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SERIES D: GENERAL TARIFF PRINCIPLES

General tariff principles – Charging and accounting for
international satellite services

**General tariff and accounting principles for
international two-way multipoint
telecommunication service via satellite**

ITU-T Recommendation D.186

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION D.186

GENERAL TARIFF AND ACCOUNTING PRINCIPLES FOR INTERNATIONAL TWO-WAY MULTIPOINT TELECOMMUNICATION SERVICE VIA SATELLITE

Source

ITU-T Recommendation D.186 was prepared by ITU-T Study Group 3 (1993-1996) and was approved by the WTSC (Geneva, October 9 - 18, 1996).

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the 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).

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

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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Recommendation D.186

GENERAL TARIFF AND ACCOUNTING PRINCIPLES FOR INTERNATIONAL TWO-WAY MULTIPOINT TELECOMMUNICATION SERVICE VIA SATELLITE

(Geneva, 1996)

The ITU-T,

considering

a) the provision of Recommendation F.141 regarding the definition and provision of these services and their characteristics;

recommends

that Administrations (including Recognized Operating Agencies) apply the following tariff and accounting principles for international multi-destination satellite services.

1 Preamble

1.1 This Recommendation contains general tariff and accounting principles applicable to two-way multiple access satellite services offered in a star configuration.^{1, 2, 3, 4} Service enables the transmission of information between several remote locations and a master hub, and communications among remote locations through the master hub.

1.2 In the provision of two-way multipoint access satellite services, a distinction may be drawn between tariff and accounting principles applying respectively to:

- the transmission capacity;
- the master hub (master earth station and the command/control management centre along with their associated equipment);
- the remote earth stations, often referred to in the commercial marketplace as Very Small Aperture Terminals or VSAT earth stations (including associated equipments); and
- when appropriate, the extensions between the earth stations and the customer's premises.

1.3 When applying this Recommendation, the Administration should also take into account the general provisions of Recommendation D.1.

1.4 This Recommendation does not apply to sound and video transmission services, which can be offered to complement two-way multiple access satellite services. When offered, sound and video transmission services should be provided in accordance with Recommendations D.4 and D.180.

¹ Point-to-multipoint satellite services used, for example, to broadcast text, images or data are addressed in Recommendations F.140 and D.185.

² Multipoint-to-point satellite services used, for example, for data gathering or telemetry applications are not addressed in this Recommendation, and have been identified for further study.

³ Both point-to-multipoint and multipoint-to-point satellite services can be provisioned using two-way multiple access satellite facilities.

⁴ This Recommendation does not address two-way multiple services offered in a mesh configuration, with one of the locations acting as the command and control management centre.

While two-way multipoint telecommunication networks may feature telephony capabilities, this Recommendation does not apply to Global Virtual Network Services (GVNSs). When offered, GVNS services should be provided in accordance with Recommendation D.286.

1.5 The provision and operation of this service would normally be coordinated by the Administration providing master hub services (the coordinating Administration).

1.6 Given the character of this service as prescribed in 1.5 above, subscription to two-way multipoint telecommunication services would normally be coordinated and controlled by the customer of the Administration providing master hub services (the coordinating customer).

2 Service description

2.1 The international two-way multipoint telecommunications service via satellite consists of making available telecommunication facilities exclusively dedicated to the use for which they have been authorized on the terms and conditions set out in a lease agreement between the customer(s) and the Administrations involved in the provisioning of service in the various countries. The Administrations are in no way responsible for transmission content or enforcement of copyright laws.

2.2 The service may be offered in a wide variety of technical, operational and ownership arrangements, subject to the agreement of the Administrations involved.

2.2.1 If required, service extensions between the coordinating customer's facility and master hub can be provided in the form of either:

- a) permanent dedicated circuits;
- b) circuit switched accesses; or
- c) packet/frame switched accesses.

2.2.2 The master hub, which includes the master earth station and the command/control management centre can be offered in the following ways:

- a) As facilities dedicated to serving a single coordinating customer or used by many in a shared master hub arrangement to form partitioned subnetworks for distinct coordinating customers.
- b) Under ownership by either the coordinating customer or the Administration providing master hub services.
- c) The master earth station and the command/control management centre are either co-located or physically distant and linked through permanent dedicated circuits.

2.2.3 Transmission capacity is offered either as:

- a) analogue or digital;
- b) full-time, part-time, occasional use; or
- c) pre-emptible or non-pre-emptible.

2.2.3.1 Full-time use

The transmission capacity is established 24 hours per day, seven days per week for a specified contract period. In determining such a period, Administrations may take into account the conditions established by the organization managing the satellite system.

2.2.3.2 Part-time

The transmission capacity is made available according to a pre-arranged schedule of discrete transmission intervals reserved over a period of one or more months or years.

2.2.3.3 Occasional

The transmission capacity is established on an ad hoc basis with prior reservation for a minimum period agreed upon between the Administrations concerned.

2.2.3.4 Non-pre-emptible

A service which may not be interrupted or terminated for the provision of a service to another customer. There are two types of non-pre-emptible services:

- a) protected – a service for which restoration is guaranteed; and
- b) unprotected – a service for which restoration is not guaranteed and which may only be restored subject to availability of an alternate facility.

2.2.3.5 Pre-emptible

A service which may be interrupted to provide a service of higher priority.

2.2.4 Remote earth stations can be offered in the following ways:

- a) Ownership by either the coordinating customer, the local customer, the master hub service provider or the local Administration.
- b) Operation/maintenance by either the coordinating customer, the local customer, the master hub service provider or the local Administration.

2.2.5 If required, service extensions between the remote earth stations and the customer's premises, can be provided in the form of either:

- a) permanent dedicated circuit;
- b) circuit switched access; or
- c) packet/frame switched access.

