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STANDARDIZATION SECTOR
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SERIES D: GENERAL TARIFF PRINCIPLES

General tariff principles – Charging and accounting in the
mobile services

**Charging, billing, accounting and settlement
principles for Global Mobile Personal
Communications by Satellite (GMPCS) for the
international telephone service**

ITU-T Recommendation D.96

(Previously CCITT Recommendation)

ITU-T D-SERIES RECOMMENDATIONS

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ITU-T RECOMMENDATION D.96

CHARGING, BILLING, ACCOUNTING AND SETTLEMENT PRINCIPLES FOR GLOBAL MOBILE PERSONAL COMMUNICATIONS BY SATELLITE (GMPCS) FOR THE INTERNATIONAL TELEPHONE SERVICE

Summary

This Recommendation deals with the charging, billing, accounting and settlement issues and the relevant relationships that arise from the provision of access to their international telephone service by GMPCS Systems. The purpose of this Recommendation is to give guidance on those issues. Relations between different entities involved in the provision of service over the same GMPCS system should be determined through negotiations among the concerned parties in consideration of the provisions detailed in Recommendation D.96.

Source

ITU-T Recommendation D.96 was prepared by ITU-T Study Group 3 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 17 December 1999.

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.

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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The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Recommendation D.96

CHARGING, BILLING, ACCOUNTING AND SETTLEMENT PRINCIPLES FOR GLOBAL MOBILE PERSONAL COMMUNICATIONS BY SATELLITE (GMPCS) FOR THE INTERNATIONAL TELEPHONE SERVICE

(Geneva, 1999)

1 Introduction

Advances in satellite technology have made it possible for GMPCS systems to have the capability to serve any point on the earth's surface at any time. The link between the GMPCS user terminal and the system is a satellite communication channel provided on a call-by-call basis.

The potential of this new development was seen to be great enough to warrant the convening of the first World Telecommunication Policy Forum (WTPF) in October 1996 to discuss and create an understanding of GMPCS. The Final Report contains five Opinions. Opinion 4 led to the development of the Memorandum of Understanding to Facilitate Arrangements for Global Mobile Personal Communications by Satellite, Including Regional Systems (GMPCS-MoU). Opinion 5 led to an agreement on a set of regulatory, technical and operational factors to be considered where GMPCS is to be implemented.

One concept addressed at the WTPF was that GMPCS networks seek to offer services to users similar to those offered by terrestrial cellular radio mobile systems, but on a wider geographical basis. The main offering is that of access to the international public telephone service.

The ITU-T recognized the service and operational need for GMPCS systems to have international telephone numbers for their users and to meet this need, agreed to the concept of a shared E.164 country code. The manner in which the E.164 country code is shared is based on an *Identification Code* that follows the E.164 country code.

The terms and conditions expressed in this Recommendation only apply if the traffic relationships between participating GMPCS systems and network operators are agreed to by all concerned parties and authorized by the appropriate national authorities as necessary.

This Recommendation does not preclude the application of other terms and conditions arising from the national laws and sovereign rights of any country and/or geographical area.

2 Scope

This Recommendation deals with the charging, billing, accounting and settlement issues and the relevant relationships that arise from the provision of access to the international telephone service by GMPCS Systems. Relations between different entities involved in the provision of service over the same GMPCS system should be determined through negotiations among the concerned parties in consideration of clause 8 below.

3 Purpose

The purpose of this Recommendation is to give guidance on the charging, billing, accounting, and settlement issues that arise in the provision of the international telephone service by GMPCS systems.

4 References

The following ITU-T Recommendations and other references contain provisions, which through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

4.1 ITU-T Recommendations

- ITU-T Recommendation D.140 (1998), *Accounting rate principles for international telephone services*.
- ITU-T Recommendation D.150 (1999), *New system for accounting in international telephony*.
- ITU-T Recommendation D.155 (1996), *Guiding principles governing the apportionment of accounting rates in intercontinental telephone relations*.
- ITU-T Recommendation D.170 (1998), *Monthly telephone and telex accounts*.
- ITU-T Recommendation D.171 (1988), *Adjustments and refunds in the international telephone service*.

This list of Recommendations represents those that are most commonly applied in the accounting and settlement process in the provision of GMPCS telephone service. This does not preclude other relevant Recommendations applying in specific circumstances, such as D.110, Charging and accounting for conference calls.

4.2 Other referenced documents

- 1) Final Report of the First World Telecommunication Policy Forum (WTPF, Geneva, 21-23 October 1996).

This report contains 5 Opinions as follows:

- Opinion No. 1: The Role of GMPCS in the Globalization of Telecommunications.
 - Opinion No. 2: The Shared Vision and Principles for Global Mobile Personal Communications by Satellite (GMPCS).
 - Opinion No. 3: Essential Studies by the ITU to Facilitate the Introduction of Global Mobile Personal Communications by Satellite (GMPCS).
 - Opinion No. 4: Establishment of a Memorandum of Understanding to Facilitate the Circulation of Global Mobile Personal Communications by Satellite User Terminals (GMPCS-MoU).
 - Opinion No. 5: Implementation of GMPCS in Developing Countries.
- 2) Memorandum of Understanding to Facilitate Arrangements for Global Mobile Personal Communications by Satellite, Including Regional Arrangements. (GMPCS-MoU) (Finalized 14 February 1997)
 - 3) Arrangements pursuant to the GMPCS-MoU to facilitate the introduction and development of Global Mobile Personal Communications by Satellite. (GMPCS) (Geneva, 6-7 October 1997)

4) Report of the Opinion 5 Group of Experts. (WTDC-98, Malta, 23 March-1 April 1998)

The above referenced documentation treats topics such as:

- the sovereign right of a country and/or a geographical area to control its international telecommunication relationships;
- the need to respect the International Telecommunication Regulations of the ITU;
- the requirement to comply with the relevant taxation regimes; and
- the contribution towards providing universal access to telecommunications.

5 Charging, billing, accounting and settlement

Charging and billing issues are the subject of commercial negotiations and/or national regulations.

The GMPCS systems which offer their users access to the international telephone service have been designed to comply with the accounting and settlement arrangements for international traffic as laid out in the relevant ITU-T Recommendations and the GMPCS-MoU.

Each GMPCS System is identified by its Identification Code. The combination of the shared E.164 country code with an Identification Code creates a unique combination on which the call routing and charging may be based. The specifics of this routing and charging will vary according to the technical attributes of the system and existing business arrangements.

Between a GMPCS system and the terrestrial network of any country there may be two basic traffic patterns: either a direct relationship or a transit relationship for the exchange of traffic.

For a direct traffic relationship to exist there must be a direct trunk connection between the designated switching centre of the GMPCS system and the designated international switching centre of the terrestrial network.

In the case of a transit relationship, the network on which a call originates or terminates has a direct connection with a designated international switching facility of another country which itself has a direct connection to the designated switching centre of the GMPCS system. There may be cases where it is necessary to utilize the international switching facilities of more than one country.

5.1 Relationship between a GMPCS system and a terrestrial network

In the relationship between a GMPCS system and a terrestrial network there are four call patterns which are described and illustrated below.

