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**Datasheet for the decision
of 25 November 2015**

Case Number: T 0072/12 - 3.5.03

Application Number: 05792019.1

Publication Number: 1683375

IPC: H04W88/18

Language of the proceedings: EN

Title of invention:

Method for routing SMS messages using an intelligent routing node

Patent Proprietor:

Intleacht Limited

Opponent:

Fortissimo Holding B.V.

Headword:

Routing SMS messages/INTLEACHT

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

Novelty and inventive step - main request (yes)

Decisions cited:

T 0312/94

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0072/12 - 3.5.03

**D E C I S I O N
of Technical Board of Appeal 3.5.03
of 25 November 2015**

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
18 November 2011 concerning maintenance of the
European Patent No. 1683375 in amended form.**

Composition of the Board:

Chairman F. van der Voort
Members: T. Snell
S. Fernández de Córdoba

Summary of Facts and Submissions

I. This appeal was lodged by the opponent (henceforth, appellant) against the interlocutory decision of the opposition division that European patent No. 1 683 375 as amended in accordance with the first auxiliary request met the requirements of the EPC.

II. The patent proprietor is respondent in these proceedings.

III. The following documents cited in the impugned decision are relevant to the present decision:

D1: EP 1 408 705 A;

D2: WO 03/049461 A; and

D8: EP 1 189 473 A.

IV. In the notice of opposition, the opponent raised the ground for opposition pursuant to Article 100(a) EPC (novelty and inventive step). The impugned decision of the opposition division essentially concluded that:

(i) the subject-matter of claim 1 of the main request (i.e. the patent as granted) lacked novelty with respect to the disclosure of D1; and

(ii) the subject-matter of independent claims 1, 17 and 21 of the first auxiliary request (now the main request) was new with respect to the disclosure of either D1 or D2, and involved an inventive step when starting out from D1, either considered alone or in combination with either D2 or D8.

- V. In the statement of grounds of appeal, the appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.
- VI. In the reply to the statement of grounds, the respondent requested that the appeal be dismissed, i.e. that the patent be maintained in the version allowed by the opposition division, or alternatively that the patent be maintained in accordance with one of three auxiliary requests enclosed therewith.
- VII. In a communication accompanying a summons to attend oral proceedings, the board gave a preliminary opinion that the subject-matter of claim 1 of the main request was new with respect to D1. With respect to inventive step, the board identified the technical problem starting out from D1, and the steps that the skilled person would need to take to arrive at the invention. The board indicated that D8 appeared to be relevant to the solution of the problem. The board also indicated that D2 appeared to be highly relevant to inventive step.
- VIII. Neither party responded in writing to the board's communication.
- IX. Oral proceedings took place on 25 November 2015 in the presence of both parties.

The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested as its main request that the appeal be dismissed, i.e. that the patent be maintained in the version allowed by the

opposition division in the decision under appeal. Alternatively, the respondent requested that the patent be maintained in amended form on the basis of the claims of one of the first to third auxiliary requests, all as filed with the letter dated 28 September 2012.

At the conclusion of the oral proceedings, after due deliberation, the chairman announced the board's decision.

X. Claims 1, 17 and 21 of the main request read as follows:

"1. A method of managing SMS messages in a mobile operator network (10), said network comprising a plurality of subscribers and a Short Message Service Centre (SMSC) (13, 23), the method comprising the steps of:

starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC (13, 23);

intercepting transparently to the SMSC (13, 23) said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message by intercepting an inbound HLR query (12, 22) associated with said message delivery attempt by examining said intercepted HLR query (12, 22) such that said HLR query (12, 22) provides an indication that a smart service needs to be applied to said SMS message characterised by the steps of:

routing the HLR query onward to a HLR;

generating a response to the HLR query in the HLR, the HLR query response including a mobile network location address of said second subscriber;

replacing, in a smart services control node, the mobile network location address of said second subscriber in

the HLR query response with the network location address of the smart services control node (24); routing said intercepted SMS message delivery attempt via the smart services control node (24) in the network;

examining said message delivery attempt for possible invocation of a smart service to said SMS message; and invoking said smart services for said SMS message destined to said subscriber in response to said examination."

