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**Datasheet for the decision  
of 29 March 2011**

**Case Number:** T 1482/08 - 3.5.03

**Application Number:** 00938460.3

**Publication Number:** 1143693

**IPC:** H04M 17/00

**Language of the proceedings:** EN

**Title of invention:**

Implementing method for adding monetary value of mobile  
prepayment service in different locations

**Patentee:**

Huawei Technologies Co., Ltd.

**Opponent:**

-

**Headword:**

Mobile prepayment service/HUAWEI

**Relevant legal provisions:**

EPC Art. 56

**Relevant legal provisions (EPC 1973):**

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**Keyword:**

"Inventive step: main request (no); auxiliary request (yes)"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 1482/08 - 3.5.03

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.03  
of 29 March 2011

**Appellant:** Huawei Technologies Co., Ltd.  
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**Representative:** Goddar, Heinz J.  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 7 March 2008  
refusing European patent application  
No. 00938460.3 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman:** A. S. Clelland  
**Members:** T. Snell  
R. Moufang

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 00938460.3, with international publication number WO-A-01/35628 (in Chinese). The application was subsequently published in English with the number EP-A-1143693.

The refusal was based on the ground that the subject-matter of all claims 1-9 did not meet the requirement of inventive step pursuant to Article 52(1) in combination with Article 56 EPC. The examining division referred to the following documents in its decision:

D1: WO-A-99/18713

D2: WO-A-96/15633

D3: "Physical plane for Intelligent Network Capability Set 2", ITU-T Recommendation Q.1225, pages 1-10, September 1997, International Telecommunication Union.

D4: HUMPHREY J D: "Interworking and the IN platform; detailing the development of the GSM CAMEL standard for interworking IN", 6TH IEE Conference on Telecommunications, Edinburgh, GB, 29 March - 1 April 1998, Conference publication No. 451, pages 250-257.

II. The appellant filed a notice of appeal against the above decision. Claims of a new request were subsequently filed together with a statement of grounds of appeal.

In the statement of grounds, the appellant requested that the decision under appeal be set aside and a patent granted on the basis of claims 1-9 of the aforementioned newly-filed request.

Oral proceedings were conditionally requested.

- III. In a communication accompanying a summons to oral proceedings the board gave a preliminary opinion in which, *inter alia*, it was considered that the subject-matter of the independent claims did not involve an inventive step (Article 52(1) in combination with Article 56 EPC).
- IV. With a response to the board's communication, the appellant filed claims of a main and an auxiliary request intended to replace the request on file.
- V. Oral proceedings were held on 29 March 2011. At the oral proceedings the appellant submitted claims of a new auxiliary request to replace the claims of the auxiliary request on file. The appellant requested that the decision under appeal be set aside and a patent granted on the basis of claims 1-9 of the main request filed on 1 March 2011 in response to the summons, or alternatively on the basis of claims 1-8 of the auxiliary request filed during the oral proceedings.

At the end of the oral proceedings the board announced its decision.

VI. Claim 1 of the **main request** reads as follows:

"A method, based on intelligent network [*sic*], for implementing recharging at different locations for a mobile prepaid service, wherein the method comprises: when a mobile prepaid subscriber in a location (C) different from his home location (B) dials the access number for recharging by using a recharging card, the call is routed to a SSP for that location (C); the SSP then analyses the calling number and determines the home SCP to which it belongs, and reports the intelligent call to the home SCP; wherein by interaction between the home SCP and an SDP in which recharging card data of mobile prepaid service of different locations (A, B, C) is stored, subscriber data and the state of the recharging card are updated, wherein the updating comprises the home SCP obtaining the recharging card data from the SDP, updating a prepaid account of the mobile prepaid subscriber according to said recharging card data, and updating the state of the recharging card."