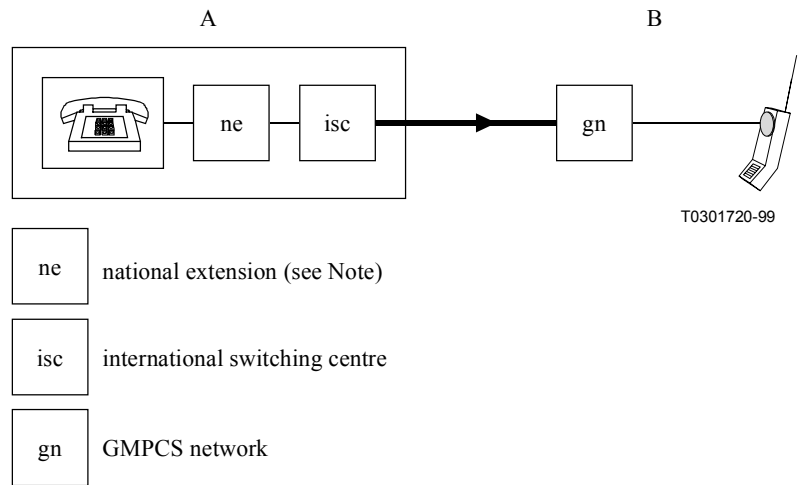
A = Country with a terrestrial network operator with direct connection to GMPCS System Operator B and a Terrestrial Network Operator in Country C.

B = GMPCS Operator with a direct connection to a Terrestrial Network Operator in Country A.

C = Country with a terrestrial Network Operator with a direct connection to a Terrestrial Network Operator in Country A.

5.1.1 A direct call from a terrestrial network to a GMPCS system

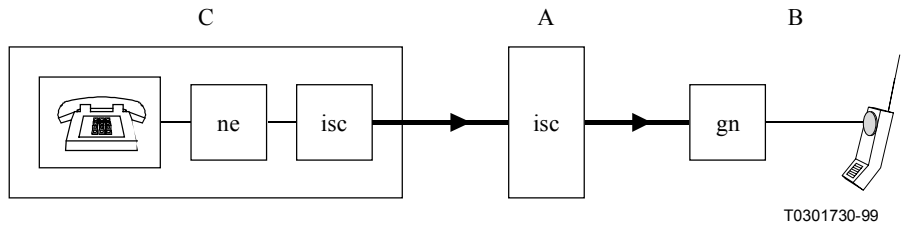
That is a call originated from a country where a terrestrial network operator has a direct connection to a GMPCS system for the call to be terminated on a user terminal of that GMPCS system.



NOTE – For the purposes of this Recommendation, national extension is the public switched telephone network and/or the public land-mobile network.

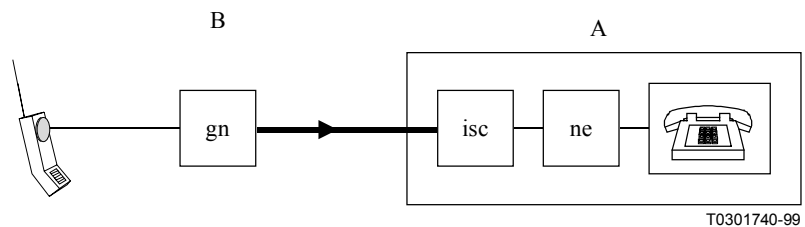
5.1.2 A transit call from a terrestrial network to a GMPCS system

That is a call originated from a country where the connection between a terrestrial network operator and a GMPCS system is via one or more agreed international transit connections.



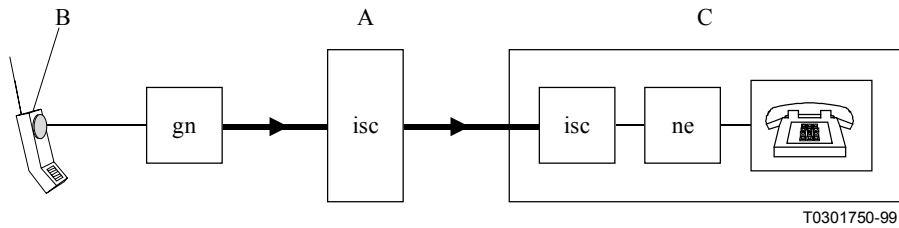
5.1.3 A direct call from a GMPCS system to a terrestrial network

That is a call originated on a GMPCS user terminal where the GMPCS system has a direct connection with a terrestrial network in the destination country.



5.1.4 A transit call from a GMPCS system to a terrestrial network

That is a call originated on a GMPCS user terminal with the connection between the GMPCS system and a terrestrial network in the destination country being via one or more agreed international transit connections.



5.2 Relationship between two GMPCS systems

In the relationship between two GMPCS systems there are two call scenarios which are described and illustrated below:

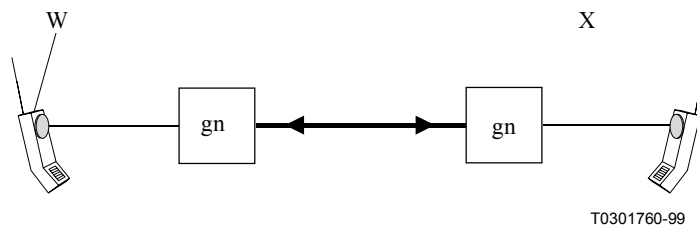
W = GMPCS Operator with direct connections to GMPCS Operator X and to a Terrestrial Network Operator in Country Y.

X = GMPCS Operator with a direct connection with GMPCS Operator W.

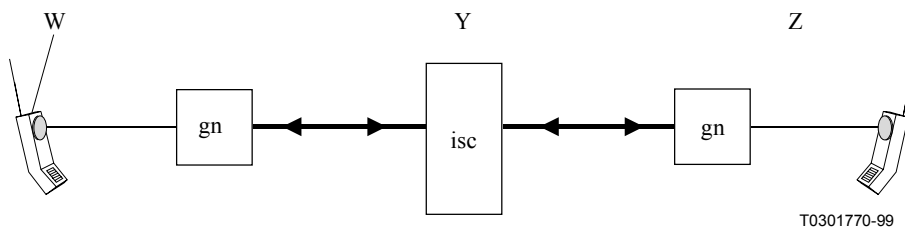
Y = Country with a Terrestrial Network Operator with direct connections with GMPCS Operators W and Z.

Z = GMPCS Operator with a direct connection with Terrestrial Network Operator in country Y.

5.2.1 Direct call between two users of two different GMPCS systems



5.2.2 Transit call between two users of two different GMPCS systems



For information, some possible call scenarios are shown in Appendix I.

6 Recommendations

It is recommended that since the call patterns detailed above occur in the international telephone service GMPCS operators should apply the established accounting and settlement principles contained in the appropriate Recommendations.

7 Roles and responsibilities

The GMPCS systems operators who offer their users access to the international telephone service should conform to the relevant ITU Recommendations and/or other agreements in their relationships with other network/system operators participating in the provision of the international telephone service.

For a call originated from a GMPCS system, the relevant GMPCS system operator should be responsible for ensuring that both transit and terminating networks are remunerated in accordance with the arrangements in force for that relationship. The settlement should take place within the time-scales established in the aforementioned arrangements.

For a call originated from a terrestrial network operator of any given country to a GMPCS system, the relevant terrestrial network operator should be responsible for the remuneration due to both the transit network operator and the GMPCS system operator. The settlement should take place within the time-scales established in the aforementioned arrangements.

8 Using GMPCS in different countries

There is an understanding that a GMPCS system (network) has the technical ability to offer service to its users at any point on the surface of the Earth.

