

1¾ « <□ B T T X Y Y C:\MSWORD\NORMAL.STY
E_CN2_P Z μFÅ□□/□□U T W μ□GSM 02.20 -
version 3.0.1 - □

Released by: ETSI PT12

Release Date: February 1992

Recommendation: GSM 02.20

Title: Collection charges

List of contents:

- 0. Scopej
- 1. Tariff structure
 - 1.1. General
 - 1.2. Network access component
 - 1.3. Network utilization component
- 2. Handling of the collection charges
 - 2.1. Network access charges
 - 2.2. Network utilization charges
 - 2.2.1. Mobile originated calls
 - 2.2.2. Mobile terminated calls
 - 2.2.2.1. Use of "Call forwarding" supplementary services - calls forwarded to the fixed network
 - 2.2.2.2. Use of "Call forwarding" supplementary services - calls forwarded to a GSM PLMN
 - 2.2.3 Collection of the network utilization charges

Figures

Original Language: English

Number of pages: 11

Maintenance Responsibility: MoU

0. Scope

Since a homogeneous, compatible service spectrum is the objective for the services of GSM PLMNs, standardization of the charging mechanisms for collection charges is the minimum requirement. This is especially important as mobile subscribers can move in different GSM PLMNs. It is therefore the objective of this recommendation to standardize at least those charging mechanisms which play a role in the technical definition of GSM PLMNs.

The recommendation deals with the charging mechanisms related to GSM mobile originated calls and with the forwarded element of GSM mobile terminated call (i.e. when the GSM mobile subscriber is roaming), hereafter referred to as "the mobile terminated component".

The Transferred Account Procedure is dealt with in Recommendation GSM 02.21 and the implementation aspect of the supplementary service "Advice of charge" is described in GSM 02.24.

1. Tariff structure

1.1. General

The tariff for the service should normally consist of two components:

- a network access component
- a network utilization component

The network access component, normally intended to cover the cost of making the service available, represents the cost of the service which is not dependent on network utilization. It corresponds to what is generally known as the "network connection charges".

The network utilization component normally covers the costs which are dependent on network utilization.

1.2. Network access component

Access charges should be levied for each subscription (see GSM Rec. 02.13). They may consist of:

- a) an initial fee (non-recurring)
- b) a subscription charge (payable at certain intervals, e.g. monthly or quarterly, until the subscription is terminated)

The access charges may vary according to:

- a) the entitlement of the subscription (see GSM Rec. 02.13)
- b) the number of basic and supplementary telecommunication services subscribed to

1.3. Network utilization component

The network utilization component is registered on a per call basis. The basic working assumption is start of charging by B-answer (forwarded-to-subscriber on call forwarding) or on connection to recorded message systems internal to the network if prescribed by national requirements.

(Technical note: Charging starts on the answer message in signalling system no. 7.)

The main elements are:

- use of GSM PLMNs (radio path, base station equipment, lines BSS-
MSC, MSC)
- use of national/international fixed networks
- use of connection between the different networks
- use of signalling system No. 7

The network utilization charge may vary according to:

- a) from which country and/or regional area (see Rec. GSM 02.13) the call is originated
- b) the destination (called party)
- c) day and time when the call is established
- d) registration, erasure, activation, deactivation, interrogation and invocation of supplementary services
- e) the location of the called party (roaming mobile subscriber)
- f) the telecommunication service used.

2. Handling of the collection charges

2.1. Network access charge

The network access charge will normally be based on data registered in the subscription handling procedures.

The access charges shall not be included in accounts between network operators, and their establishment is strictly a national/network matter.

The network access charges are collected by the HPLMN operator from his subscribers.

2.2. Network utilization charges

2.2.1. Mobile originated calls

The network utilization charges for mobile originated calls may vary according to the items mentioned in section 1.3. The charging analysis can be done in the originating network, based on analysis of the called number.

The charging aspects of the bearer service supporting PAD access however, in respect of volume charges, is for further study.

