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SERIES F: NON-TELEPHONE TELECOMMUNICATION
SERVICES

ISDN services

Broadband connection-oriented bearer service

ITU-T Recommendation F.811

(Previously "CCITT Recommendation")

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FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). The ITU-T 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 World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

ITU-T Recommendation F.811 was revised by ITU-T Study Group 1 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 19th of July 1996.

NOTE

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

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SUMMARY

The Broadband Connection-Oriented Bearer Service (BCOBS) provides unrestricted transfer of digital information between T_B reference points, or S_B reference points when T_B and S_B reference points are coincident. This bearer service flexibly supports connection-oriented communications at any bit rate over a virtual channel connection. This bit rate can be approximately constant to support constant bit rate traffic or it can be highly variable to support variable bit-rate traffic.

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Recommendation F.811

BROADBAND CONNECTION-ORIENTED BEARER SERVICE*(revised in 1996)***1 Definition**

The **Broadband Connection-Oriented Bearer Service** (BCOBS) provides unrestricted transfer of digital information between T_B reference points, or S_B reference points when T_B and S_B reference points are coincident. This bearer service flexibly supports connection-oriented communications at any bit rate over a virtual channel connection. This bit rate can be approximately constant to support Constant Bit Rate (CBR) traffic or it can be highly variable to support Variable Bit Rate (VBR) traffic. Signalling information transfer will be provided over a separate signalling virtual channel.

2 Description**2.1 General description**

The service provides cell based communications in a bidirectional symmetric, bidirectional asymmetric or unidirectional fashion using virtual channel connections in the Broadband Integrated Services Digital Network (B-ISDN). For each communication of this service, the user and the SP agree on the use of one of the ATM Transfer Capabilities (ATCs) defined in Recommendation I.371[1].

This service is provided in Permanent, Reserved and on-Demand mode.

In permanent mode the user subscribes to one or more permanent communications, specifying all the parameters to characterize them.

In reserved mode the user gets at subscription the capability to request, to modify and to release reserved communications for the subscription duration. After the subscription, at any time the user can request by management procedures to reserve a communication specifying all the parameters to characterize it.

In (switched) on-demand mode the user gets at subscription the capability to request, to modify and to release a (switched) on-demand call for the subscription duration. After the subscription, at any time the user can request to set up a call specifying all the parameters to characterize it.

This Recommendation focuses on the provisioning of the service in a point-to-point communication configuration for the (switched) on-demand mode and in a point-to-point and unidirectional point-to-multipoint configurations for permanent and reserved modes; other communication configurations are for further study.

The operations (from the user's point of view) necessary for the activation of a communication (from the network point of view) are successively (or simultaneously) as identified in Table 1.

For these complete operations, there are three possibilities:

- 1) per management procedures;
- 2) per signalling procedures;
- 3) per fast allocation procedures.

Table 2 summarises the different options.

This Recommendation specifies only procedures for the simultaneous request of establishment and activation (i.e. according to the third column). It is compatible with the separation of the request of establishment and activation (i.e. column two and three of Table 2) but procedures are for further study.

TABLE 1/F.811

User request and resulting actions in the network

	User request	Resulting actions in the network
1	Request of a route including the ATC in order to be connected to (an)other user(s)	Marking the route: it corresponds to the establishment of the associated ATM connection(s) without the resources supporting the communication
2	Negotiation of the resources, i.e. request of traffic parameter(s), QOS classes and OAM flows per ATM connection supporting the communication	Allocation of the resources: it corresponds to the activation of the communication

TABLE 2/F.811

Establishment and activation requests

Negotiation Modes	Connection establishment request (without resources): i.e. request of the route including the ATC only	Connection activation request, i.e. negotiation of traffic parameter(s), QOS classes and OAM flows per ATM connection only	Simultaneous request of establishment and activation, i.e. simultaneous request of the route and negotiation of the traffic parameter(s), QOS classes and OAM flows per ATM connection
permanent	not applicable	not applicable	at subscription
reserved	M	M compatible S compatible RM	M
(switched) on-demand	S	S compatible M compatible RM	S
M Made by Management procedures S Made by Signalling protocols RM Made by Resource Management cells NOTES 1 According to Recommendation I.371[1], the use of Resource Management Cell is not specified for DBR and SBR ATCs. 2 In order to allow the user to send RM cells, a minimum level of resources is necessary.			

2.2 Specific terminology

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

2.2.1 ATM transfer capability: See Recommendation I.371[1]. ATM Transfer capabilities are DBR, SBR, ABR, ABT-DT and ABT-IT. The specification of the relevant switching protocol at UNI to negotiate the ATM Transfer capability is contained in Recommendations Q.2931[9] and Q.2961[11]. The management protocols at UNI to negotiate the ATM Transfer capability are for further study.

2.2.2 cell delay variation: See Recommendation I.356[2].