The users of a GMPCS system may wish to utilize the facilities of that system to which they have subscribed in locations other than the country of their service provider. A GMPCS user terminal being used in a country other than that where the subscription is held is considered to be **visiting** that country.

The **visiting** terminal is utilizing its "home" network from a visited location. All of the relationships for GMPCS concerning accounting and settlement as detailed in this Recommendation will apply. Notwithstanding this, the use of GMPCS in a visited country will be subject to the telecommunications regulations and laws within that country. This means that calls made in the visited country may be subject to certain "Government Charges".

In countries where governments impose a tax on GMPCS services to their home service provider(s), it is possible that Government charge, where applicable, will be paid by visiting GMPCS subscribers under the fair, transparent and non-discriminatory principles, and in accordance with the accounting procedure described below.

In countries where governments impose a Government charge on calls made from visiting terminals, it will be necessary to establish a mechanism for the appropriate sums to be paid to the responsible authorities. Any such mechanism would have to be agreed on a bilateral basis between the GMPCS system operator and the relevant authorities, but one such mechanism could be to make such payments through a service provider in the visited country. In such case, the GMPCS system operator should provide traffic data on visiting terminals to both the home service provider and the appropriate visited service provider; this would enable the home service provider to bill its subscriber for any government charges, where applicable, and the visited service provider to reclaim the charges from the home service provider.

9 Roaming

Roaming is where a subscriber with a terminal that is registered with a GMPCS System Operator utilizes a Public Land Mobile Network (PLMN) or a subscriber registered with a PLMN Operator having a terminal compatible with a particular GMPCS System utilizes that particular GMPCS System.

Terminals registered with a GMPCS System Operator will only be able to roam to a PLMN and terminals registered with a PLMN Operator will only be able to roam to a GMPCS System:

- upon the conclusion of an agreement between them;
- upon the granting by both of the option to roam to their mobile terminals.

As part of the agreement, the Home Mobile Network (HMN) operator (either a GMPCS System Operator or a PLMN operator) should undertake to pay the Visited Mobile Network (VMN) operator the charges incurred by the HMN's registered mobile subscribers whilst roaming on the VMN.

The VMN should prepare a statement of the charges payable by the HMN for its registered mobile subscribers. The format and frequency of dispatch should be agreed between the two parties. This statement should show the total charge expressed in SDR's or another agreed accounting currency, together with the conversion rate.

To ensure that the HMN operator has sufficient information for billing purposes, individual statements should be prepared for each subscriber registered as roaming onto the VMN. These statements should include the following information:

- a) The period covered by the statement;
- b) The subscriber identity in the HMN;
- c) For each call:
 - i) the date and start time;
 - ii) number called and area code;
 - iii) destination country/network;
 - iv) duration in minutes and seconds;
 - v) any supplementary services used.

In the absence of alternative settlement procedures agreed between the MNs concerned, settlement of balances shall be effected in accordance with the provisions of the Administrative Regulations.

10 Exchange of traffic data

A GMPCS system operator which provides access to the international telephone service should have the capability to create and store traffic data records to meet the requirements as detailed in the appropriate accounting and settlement Recommendations and/or other relevant agreements.

APPENDIX I

Examples of possible call scenarios (for information purposes only)

The following is intended to provide information on some possible call scenarios and information on possible charging, accounting and other relationships associated with such possible call scenarios. It is recognized that these illustrative call scenarios and associated arrangements are purely for guidance and are not intended to be exclusive.

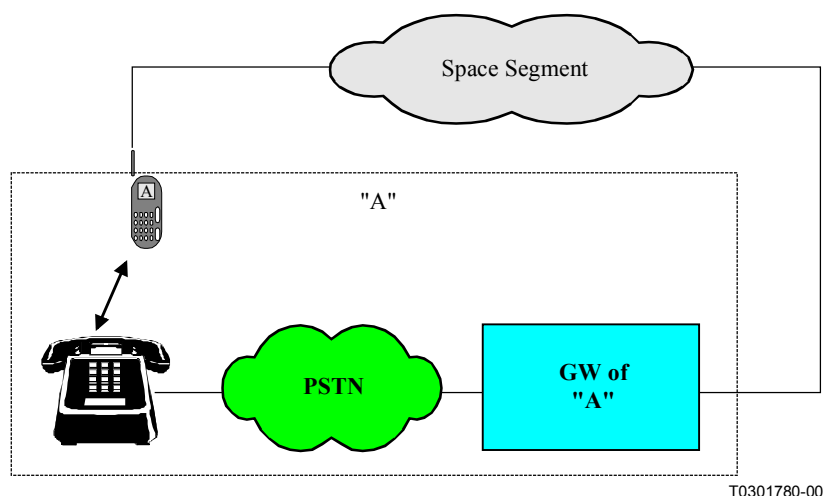
It is also recognized that every GMPCS System, including Regional Systems, will have different architectures and arrangements.

In typical cases where technologies in use implement the call and traffic data exchange procedures described here below, this appendix provides guidance on the types of agreements needed between actors, how to charge the calls and how to account between service providers in various circumstances. Nevertheless, it is not excluded that different agreements can be concluded.

Procedures and exchange of call data

- The profile of a visiting mobile-satellite terminal is retrieved by the visited gateway from the home gateway.
- The gateway that handles the call is the one that collects the traffic data.
- The relevant gateway provides the billing data (including the government charges when appropriate) to the service provider for the terminals it has registered.
- For accounting purpose, the relevant gateway provides the relevant service provider in a country, with the call data of the visiting terminals.
- The relevant service provider also bills the government charges, if applicable, generated by terminals visiting that country to their home service providers.
- The data provided to a service provider for billing purpose should not jeopardise the confidentiality requirements.

I.1 National¹ call between a terrestrial terminal and a local mobile-satellite terminal with a local² gateway³



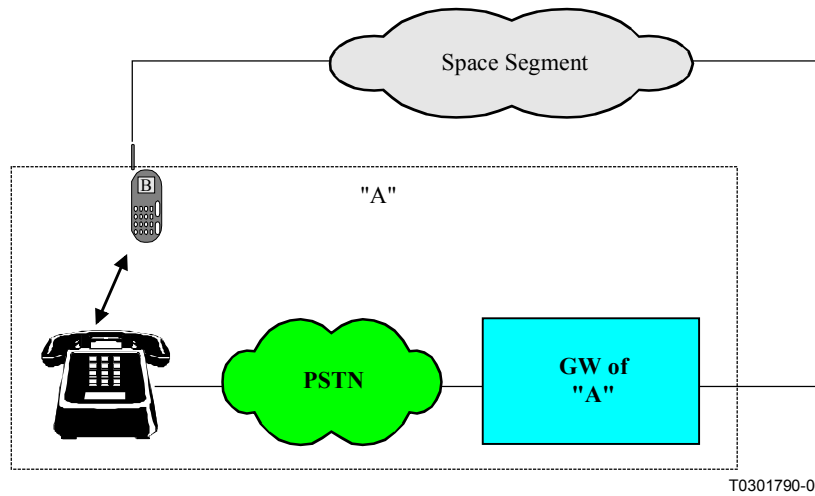
Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and GO "A"^{a)} • Tariff agreement between GO "A" and GMPCS^{b)}
	Charging	<ul style="list-style-type: none"> • PSTN^{c)} charges the terrestrial terminal on the basis of its own costs and the interconnection tariffs it has negotiated with GO "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A"^{d)} and any other player
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS • Interconnection agreement between GO "A" and PSTN
	Charging	<ul style="list-style-type: none"> • SP "A" charges for the call on the basis of its own costs and the tariff schedule of GO "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to GO "A"
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and any other player
<p>a) Gateway operator of the mobile-satellite service provider covering area "A".</p> <p>b) Satellite network operator.</p> <p>c) Network operator whose terminals access terrestrial equipment by wireline or wireless media.</p> <p>d) Mobile-satellite call service provider operating in area "A" placed under the jurisdiction of an Administration.</p>		

¹ The word "national" means that the calling and the called parties are both in the same country. But, due to the fact that GMPCS are granted the country code "881X", a call from any country to a GMPCS terminal can be considered as international.