VII. Claim 1 of the **auxiliary request** is the same as claim 1 of the main request with following features added to the end of the claim:

"wherein the home SCP obtaining the recharging card data from the SDP, updating a prepaid account of the mobile prepaid subscriber, and updating the state of recharging card comprises:  
the home SCP establishing a dialogue with the SDP and sending a request to the SDP to query recharging card data and at the same time sending a password of the

recharging card and a handset number of recharging subscriber together to the SDP;  
the SDP matching the recharging card with the database, setting the recharging card in a state of being in use and sending back the recharging card data, including the state of the card, to the home SCP;  
if the recharging card is in available state, the SCP updating the prepaid account according to said recharging card data;  
after successful updating, the SCP sending an updating request for state of the recharging card to the SDP;  
the SDP setting the state of the recharging card in a state of having been used and sending back the operation result to the home SCP;  
after the home SCP receives the response, the home SCP disconnecting from the SDP."

Claim 7 of the **auxiliary request** reads as follows:

"A system for implementing recharging at different locations for a mobile prepaid service, wherein the system comprises: a plurality of SSPs, a plurality of SCPs and a SDP which is independent from the SCPs; said system being adapted to carry out a method according to claim 1."

### **Reasons for the decision**

1. *Main request - inventive step*

It is common ground that document D1 represents the closest prior art.

Document D1 discloses a method, based on an intelligent network, for recharging a mobile prepaid service. The mobile prepaid [service] subscriber dials an access number (cf. page 14, line 11) for recharging by using a recharging card ("voucher"; cf. page 13, lines 1-10). The call is routed to an SSP (cf. page 14, lines 11-12), which analyses the calling number ("A-number"; cf. page 14, lines 12-14) and reports the intelligent call to an SCP (cf. page 9, lines 20-28). By interaction between the SCP and a database 184 comprised within the SCP (cf. Fig. 2), in which recharging card data of a mobile prepaid service is stored, subscriber data and the state of rechargeable card are updated, wherein the updating comprises (at least implicitly) the SCP obtaining the recharging card data from the database, updating a prepaid account of the mobile prepaid subscriber according to said recharging card data, and updating the state of the recharging card (cf. page 12, lines 4 to 28). In a particular region operated by a single service provider (eg Finland, cf. Fig. 1), the network comprises one SCP.

1.1 The subject-matter of claim 1 differs from the disclosure of D1 in the following features:

- (a) The subscriber is at a location different from his home location;
- (b) the call is routed to an SSP in that location;
- (c) the SSP determines the home SCP to which the subscriber belongs and reports the call to the home SCP (ie implicitly there is more than one SCP);

(d) the database with which the home SCP interacts is an SDP in which recharging card data of mobile prepaid service of different locations is stored.

1.2 The problem to be solved is regarded as being to expand the system of D1 to enable the pre-paid service to be offered in a network operated by a single service provider which covers a large geographical area having a plurality of regions in such a manner that a user can use the pre-paid service throughout the whole area.

1.3 The posing of the problem itself does not contribute to inventive step since it would be a natural aim of a service provider to offer the pre-paid service throughout the whole territory of a large country (in the oral proceedings, the example of India was considered).

1.4 Due to the size of a country such as India, in the board's view the skilled person would provide local networks in each region linked together by backbone networks. This corresponds also to the standard structure of a GSM network comprising a home area where the subscriber is normally resident and visited areas to which the subscriber may roam. The skilled person would thus be led to provide several regional networks each having an SCP, each SCP being responsible for the pre-paid accounts of subscribers registered locally. In fact this corresponds to the example shown in Fig. 1 of D1 of an SCP provided for Finland and Sweden respectively, except that only a single country is concerned and a single provider.



1.5 As the pre-paid service of D1 is based on intelligent network techniques, in order to solve the roaming problem the skilled person would turn to document D4 which describes the integration of intelligent network techniques into the GSM network (known by the name of "CAMEL").

It follows from document D4 (cf. eg Fig. 3 and page 256, point "2") that the service switching point SSP informs the SCP of the home network of the call (here referred to as an SSF ("service switching function") and an SCF ("service control function")). The skilled person would therefore be led to include distinguishing features (a), (b) and (c).

