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**Datasheet for the decision
of 23 October 2014**

Case Number: T 0839/11 - 3.5.03

Application Number: 00979870.3

Publication Number: 1212891

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Language of the proceedings: EN

Title of invention:
Improving charging efficiency

Applicant:
Nokia Corporation

Headword:
Improving charging efficiency/NOKIA

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - 2nd auxiliary request (yes)

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Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0839/11 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 23 October 2014

Appellant: Nokia Corporation
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 4 October 2010 refusing European patent application No. 00979870.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman T. Snell
Members: A. Madenach
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. The present appeal is against the decision of the examining division refusing application No. 00979870.3, published as WO 01/39483 A2, on the ground that the subject-matter of claim 1 of the main request and of the auxiliary request did not involve an inventive step (Articles 52(1) and 56 EPC) having regard to the disclosure of

D1: WO 97/26739 A1

and common general knowledge.

II. The appellant filed a notice of appeal against the above decision. In the statement of grounds of appeal the appellant requested that the decision under appeal be set aside, and that a European patent be granted for the application on the basis of claims 1 to 30 of a main request or, as an auxiliary measure, on the basis of claims 1 to 30 of either a first auxiliary request or of claims 1 to 29 of a second auxiliary request, all requests being attached to the grounds of appeal. As a further auxiliary measure, oral proceedings were requested.

III. In a communication accompanying a summons to oral proceedings the board, without prejudice to its final decision, raised various objections in respect of the subject-matter of the independent claims of the main request and all auxiliary requests.

IV. In response to the summons, the appellant filed claims of a main request and auxiliary requests 1 to 3 to replace the requests on file.

V. Oral proceedings took place on 23 October 2014.

In the course of the oral proceedings, the appellant filed a new main request and a new auxiliary request 2 to replace the corresponding requests on file. At the end of the oral proceedings, the appellant withdrew all requests except auxiliary request 2 as filed during the oral proceedings and requested that the decision under appeal be set aside and that a patent be granted on the basis of the amended auxiliary request 2 as filed during the oral proceedings, which was its sole request.

After deliberation, the chairman announced the board's decision.

VI. Claim 1 of auxiliary request 2 reads as follows:

"A method for charging in a telecommunications system (5), comprising:

providing by means of packet data interface apparatus (8, 20) packet data communication services to a first communication terminal (1), the packet data interface apparatus (8,20) being capable of interfacing between the first communication terminal (1) and a packet-switched data link to another communications terminal and comprising a serving GPRS support node (SGSN) (8) and a gateway GPRS support node (GGSN) (20);

transferring charging messages to charging apparatus (17, 18) for use in performing a charging operation;
and

storing at a subscriber information store (13) subscription information including charging arrangement information indicative of the charging arrangement for

the first communication terminal (1) operating in the telecommunications system; characterised in that the method comprises:

transferring the charging arrangement information to the SGSN (8); and

storing at the packet data interface apparatus (8,20) the charging arrangement information for the first communication terminal (1); and

generating by means of the packet data interface apparatus (8,20) charging messages indicative of the usage of the packet data communication services by the first terminal (1) dependant on the charging arrangement information for the first communication terminal (1),

wherein the packet-switched data link is a packet data protocol context and the charging arrangement information is transferred from the SGSN (8) to the GGSN (20) at activation of the packet data protocol context, and

wherein the generating of the charging messages is performed by means of the SGSN and the GGSN [*sic*] comprises determining on the basis of the charging arrangement information for the first communication terminal (1) stored at the packet data interface apparatus (8,20) whether a communication with the first terminal (1) is liable to charging and generating a charging message for the communication if the communication is liable to charging."

Independent claim 21 relates to a corresponding telecommunications system. Independent claim 23 relates

to a corresponding packet data interface apparatus for providing packet data communication services to a first communication terminal in a telecommunications system.