² The word "local" stands for "situated in the country".

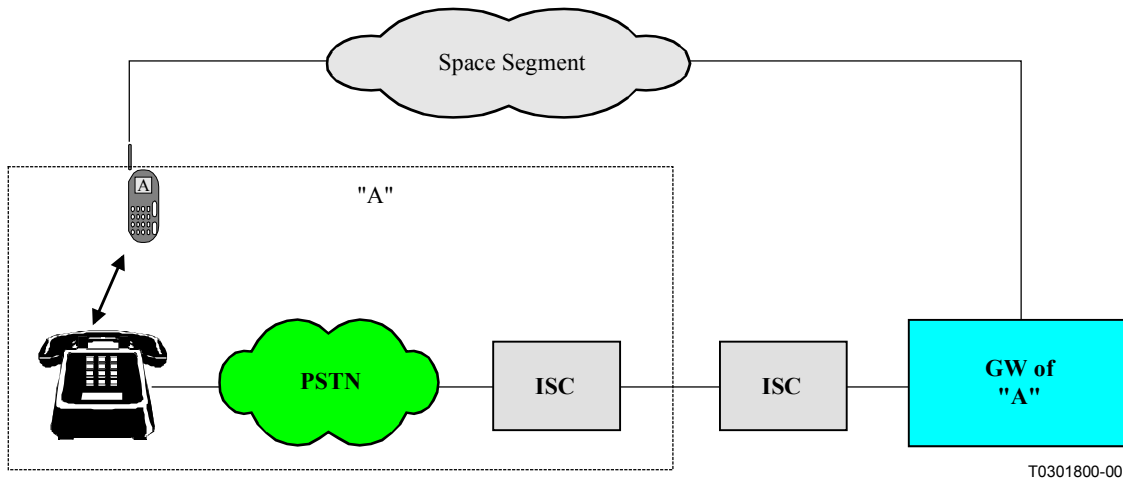
³ Gateway. This is the gateway between the terrestrial network and the satellite network.

I.2 National call between a terrestrial terminal and a visiting mobile-satellite terminal with a local gateway



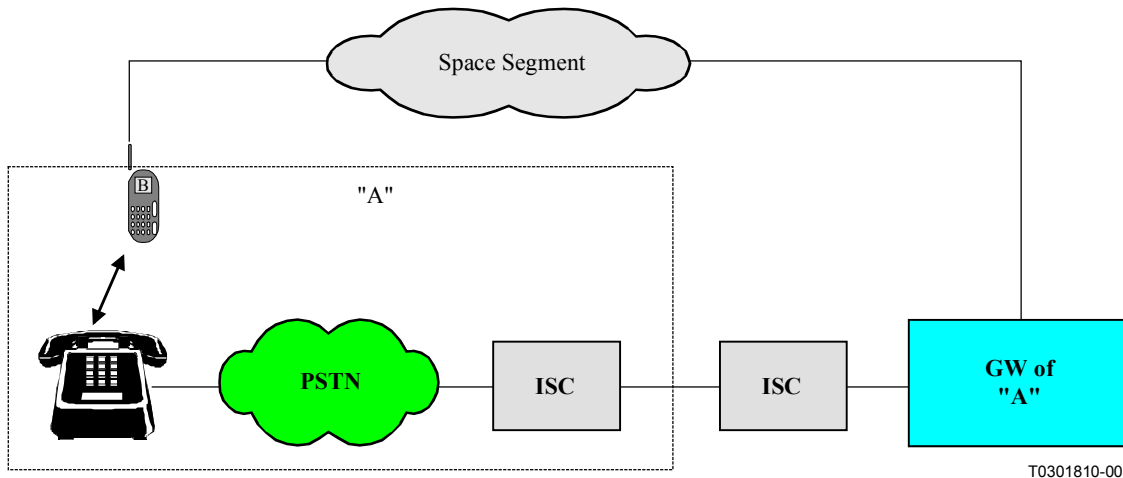
Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and GO "A" • Tariff agreement between GO "A" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal on the basis of its own costs and the interconnection tariffs it has negotiated with GO "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and SP "B"
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Any government charge set by country "A" and notified to GMPCS • Tariff agreement between GO "A" and GMPCS • Interconnection agreement between GO "A" and PSTN
	Charging	<ul style="list-style-type: none"> • SP "B" charges for the call on the basis of its own costs, the GMPCS tariff schedule and any government charge; charging data are sent from GO "A" to GO "B" and from GO "B" to SP "B" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to GO "A"
	Accounting	<ul style="list-style-type: none"> • SP "A" charges SP "B" for any government charge on the basis data of the communications made from country "A" by the visiting terminals registered in country "B". Those data are transmitted to SP "A" by GO "A"

I.3 National call between a terrestrial terminal and a local mobile-satellite terminal with a remote gateway



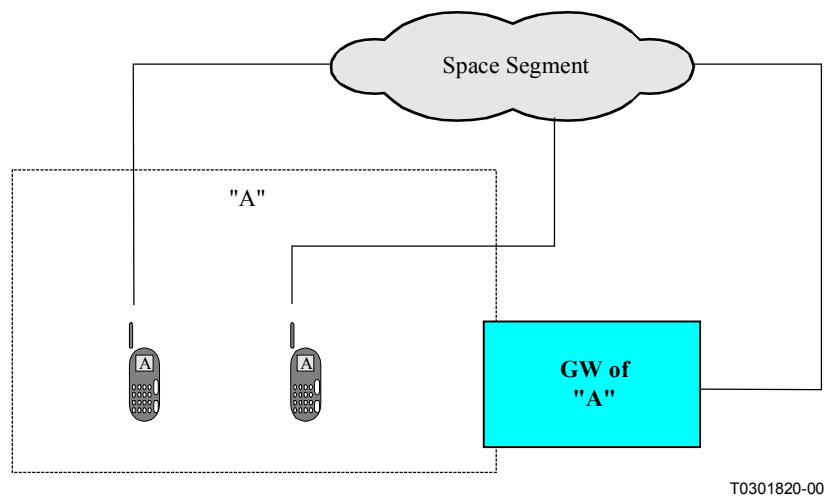
Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and ISC "A"^{a)} • International accounting agreement between ISC "A", ISC "X"^{b)} and GO "A" • Tariff agreement between GO "A" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal for the call on the basis of its own costs and the interconnection tariffs it has negotiated with ISC "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "A" and any other player
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Tariff for extension to country "A" offered to GMPCS by GO "A". Tariff agreement between GO "A" and GMPCS • International accounting agreement between GO "A", ISC "X" and ISC "A" • Interconnection agreement between ISC "A" and PSTN "A"
	Charging	<ul style="list-style-type: none"> • SP "A" charges for the call on the basis of its own costs and the tariff schedule of GO "A"; charging data are sent from GO "A" to SP "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to ISC "A"
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "A" and any other player
a)		Operator of the international switching centre located in country "A".
b)		Operator of the international switching centre located in any given country.