1.6 At this point the skilled person would plausibly arrive at a system in which each SCP has an internal database with recharging card data, whereas claim 1 requires an SDP with recharging card data of [the] mobile prepaid service of different locations. The board interprets this feature in the sense that one SDP holds all the card data of the system, so that implicitly each SCP has to have access to this SDP. The board understood this to be the appellant's interpretation too. This feature corresponds to "feature E" referred to by the examining division in the impugned decision (cf. page 5 of the decision).

As regards the terminology "SDP" (ie "service data point"), the board understands that this refers to a conventional intelligent network entity for providing a database for use by an SCP. The board therefore regards the database 184 of document D1 to be equivalent to an SDP.

With respect to the use of a single SDP for storing recharging card data of the mobile prepaid service of different locations, the board agrees with the view of the examining division expressed in the impugned decision:

"Feature E corresponds to a mere design option that the skilled person would arrive at without the exercise of inventive skill. In particular, the one or more SDPs that hold the data necessary for the recharging service (i.e., the data comprised in database 184 of document D1) can be obviously arranged as a centralised or a distributed database (connected by SS7 links, as foreseen in the intelligent-network recommendations; see, e.g., document D3, section 3c) and section 5.3.7, as well as figure 1 in section 5.3.10) in accordance with the circumstances and with administrative considerations (e.g., whether there is an agreement between the various operators of the "number of SCPs"). In other words ..... the skilled person would arrive at a network with many SCPs connected to a number of independent SDPs over a signalling network, similar to the implementation described on page 11, second paragraph of the present application. The independent SDPs would, thus, form a distributed database system. The person skilled in the art of database design is well aware of the advantages and disadvantages of a distributed vs. centralised implementation for a database .... It is, therefore, straightforward to provide the aforementioned SDPs either as separate SDPs, i.e., a distributed database, or as a single centralised

SDP, i.e., a centralised database (feature E above), in accordance with the circumstances and without the exercise of inventive skill."

1.7 The arguments of the appellant presented at the oral proceedings can be summarised as follows:

(i) No prior art document is available which contemplates more than one SCP in a pre-paid system operated by one provider.

(ii) Document D1 describes a method in which the pre-paid service is called during an existing call (cf. Figs. 4 and 5), whereas according to the invention the service is called directly by the caller. D1 therefore firstly contains no hint to a system in which the user can dial a single number from anywhere to load up an account. Secondly, if for the sake of argument the skilled person were to contemplate such a facility, it would be logical to opt for a system with a single centralised server, as is indeed taught by D1.

(iii) If regional networks were provided each with their own SCP, it would be logical to provide different vouchers valid for each region only in order that no inter-area communication between the SCP and/or SDPs was necessary. In such a system, the SDPs would not all include the same recharging card data and hence would not form a distributed database. There would therefore be no reason to replace them by a single SDP.

1.8 Re (i): The board agrees that D1 shows only a single SCP per service provider. However, as stated above, the skilled person would find it obvious to use more than

one SCP in a country with regions separated by large distances, all the more so given the advantage of having a reduced distance between the SSP and the SCP for non-roaming customers as well as the practical limit on the number of customers which can be serviced by a single SCP.

Re (ii): The board notes that claim 1 does not exclude dialling the access number during an existing call. Moreover, in the board's view document D1 at page 9, lines 30-32 also contemplates dialling an access number independently of an existing call.

Re (iii): Separate regional systems would require a separate customer registration in each area. The skilled person would reject such a solution in the case of a large network operated by a single provider as being clearly inferior to the roaming solution for intelligent networks taught by document D4.

The board therefore finds the arguments advanced by the appellant at the oral proceedings unconvincing.

- 1.9 In the statement of grounds the appellant argued that the invention solved the problem of providing a telephone service to a mobile prepaid subscriber when he is away from his home location for an extended period of time, in particular in a location where it is not possible to buy rechargeable [ie recharging] cards of the user's own operator. D1 does not contemplate the concept of using "foreign" rechargeable cards for prepaying home services. The board however notes that claim 1 includes no such limitation.