Reasons for the Decision

1. *Amendments (Article 123(2) EPC)*
 - 1.1 The amendments to the independent claims are based on original claims 1, 2, 16, 18, 20 and 21 and on page 10, lines 10-12 of the application as published.
 - 1.2 Claim 1 differs from original claim 1 further in that the feature "performing a charging operation" has been amended to [a method] "for use in performing a charging operation". This amendment is supported by original claim 26.
 - 1.3 Consequently, claims 1, 21 and 23 comply with Article 123(2) EPC.
2. *Inventive step (Article 56 EPC)*
 - 2.1 The board considers the prior art as described in the present patent application (page 1, second paragraph - page 4, first paragraph), which the appellant admitted to being publicly available prior art, and the prior art described in D1 as being essentially equivalent and to differ only in detail. Either can be considered as constituting the closest prior art on file.
 - 2.2 Reference is first made to D1 which shows a method for charging in a telecommunications system (see e.g. abstract).

This method comprises:

providing by means of packet data interface apparatus (Figure 1: Intra-operator GPRS backbone network, SGSN, GGSN) packet data communication services to a first communication terminal (MS), the packet data interface apparatus being capable of interfacing between the first communication terminal and a packet-switched data link (Internet) to another communications terminal and comprising a serving GPRS support node (SGSN) and a gateway GPRS support node (GGSN); and

transferring charging messages to charging apparatus (BC) for use in performing a charging operation (page 9, lines 20-28).

- 2.3 From D1 it is known that the SGSN and/or the GGSN (*i.e.* the packet data interface apparatus) collect and transmit charging information to a billing gateway BGGSN. The information data may contain the IMSI, data amount and the service type. The BGGSN receiving the charging information forwards it to the operator's charging center BC (page 9, lines 20-33). In one embodiment, the BGGSN to which the charging information is sent varies according to the service type or subscriber. In the case where the address varies according to subscriber, the address of the correct BGGSN is given to the support node, which is understood to comprise the SGSN and the GGSN, when the subscriber begins to use a GPRS service (page 10, lines 9-15). In the board's view, the address of the correct BGGSN can be considered subscription information including charging arrangement information indicative of the charging arrangement for the first communication terminal since it indicates the address to which charging information is to be sent.

Hence, D1 discloses transferring charging arrangement information (*i.e.* information relating to the service type or subscriber) to the support node comprising the SGSN and GGSN.

It would technically be necessary, and thus implicit, to store at least temporarily this information at the packet data interface.

From the above (reference is made to D1, page 9, lines 20-33 in combination with page 10, lines 9-15), it follows that D1 also discloses generating by means of the packet data interface apparatus charging messages indicative of the usage of the packet data communication services by the first terminal dependant on the charging arrangement information for the first communication terminal.

The board notes further that the subscription information including charging arrangement information which is transferred to the support node including the SGSN must originate from a network node in possession of such information. In view of the board's conclusion that the subject-matter of claim 1 involves an inventive step (see below), it is moot whether it is deemed implicit or obvious to the skilled person that this information is stored at a subscriber information store.

Further, the examining division considered at point 7 of the contested decision that it would have been obvious to the skilled person that the data links at a SGSN were based on the packet data protocol (PDP) and that the packet switched data links in the SGSN concerned PDP contexts which were activated and that, further, any information that is needed for controlling

a certain service by a serving node needed to be available at the serving node before the service was requested and used. Hence, in the examining division's opinion, the transfer of the charging arrangement information from the SGSN to the GGSN at activation of the packet data protocol context would have been obvious to the skilled person. However, in view of the board's conclusion regarding inventive step, this matter is also moot.

2.4 In conclusion, the subject-matter of claim 1 of auxiliary request 2 differs from the method known from D1, in addition to the step of transferring the charging arrangement information from the SGSN to the GGSN at activation of the packet data protocol context, at least also in that the step of generating of the charging messages is performed by means of the SGSN and the GGSN [and] comprises determining on the basis of the charging arrangement information for the first communication terminal stored at the packet data interface apparatus whether a communication with the first terminal is liable to charging and generating a charging message for the communication if the communication is liable to charging.