I.4 National call between a terrestrial terminal and a visiting mobile-satellite terminal with a remote gateway



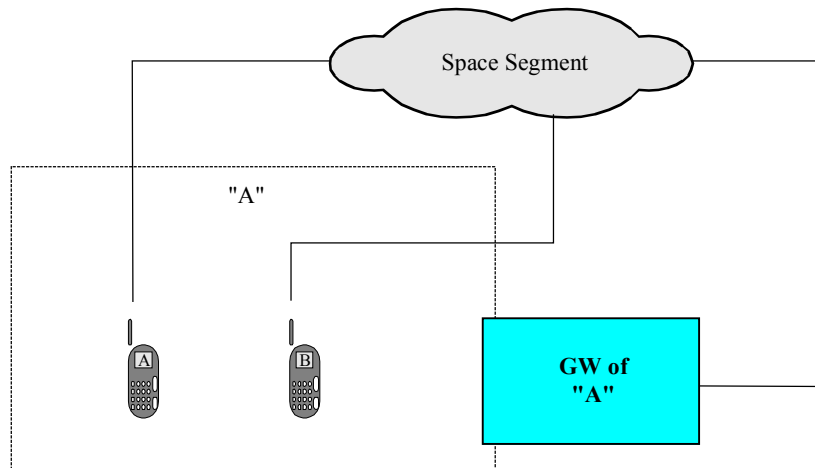
Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and ISC "A" • International accounting agreement between ISC "A", ISC "X" and GO "A" • Tariff agreement between GO "A" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal for the call on the basis of its own costs and the interconnection tariffs it has negotiated with ISC "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "A" and any other player
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS • International accounting agreement between GO "A", ISC "X" and ISC "A" • Interconnection agreement between ISC "A" and PSTN "A" • Any government charge set by country "A" and notified to GMPCS
	Charging	<ul style="list-style-type: none"> • SP "B" charges for the call on the basis of its own costs, the GMPCS tariff schedule and any government charge; charging data are sent from GO "A" to GO "B" and from GO "B" to SP "B" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to ISC "A"
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • SP "A" bills any government charge to SP "B" on the basis of data for calls set up from country "A" by visiting terminals domiciled in country "B". These data are sent to SP "A" by GO "A"

I.5 Calls between two local mobile-satellite terminals



Agreements	<ul style="list-style-type: none"> • "Mobile-to-mobile" tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS
Charging	<ul style="list-style-type: none"> • SP "A" bills the calling terminal for the call on the basis of its own costs and costs resulting from application of the tariff schedule • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
Accounting	<ul style="list-style-type: none"> • There is no accounting between service providers

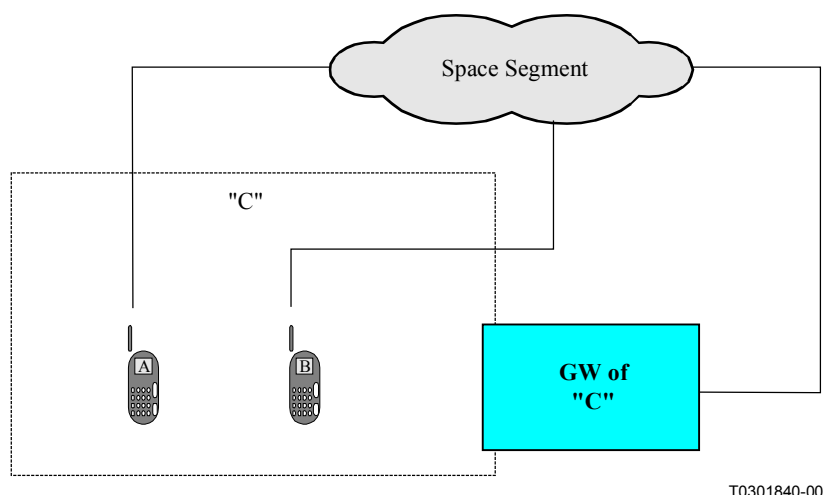
I.6 National call between a local mobile-satellite terminal and a visiting mobile-satellite terminal



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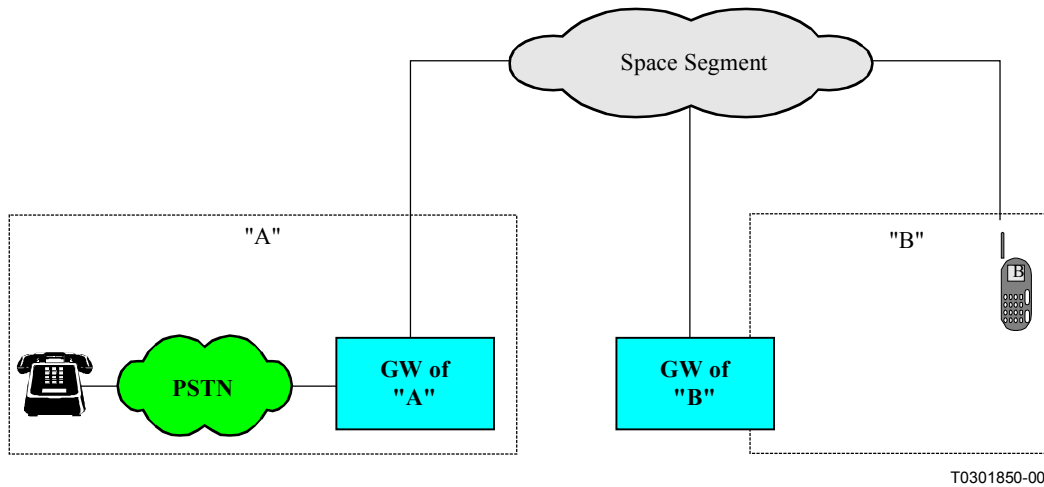
Calling terminal = local mobile	Agreements	<ul style="list-style-type: none"> • "Mobile-to-mobile" tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS
	Charging	<ul style="list-style-type: none"> • SP "A" bills the calling terminal for the call on the basis of its own costs and the costs resulting from application of the tariff schedule for a <i>national call</i> • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No accounting between service providers
Calling terminal = visiting mobile	Agreements	<ul style="list-style-type: none"> • "Mobile-to-mobile" tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS • Any government charge set by country "A" and notified to GO "A"
	Charging	<ul style="list-style-type: none"> • SP "B" bills the calling terminal for the call on the basis of its own costs, the costs resulting from application of the tariff schedule applied by GO "A" for a <i>national call</i> and any government charge. The charging data are supplied to SP "B" by GO "A" via GO "B" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • SP "A" bills any government charge to SP "B" on the basis of the data supplied to it by GO "A" for terminals domiciled with SP "B" and calling from country "A"