2.2.2. Mobile terminated calls

For mobile terminated calls, the called mobile subscriber - hereafter called the B-subscriber - may be charged for the mobile terminated component when roaming. The mobile terminated component may vary according to the actual location of the B-subscriber.

The possible routings of roaming mobile terminated calls are shown in the figures below. Figures 1, 2 and 3 shows the routings of calls to national mobile subscribers, roaming both nationally and internationally. Figures 4, 5, 6, 7 and 8 shows the routing possibilities of calls made to foreign mobile subscribers.

2.2.2.1. Use of "Call forwarding" supplementary services - calls forwarded to the fixed network

When one of the "Call forwarding" supplementary services is activated and the call is forwarded to a subscriber in the fixed network - hereafter called the C-subscriber - the same mobile terminated component as described in section 2.2.2 may be charged the B-subscriber.

In addition the B-subscriber may be charged for the forwarded part of the call, i.e. from the MSC where the B-subscriber is actually located, to the network of the C-subscriber, see Figure 9.

Exception is made for "Call forwarding unconditional" when routing is made directly to the C-subscriber, based on information from the HLR. The B-subscriber may in this case be charged for the forwarded part of the call as shown in Figure 10.

2.2.2.2. Use of "Call forwarding" supplementary services - calls forwarded to a GSM PLMN

When one of the "Call forwarding" supplementary services is activated, and the call is forwarded to another GSM Mobile Subscriber, the B-subscriber may be charged for both the mobile terminated component and the forwarded part of the call, as described in section 2.2.2.1.

In addition the C-subscriber, when roaming, may be charged for the mobile terminated component, see Figures 11 and 12.

2.2.3. Collection of the network utilization charges

The network utilization charges for calls originated by GSM mobile subscribers roaming between GSM PLMNs, and the mobile terminated component shall be transferred to the HPLMN operator (see GSM Rec. 02.21).

The level of the network utilization charge collected from the subscriber is a national matter, and may therefore vary.

The network utilization charges registered in HPLMN and VPLMNs (including the mobile terminated component and the forwarded part of the calls) are collected by the HPLMN operator from his subscribers.

The network utilization charges for GSM mobile terminated calls, except for the mobile terminated component and the forwarded part of the calls, are collected from the calling subscriber.

□□ □□ v -□ t .□ o c□ m t□ h □□ f □□ a š□ _ '□ z »□ ýý¿□ X Ä□
S I□ Q üüü□ □ □□□ □ □□□ □ □□□ □ □□□ □ □□□ I□ Y□ v b□ t i□
o t m Æ h ^
f {
a i

- -

Ó è v M t h o s m Š h ² f Ā a ø _ z X (S 4
Q I Q ůůů □ □□ □ □□ □ □□ □ □□ □ □□ □ □□ □

à û ýý ýý[] ýý[] ýý-[] ýý1[] ýý3[] ýý>[] ýý@[] ýýU[] ýý []0Hđ []
0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []0Hđ []

U□ d□ ŷŷ„□ ŷŷ©□ ŷŷ◀□ ŷŷÒ□ ŷŷð□ ŷŷ□□ ŷŷ5□ ŷŷW□ ŷŷ □0Hð □0Hð □0
Hð □0Hð □0Hð □0Hð □0Hð □0Hð □0Hð □0Hð □0Hð

W ¼ p p P e R ýý[ýý] ýý_ ýýa ýý 0Hđ 0Hđ 0
Hđ 0Hđ 0Hđ 0Hđ 0Hđ 0Hđ
< - @
Àđ
< - □

x ð

x □□ x □□ x _□ m □□ j □0Hđ □0Hđ □0Hđ □0Hđ □0Hđ □0Hđ □0Hđ □0
Hđ □0Hđ □0H□<□
<□- Đ□0ý□<□□□□ Ấ□ x è□ x ê□ x !

× #

x {

m ž

j ì