"17. A computer program comprising program instructions for causing a computer to perform the method of any one of claims 1 to 16."

"21. A system of managing SMS messages in a first mobile operator network (10), said network comprising a plurality of subscribers and a Short Message Service Centre (SMSC) (13, 23), the system comprising:
means for starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC (13, 23);
means for intercepting transparently said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message by intercepting an inbound HLR query (12, 22) associated with said message delivery attempt by examining said intercepted HLR query (12, 22) such that said HLR query (12, 22) provides an indication that a smart service needs to be applied to said SMS message characterized by
means for routing the HLR query onward to a HLR;
means in the HLR for generating a response to the HLR query, the HLR query response including a mobile network location address of said second subscriber;
means in a smart services control node for replacing

the mobile network location address of said second subscriber in the HLR query response with the network location address of the smart services control node (24) such that the first mobile network operator (10) routes said SMS message via said smart services control node (24);
means for routing said intercepted SMS message delivery attempt via the smart services control node (24) in the network;
means for examining said message delivery attempt for possible invocation of a smart service to said SMS message; and
means for invoking said smart services for said SMS message destined to said subscriber in response to said examination."

Reasons for the Decision

1. Main request - amendments made during the opposition proceedings

The opposition division held that the amendments complied with Articles 123(2) and (3) EPC, and this has not been contested. The board sees no reason to deviate from the finding of the opposition division.

The board also notes that no objection under Article 84 EPC has been made with respect to the amendments, and also sees no reason, *prima facie*, to raise an objection of its own motion.

2. Technical background

2.1 The patent relates to managing SMS communications in a mobile network. As is well-known, SMS messages sent

from one mobile subscriber to another are transferred via a network entity called an SMS Centre (SMSC) belonging to the network where the message originates. In order to deliver an SMS, the SMSC obtains routing information by sending a query to the home location register (HLR) of the recipient subscriber. Based on the query response, the SMS is routed to the mobile station controller (MSC) to which the recipient is currently attached.

- 2.2 A need has arisen to provide additional "smart services" to subscribers of a particular (home) network, e.g. an "auto 'on vacation' response", or "copy/divert to E-mail" (cf. paragraph [0004] of the patent). A problem arises in providing smart services to an SMS originating from a foreign network, because these are delivered to the recipient without passing via the SMSC of the home network. The patent aims generally at providing a solution to this problem. The general concept underlying the solution is that the query to the HLR is intercepted, and in the reply message, instead of the network MSC address where the recipient is located, the network address of a network node for providing smart services (called in the patent a "smart services control node (SSCN)") is inserted. It was not in dispute that both D1 and D2 disclose essentially the same general concept.

3. *Main request - claim 1 - novelty*

- 3.1 The appellant argued that the subject-matter of claim 1 was not new with respect to document D1.
- 3.2 D1 discloses a system and method for controlling delivery of text messages to a subscriber, for example delivery by fax or e-mail, i.e. smart services. D1

discloses one scenario where a text message is sent from a network A to a recipient whose home network is network B. A routing enquiry sent from an SMSC of network A to the HLR in network B is intercepted by a router 13 in network B, which responds "on behalf of the HLR" (cf. page 4, lines 40-43). The query response includes a "modified" address, i.e. not the address of the recipient but the address of a router 3 which is configured to process the text message in the appropriate way. Routers 3 and 13 are shown separately in Fig. 2, but may be the same router (cf. paragraph [40]). The routers 3 and 13 can be configured to process SMS messages in a desired way by the recipient via messages sent from the recipient mobile station via the HLR (cf. paragraph [0030]).

3.3 It was common ground that D1 discloses the features of the preamble. These features concern the first part of the method by which an HLR query is intercepted and examined to see whether a smart service is to be invoked.

3.4 The remaining features of claim 1 read as follows:

- (i) routing the HLR query onward to a HLR;
- (ii) generating a response to the HLR query in the HLR, the HLR query response including a mobile network location address of said second subscriber;
- (iii) replacing, in a smart services control node, the mobile network location address of said second subscriber in the HLR query response with the network location address of the smart services control node.