I.7 National call between two visiting mobile-satellite terminals



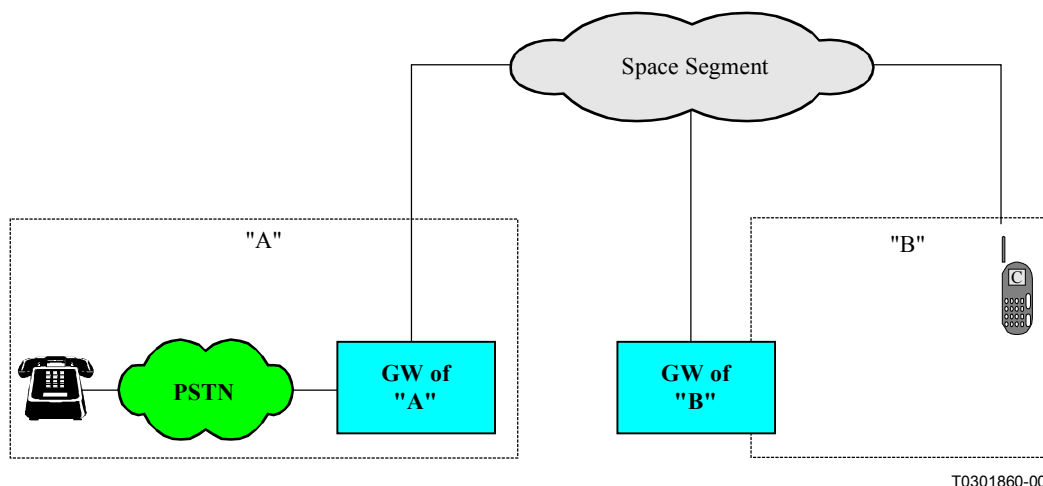
Agreements	<ul style="list-style-type: none"> • "Mobile-to-mobile" tariff schedule between SP "C" and GO "C" • Tariff agreement between GO "C" and GMPCS • Any government charge set by country "C" and notified to GO "C"
Charging	<p>When the mobile domiciled in country "B" is the calling terminal:</p> <ul style="list-style-type: none"> • SP "B" bills it for the call on the basis of its own costs, the costs resulting from application of the tariff schedule applied by GO "C" for a <i>national call</i> and any government charge. The charging data are supplied to SP "B" by GO "C" via GO "B" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them <p>When the mobile domiciled in country "A" is the calling terminal:</p> <ul style="list-style-type: none"> • SP "A" bills it for the call on the basis of its own costs, the costs resulting from application of the tariff schedule applied by GO "C" for a <i>national call</i> and any government charge. The charging data are supplied to SP "A" by GO "C" via GO "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them
Accounting	<ul style="list-style-type: none"> • When the mobile domiciled in country "B" is the caller, SP "C" bills SP "B" any government charge on the basis of the data supplied to it by GO "C" concerning terminals domiciled with SP "B" and calling from country "C" • When the mobile domiciled in country "A" is the caller, SP "C" bills SP "A" any government charge on the basis of the data supplied to it by GO "C" concerning terminals domiciled with SP "A" and calling from country "C"

I.8 External call between a terrestrial terminal and a local mobile-satellite terminal with a local gateway in the terrestrial terminal's area



Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal on the basis of its own costs and the interconnection tariffs it has negotiated with GO "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and SP "B"
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "B" and GO "B" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • Interconnection agreement between GO "A" and PSTN
	Charging	<ul style="list-style-type: none"> • SP "B" charges for the call on the basis of its own costs and the GMPCS tariff schedule; charging data are supplied to it by GO "B" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to GO "A"
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and SP "B"

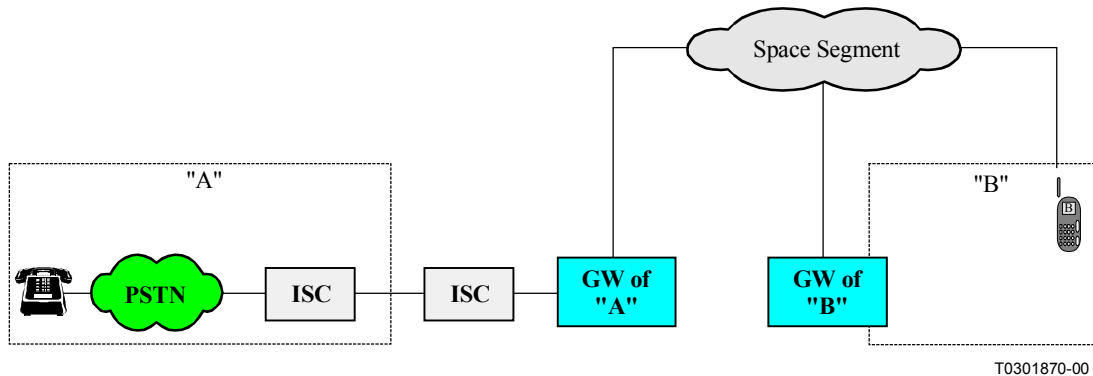
I.9 External call from a terrestrial terminal to a visiting mobile-satellite terminal, with a local gateway in the terrestrial terminal's area



Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "C" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN "A" charges the terrestrial terminal on the basis of its own costs and the interconnection tariffs it has negotiated with GO "A" for access to mobiles of SP "C" • If the charge for interconnection to mobiles of SP "B" is higher than the charge for interconnection to mobiles of SP "C", the difference in price will be borne by the visiting mobile-satellite terminal "C"; GO "A" will supply GO "C" with the information on this difference • If the charge for interconnection to mobiles of SP "B" is less than or equal to the charge for interconnection to mobiles of SP "C", no tariff adjustment will be made • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and any other mobile service provider.

Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "B" and GMPCS • Any government charge set between country "B" and GMPCS • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "C" and GMPCS • Interconnection agreement between GO "A" and PSTN
	Charging	<ul style="list-style-type: none"> • SP "C" charges for the call on the basis of its own costs, the GMPCS tariff schedule applied to SP "B" for a call to country A and any government charge; charging data are sent from GO "B" to GO "C" and from GO "C" to SP "C" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to GO "A"
	Accounting	<ul style="list-style-type: none"> • SP "B" bills any government charge to GO "C" on the basis of the information supplied to it by GO "B" concerning outgoing traffic from terminals "C" visiting "B"

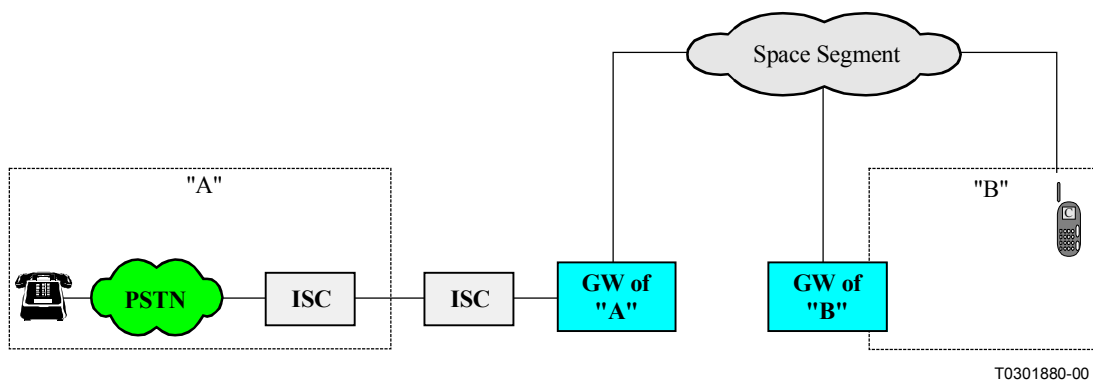
I.10 External call between a terrestrial terminal and a local mobile-satellite terminal, when the Gateway serving the country in which the terrestrial terminal is located is outside that country



Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and ISC "A" • Accounting agreement between ISC "A", ISC "X" and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal for the call on the basis of its own costs and the interconnection tariffs it has negotiated with ISC "A" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "A" and SP "B"