1.10 The appellant also argued in the statement of grounds that D1 teaches a different solution to the problem of a subscriber wanting to use his mobile appliance during an extended stay away from his home network, which is to purchase a temporary account. However, this solution in D1 is directed to a situation in which no roaming agreement exists between operators in the respective countries (cf. D1, page 16, 3rd paragraph), which is not the case in a large network operated by a single service provider.

1.11 The appellant further argued in the statement of grounds that in the prior art (eg D2), an SDP is always dedicated to exactly one SCP. The board however does not accept this as a technical prejudice hindering the skilled person from considering a centralised database because in D1 and D2 only one SCP and SDP (in D1, per service provider) are shown rather than several SCPs each with its own SDP. It is therefore not possible to infer that the skilled person would assume that SCPs and SDPs should always be provided on a one-to-one basis when there is more than one SCP. Moreover, document D3, which is a standards document dealing with intelligent networks and thus represents common general knowledge, shows in Fig. 1/Q.1225 (page 10) a stand-alone SDP not in any apparent one-to-one association with a particular SCP.

The board is therefore not convinced by the appellant's arguments submitted in the statement of grounds either.

1.12 In view of the above, the board concludes that the subject-matter of claim 1 of the main request does not involve an inventive step (Articles 52(1) and 56 EPC).

As claim 1 is not allowable, the main request as a whole is not allowable.

2. *Auxiliary request*

2.1 *Article 123(2) EPC*

Claim 1 is based on claims 1, 3 and 5 as originally filed (referring to the published application EP-A-1143693). The amendment of the term "rechargeable card" to "recharging card" reflects merely the inherent nature of the cards in the context of the disclosure. This amendment therefore does not introduce new subject-matter.

Independent claim 7 is in essence an apparatus claim corresponding to claim 1.

Claims 2 to 5 are based respectively on claims 2, 4, 5 and 7 as originally filed. Claims 6 and 8 are based on claim 8 as originally filed.

The claims therefore comply with Article 123(2) EPC.

2.2 *Clarity*

In the board's view the claims are clear within the meaning of Article 84 EPC.

2.3 *Inventive step*

- 2.3.1 Claim 1 of the auxiliary request includes additional steps concerning the dialogue between the home SCP and the SDP. One of these steps reads "setting the recharging card in a state of being in use and sending back the recharging card data, including the state of the card, to the home SCP".
- 2.3.2 This feature concerns the problem, as set out in the description at page 5, lines 42-43, of avoiding that two subscribers are using a same recharging card for recharging [at the same time]. This "in use" state is a temporary state before the card is set in the state of "having been used", as defined later in claim 1.
- 2.3.3 Document D1 does not contemplate this problem. In the voucher record shown in Fig. 3 of D1, a blocking state is shown, which is either set to "On", "Off", or "Idle". There is no suggestion of an intermediate state of "in use" in order to prevent double use of the voucher. No such feature is disclosed in any of the other documents at the board's disposal either. Therefore, the skilled person starting out from document D1 would not be led by any teaching in the prior art to include this feature.

The board concludes that the subject-matter of claim 1 of the auxiliary request meets the requirement of inventive step (Articles 52(1) and 56 EPC).

- 2.3.4 The same applies, *mutatis mutandis*, to independent claim 7.

2.3.5 Claims 2 to 6 and 8 are dependent on either claim 1 or claim 7 and therefore also comply with the requirement of inventive step (Articles 52(1) and 56 EPC).

3. *Conclusion*

In view of the above, the claims of the auxiliary request are held to be allowable. However, the board notes that the description requires adaptation to meet the requirements of the EPC, a task which is best carried out by the examining division.



**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
  
2. The case is remitted to the department of first instance with the order to grant a patent on the basis of claims 1 to 8 of the auxiliary request filed at the oral proceedings and a description yet to be adapted.

The Registrar:

The Chairman:

G. Rauh

A.S. Clelland