3 Charging principles

3.1 Tariff components

Charges should generally reflect facilities provided/services rendered and be cost-oriented. In determining their collection charges, the Administrations should take into account the following principles.

3.1.1 Service extensions between the customer's central facility and the master hub

When the command/control management centre is located in the Administrations' premises, the charging of the extensions from/to the customer central facility is subject to the principles adopted by the Administration of the country concerned.

3.1.2 The master hub (includes the master earth station and the command/control management centre)

The utilization charges for the master earth station and the command/control management centre are determined by a number of factors such as cost, the number and bit rate of circuits made available, the number of remote earth stations associated with a given coordinating customer's partitioned network, the protocol conversion, network management, restoral and redundancy services offered.

3.1.3 Transmission capacity

The utilization charges for the transmission capacity are determined by a number of factors such as the cost, power, geographical coverage, bandwidth, bit rate made available, whether use is full-time, part-time or occasional, and the pre-emptibility/protection status afforded the service.

3.1.4 Remote earth stations (including associated equipments)

Charging for the use of remote earth stations can vary according to remote earth station ownership, the physical location of the remote earth station at either the customer or Administration's premises, on the nature of installation, support, maintenance or licensing services provided. While, not excluding alternative arrangements, the following list presents some of the typical arrangements:

3.1.4.1 Use of earth station owned and operated by the customer.

3.1.4.2 Use of earth stations owned and operated by the master hub service provider.

3.1.4.3 Use of earth stations owned and operated by the local Administration.

3.1.4.4 Use of customer-owned earth stations, operated by the master hub service provider.

3.1.4.5 Use of customer-owned earth stations, operated by the local Administration.

3.1.4.6 Use of earth stations owned by the master hub service provider, operated by the local Administration.

3.1.4.7 Use of earth stations owned by the master hub provider and operated by the local customer.

3.1.5 Service extensions between the remote earth stations and the customer's premises

When the remote earth stations are located in the Administrations' premises, the charging in the terminal countries of the extensions from/to these earth stations is subject to the principles adopted by the Administrations of the countries concerned.

3.1.6 Service reservation

For the reservation of facilities by customers, prior to service initiation, Administrations may establish and notify, as appropriate, reservation fees and their conditions of application.

3.1.7 Service cancellation

At the ordering of the service, the Administrations should, when appropriate, notify customers about the level and the conditions of application of cancellation charges, including that associated with the removal of remote earth stations from the customer's premises.

3.2 Collection charges

The establishment of collection charges is a national matter.

3.3 Methods of collection charges

3.3.1 When charging the customer, the Administrations may combine the relevant components in one sum or may charge them separately.

3.3.2 Master hub, remote earth stations and service extensions

3.3.2.1 The Administration providing master hub services may collect the total charges for the service (master hub services, transmission capacity, remote earth stations) in one or more country(ies), subject to the agreement of the Administrations concerned.

3.3.2.2 Alternatively, each Administration involved in the provision of the service may collect the charges for master hub, remote earth station or service extensions it provides in its own country.

3.3.3 Transmission capacity

Charges for the use of either analogue or digital transmission capacity may be collected using one of the procedures outlined in 3.3.3.1, 3.3.3.2 or 3.3.3.3.

Given the shared nature of inbound and outbound channels and the frequent changes in network configuration (number of remote earth stations and assigned capacity), preference should be given to the methods outlined in 3.3.3.1 and 3.3.3.2.

3.3.3.1 The Administration providing master hub services procures space segment from the organization managing the satellite system and charges the coordinating customer for all its allocated transmission capacity.

3.3.3.2 The Administration providing master hub services and another one of the Administrations involved in the provision of services, (normally that Administration involved in the deployment of a fairly large proportion of the total number of remote earth stations), for remote earth stations jointly procure space segment from the organization managing the satellite system and charge the coordinating customer for all of its allocated transmission capacity.

3.3.3.3 Under coordination of the Administration providing master hub services, each Administration involved in the provision of the service collects charges from its customer(s) for transmission capacity offered according to the share of transmission capacity allocated to each specific earth station. The total network transmission capacity can be allocated to specific earth stations either:

- on the basis of an average transmission capacity per earth station; or
- to reflect exact bandwidth, information flow or information segments transmitted.

4 Accounting

4.1 Master hub services and remote earth stations

4.1.1 When the Administration providing the service collect charges as indicated in 3.3.2.1 above, the collecting Administration credits concerned Administrations through the international accounts.

4.1.2 Charges levied under the provisions mentioned in 3.3.2.2 do not entail the establishment of international accounts.

4.2 Transmission capacity

4.2.1 When the Administrations providing the service collect charges as indicated in 3.3.3.1 above, the collecting Administration credits, through international accounts, concerned Administrations providing services for remote earth stations with the appropriate remuneration per remote earth station they service. It also credits the organization managing the satellite system with the full remuneration due for the space segment.

4.2.2 When the Administrations providing the service collect charges as indicated in 3.3.3.2 above, the two Administrations involved in the procurement of the space segment jointly credit, through international accounts, concerned Administrations providing services for remote earth stations with the appropriate remuneration per remote earth station they service.

The two Administrations involved in the procurement of the space segment also jointly credit the organization managing the satellite system with the full remuneration due for the space segment.

4.2.3 Charges levied under the provision mentioned in section 3.3.3.3 do not entail establishment of international accounts, every Administration paying its share due for the utilization of the space segment to the organization managing the satellite system.

4.3 Service extensions

For service extensions involving more than one country, international accounts should be prepared, if required, in accordance with Recommendations D.1 for permanent dedicated circuits, with D.20 for circuit switched accesses or with D.11 for packet/frame switched accesses.

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