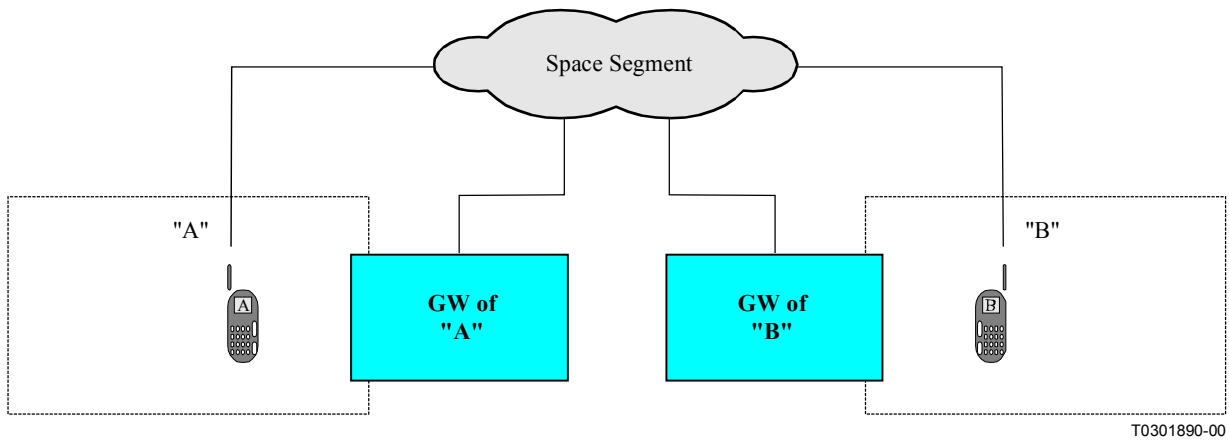
Satellite to terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "B" and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • International accounting agreement between GO "A", ISC "X" and ISC "A" • Interconnection agreement between ISC "A" and PSTN "A"
	Charging	<ul style="list-style-type: none"> • SP "B" charges for the call on the basis of its own costs and the GMPCS tariff schedule; the charging data are sent from GO "A" to GO "B" and from GO "B" to SP "B" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to ISC "A"
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "A" and SP "B"

I.11 External call between a terrestrial terminal and a visiting mobile-satellite terminal, when the gateway serving the country in which the terrestrial terminal is located is outside that country



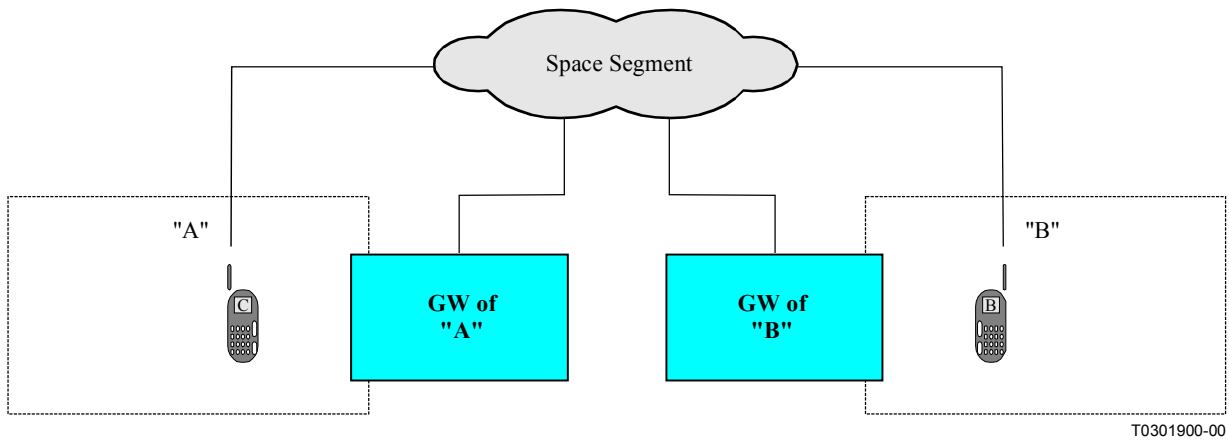
Terrestrial to Satellite	Agreements	<ul style="list-style-type: none"> • Interconnection agreement between PSTN and ISC "A" • International accounting agreement between ISC "A", ISC "X" and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "C" and GMPCS
	Charging	<ul style="list-style-type: none"> • PSTN charges the terrestrial terminal for the call on the basis of its own costs and the interconnection tariffs it has negotiated with ISC "A" • If the charge for interconnection to mobiles of SP "B" is higher than the charge for interconnection to mobiles of SP "C", the difference in price will be borne by the visiting mobile-satellite terminal "C"; GO "A" will supply GO "C" with the information on this difference • If the charge for interconnection to mobiles of SP "B" is less than or equal to the charge for interconnection to mobiles of SP "C", no tariff adjustment will be made • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • No accounting between SP "B" and SP "C"
Satellite to Terrestrial	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "B" and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • International accounting agreement between GO "A", ISC "X" and ISC "A" • Interconnection agreement between ISC "A" and PSTN "A" • Any government charge set by country "B" and notified to GMPCS
	Charging	<ul style="list-style-type: none"> • SP "C" charges for the call on the basis of its own costs, the GMPCS tariff schedule applied to SP "B" and any government charge; the charging data are sent from GO "B" to GO "C" and from GO "C" to SP "C" • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them • PSTN bills the interconnection charge to ISC "A"
	Accounting	<ul style="list-style-type: none"> • GO "A", ISC "X" and ISC "A" draw up accounts pursuant to the prevailing regulations and Recommendations • SP "B" bills any government charge to SP "C" on the basis of the data concerning calls set up from country "B" by visiting terminals domiciled in country "C". These data are sent to SP "B" by GO "B"

I.12 External call between two local mobiles



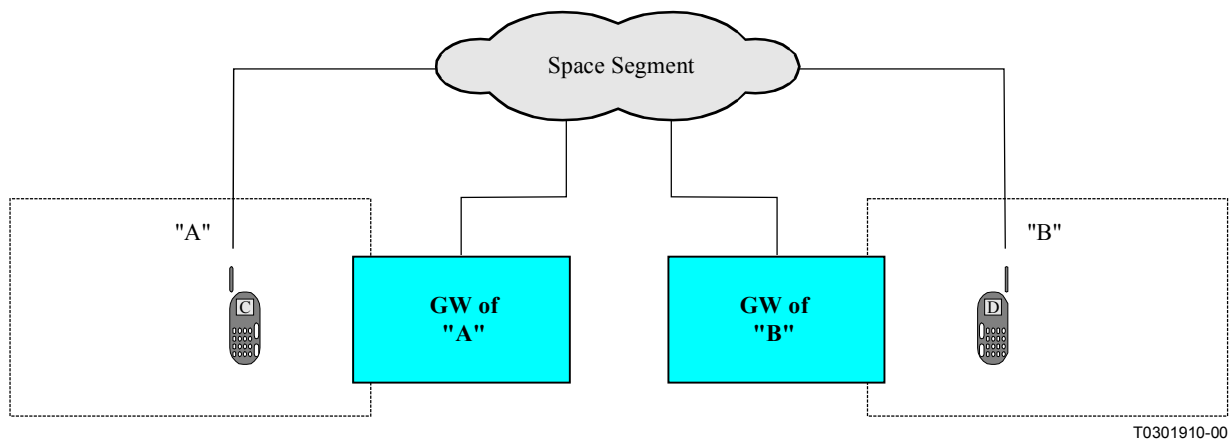
Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Tariff schedule between SP "B" and GO "B" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS
Charging	<ul style="list-style-type: none"> • SP "A" bills terminal "A" for the call on the basis of its own costs and the costs resulting from application of the tariff schedule, or • SP "B" bills terminal "B" for the call on the basis of its own costs and the costs resulting from application of the tariff schedule • GMPCS charges GO "A" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them
Accounting	<ul style="list-style-type: none"> • No accounting between SP "A" and SP "B"

