the ISDN number and sub-address identifying the called user in the original call to destination B.

2.3 Qualifications on the applicability to telecommunication services

The CCBS supplementary service shall be applicable to all circuit mode bearer services defined in Recommendation I.230, and all teleservices defined in Recommendation I.240 with the following exceptions:

- a) call 2 of the videotelephony service (see Recommendation F.721);
- b) all other circuit-switched telecommunications services requiring the use of more than one B-channel.

3 Procedures

3.1 Provision/withdrawal

The CCBS supplementary service may be provided to user A after prior arrangement with the service provider or may be generally available.

The CCBS supplementary service shall be withdrawn by the service provider upon request of the subscriber or for service provider reasons.

As a service provider option, the CCBS supplementary service can be offered with a subscription option which shall apply to the whole access of user A. The subscription option is detailed in Table 1.

TABLE 1/I.253.3

Subscription option	Values
Recall mode	– CCBS recall offered to all terminals on the access – CCBS recall offered to the terminal that activated the CCBS supplementary service

If the subscription option is not offered, one of the two values given in Table 1 shall be chosen by the service provider.

As a network option, the presence of compatible terminals at the destination user's access may be verified.

3.2 Normal procedures

3.2.1 Activation/deactivation/registration

3.2.1.1 Activation

When user A encounters a busy destination B, the network shall retain the call information for the period defined by the retention timer, during which user A can activate the CCBS supplementary service.

An attempt to activate the CCBS supplementary service shall be accepted by the network only if a compatible terminal is present on the destination B access. The network assumes that all terminals can indicate their compatibility.

NOTE 1 – Some service providers may not provide the compatibility check.

If the network accepts the activation of the CCBS supplementary service, the network shall store the identification of the destination contained in the original call request, and user A shall be informed that the activation was successful. Multiple requests against destination B shall be queued.

When the activation of the CCBS supplementary service is accepted, the CCBS service duration timer is started. The network shall monitor for destination B becoming free.

NOTE 2 – Some networks may not support the monitoring of destination B becoming free in the case where user A requests the CCBS supplementary service against a destination B, which is user determined user busy. In this case the CCBS request should be rejected with the reason "short-term denial".

User A can have a limited number of CCBS requests outstanding. This limit is a service provider option with a maximum value of five. The requests can be to different destinations, or can be to the same destination B with different service requirements (e.g. bearer service and teleservice requirements), or as a service provider option, the same service requirements.

Destination B can have a limited number of incoming CCBS requests queued. This limit is a service provider option with a maximum value of five.

Having activated the CCBS supplementary service, user A can originate calls and receive calls as normal.

3.2.1.2 Deactivation

The following deactivation requests shall be made available to user A:

- 1) deactivate a specific CCBS request. This request shall contain enough information to correlate with the initial activation; or
- 2) deactivate all outstanding CCBS requests.