2.5 A similar conclusion can be reached when starting out from the prior art described in the patent application.

From this prior art a method for charging in a telecommunications system is known (see e.g. page 1 of the application as published, 5th to 3rd lines from the bottom of the page), comprising:

providing by means of packet data interface apparatus (8, 20) packet data communication services to a first communication terminal (1), the packet data interface

apparatus (8,20) being capable of interfacing between the first communication terminal (1) and a packet-switched data link to another communications terminal and comprising a serving GPRS support node (SGSN) (8) and a gateway GPRS support node (GGSN) (20); and

transferring charging messages to charging apparatus (17,18) (page 3, 2nd paragraph, first three lines).

The known method further comprises:

storing at a subscriber information store (13) subscription information including charging arrangement information indicative of the charging arrangement for the first communication terminal (1) operating in the telecommunications system (cf. page 2, last paragraph to page 3, line 6 of the published application);

transferring the charging arrangement information from the HLR to the core network (page 2, last three lines of the application as published) which, if the available core network allows the mobile terminal packet data access, is the packet data interface apparatus (8,20).

The previous transferring step necessarily implies storing at the packet data interface apparatus (8,20) the charging arrangement information for the first communication terminal (1).

The packet data interface apparatus (8,20) generates charging messages indicative of the usage of the packet data communication services by the first terminal (1) (see sentence bridging pages 1 and 2). As described in the second paragraph of page 3 of the application as published, charging messages are sent periodically and

after some delay, whereas in hot billing they are sent after no delay or only a few seconds delay. Therefore, charging messages are dependant on the charging arrangement information (*i.e.* normal billing vs. hot billing) for the first communication terminal.

In conclusion, the method of claim 1 of auxiliary request 2 differs from this prior art at least by the same features as with respect to D1 (see points 2.2 and 2.3 above).

- 2.6 The objective problem solved by the features indicated at points 2.2 and 2.3 above is considered by the board as being how to achieve a more efficient charging with respect to the use of network resources.
- 2.7 The claimed solution is considered to involve an inventive step because the prior art does not disclose or suggest a method in which the SGSN and GGSN both maintain the control of the generation of the charging messages at a data protocol context by transferring charging arrangement information at activation of the packet data protocol context to the GGSN wherein generating of the charging messages only occurs when the first terminal is liable to charging. As regards D1, it is taught there that charging messages are always transmitted to the billing gateway by the SGSN and the GGSN. The same appears to be true with regard to the billing method described in the introductory part of the description of the present application, since it is stated that charging messages are collected by the charging gateway before being sent to the billing system. It follows that the charging gateway is apparently in control of any decision to forward data on the basis of the charging arrangement information, and not the SGSN or GGSN.

2.8 The examining division, who considered D1 as the closest prior art document, essentially argued with respect to the more general subject-matter of the then pending main request that the generation of charging messages "dependant on" the charging arrangement information had to be considered as an administrative requirement according to an underlying administrative concept which requires that charging messages are only to be generated for certain users that are to be treated according to a certain charging arrangement. They concluded that the objective technical problem to be solved merely relates to an obvious technical realisation of the administrative concept.

However, even if the charging arrangement *per se* relates to an administrative concept, the technical realisation as now claimed solves a technical problem in a non-obvious way, as explained above.

2.9 The above reasoning also applies, *mutatis mutandis*, to the subject-matter of independent claims 21 and 23 which comprise features corresponding to those on which the inventive step of the subject-matter of claim 1 is based.

3. Since the claims of auxiliary request 2 are allowable, the decision under appeal is set aside and the case is remitted to the examining division for further prosecution.

4. The board notes an obvious linguistic error in the text of claim 1 submitted at the oral proceedings, in that the term "and" should be inserted following the handwritten insert "is performed by means of the SGSN

and the GGSN". It is proposed that the error be corrected by the examining division.

Order

For these reasons it is decided that:

- The decision under appeal is set aside.
- The case is remitted to the department of first instance for further prosecution on the basis of auxiliary request 2 (claims 1-23) as submitted during the oral proceedings.

The Registrar:

The Chairman:



G. Rauh

T. Snell

Decision electronically authenticated