I.13 External call between a local mobile and a visiting mobile, with local or remote gateways

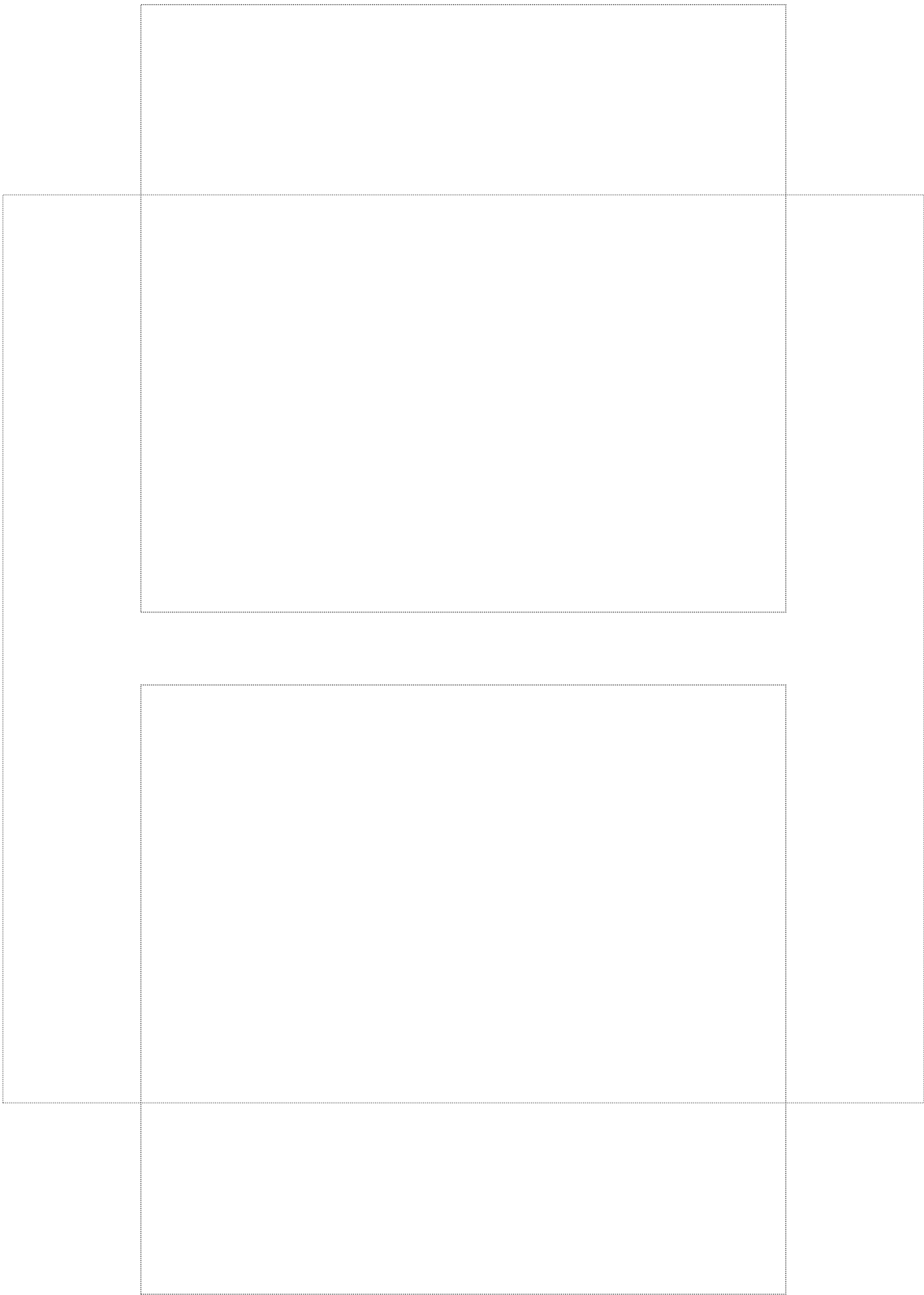


Calling terminal = mobile "C"	Agreements	<ul style="list-style-type: none"> • Tariff schedule offered by GO "A" to SP "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • Any government charge set by country "A" and notified to GMPCS (GO "A")
	Charging	<ul style="list-style-type: none"> • SP "C" charges mobile-satellite terminal "C" for the call on the basis of its own costs, the tariff schedule applicable to SP "A" and any government charge; GO "A" sends the charging data to GO "C" which in turn sends them to SP "C" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • SP "A" bills any government charge to SP "C" on the basis of the data supplied to it by GO "A" concerning calls from terminals "C" set up from country "A"
Calling terminal = mobile "B"	Agreements	<ul style="list-style-type: none"> • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • Tariff schedule offered by GO "B" to SP "B" • Tariff schedule offered by GO "C" to SP "C"
	Charging	<ul style="list-style-type: none"> • If the charge from "B" to "A" is higher than the charge from "B" to "C", the difference in cost is borne by terminal "C" and will be billed to it by SP "C" on the basis of the information supplied to it by GO "B" via GO "C"; SP "B" charges calling terminal "B" on the basis of its own costs and the tariff schedule for calls from "B" to "C" • If the charge from "B" to "A" is lower than the charge from "B" to "C", SP "B" charges calling terminal "B" on the basis of its own costs and the tariff schedule for calls from "B" to "A" • GMPCS charges GO "B" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • No exchanges of accounts

I.14 External call between two visiting mobile-satellite terminals



Example: "C" calling "D"	Agreements	<ul style="list-style-type: none"> • Tariff schedule between SP "A" and GO "A" • Tariff agreement between GO "A" and GMPCS • Tariff agreement between GO "B" and GMPCS • Any government charge set by country "A" and notified to GMPCS
	Charging	<ul style="list-style-type: none"> • If the charge from "A" to "B" is higher than the charge from "A" to "D", the difference in cost is borne by terminal "D" and will be billed to terminal "D" by SP "D" on the basis of the information supplied to it by GO "D" via GO "B"; SP "B" charges calling terminal "C" on the basis of its own costs and the tariff schedule for calls from "A" to "D" • If the charge from "A" to "B" is lower than the charge from "A" to "D", SP "C" charges calling terminal "C" on the basis of its own costs and the tariff schedule for calls from "A" to "D" • In both cases any government charge is added • GMPCS charges GO "C" for the call in accordance with the tariff agreement concluded between them • GMPCS charges GO "D" for the call in accordance with the tariff agreement concluded between them
	Accounting	<ul style="list-style-type: none"> • SP "A" bills any government charge to SP "C" for calls from terminals "C" set up from country "A"



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- Series C General telecommunication statistics
- Series D General tariff principles**
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- Series F Non-telephone telecommunication services
- Series G Transmission systems and media, digital systems and networks
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