3.5 The appellant argued that these features were disclosed in D1. The appellant referred in particular to the

following passages, the relevant phrases having been underlined by the board:

Paragraph [0015]: "... said signal processing means being configured in association with the HLR to intercept routing queries sent to the HLR of said network from another network, for receiving a text message from such another network, to communicate with the HLR but to provide a modified address which will cause the text message from said another network to be sent to the message processing means ...".

Paragraph [0038]: "This query is caused by network B to pass through an SMS router [13]. If the router detects that the message is for a recipient who has configured special delivery settings, then the router responds to the routing query, giving the address of the SMS Router [3] in network B".

- 3.6 The appellant essentially argued that features (i) and (iii) were implied by the two phrases "to communicate with the HLR but to provide a modified address" (cf. paragraph [0015]) and "This query is caused by network B to pass through an SMS router" (cf. paragraph [0038]). Feature (ii) was implicit as this merely reflected the normal behaviour of the HLR.
- 3.7 The board however does not find the appellant's argumentation convincing. For a document to be novelty-destroying, it is established case law that the disclosure must be clear and unambiguous. Where there is no clear and unambiguous disclosure, it follows that an objection of novelty cannot be sustained. Further, quoting from T 312/94 (cf. point 2.2 of the reasons for the decision, 4th paragraph), "it is a general legal rule for the interpretation of any document, in

particular a patent application or patent, in order to determine its true meaning and thus its content and disclosure, that no part of such a document should be construed in isolation from the remainder of the document: on the contrary, each part of such a document must be construed in the context of the contents of the document as a whole. Thus, even though a part of a document appears to have a particular meaning when interpreted literally and in isolation from the remainder of the document, the true meaning of that part of the document may be different having regard to the remainder of the document".

- 3.8 The board notes that the cited passage from paragraph [0015] is part of the "Summary of the Invention", i.e. is to be seen as a general statement of the invention of D1. In fact, the board notes that this passage is a recitation of independent claim 19, and that claims, especially independent claims, are intended to define the scope of protection sought, usually in the most general terms. The general wording used, particularly in the case of linguistic and technical ambiguity, might easily be found to be consistent with a concept which was not intended to be covered, especially when read with the benefit of hindsight and with the desire to find support for a certain meaning. Furthermore, it is unusual to include features in an independent claim which are not explicitly supported by the detailed part of the description, especially in the light of the requirement of Article 84 EPC that the claims shall be supported by the description. It follows that great care has to be taken in the case of a general statement or a claim which, if considered in isolation, could be interpreted in a certain way, when such an interpretation is not in the least bit supported by the description of the detailed embodiments. In such a

case, in accordance with the general principles indicated above, the true technical content of the document has to be assessed in the light of what is actually disclosed in the detailed part of the description.

- 3.9 The board notes that the above-cited passage in paragraph [0015] is ambiguous to the extent that it is left open what is communicated with the HLR and when this communication takes place. The skilled person who wished to resolve this ambiguity by consulting the description of the detailed embodiments of D1 would find no support whatever for construing the phrase in paragraph [0015] "the signal processing means ... being configured to communicate with the HLR" as meaning that the HLR query is forwarded following the interception of the HLR query. In the relevant paragraphs of the detailed embodiments, namely [0027] and [0038], no forwarding of the query is mentioned. The only communication with the HLR described in D1 concerns the passing on of configuration commands by the HLR (cf. paragraphs [0030] and [0037]). Furthermore, in the board's view, the phrases "respond on behalf of the HLR" (cf. paragraph [0027] and "the router responds to the query" [paragraph 0038] rather suggest that the router responds itself to the query. This is also corroborated by the lack of any clear motivation to forward the query to the HLR. In this respect, the router 13, which is in general a separate entity from router 3, apparently does not need to obtain information from the HLR in order to respond on behalf of the HLR. In particular, it does not need to know the address of the recipient, since this is only used by router 3. Even if routers 13 and 3 were one and the same router, there is no suggestion that there would be any change in the processing steps as compared with the

- routers being embodied as separate network entities. Consequently, the reference in paragraph [0015] to communication with the HLR, whatever it is intended to refer to, is judged not to be a disclosure of forwarding the HLR query.
- 3.10 With respect to the passage referred to by the appellant in paragraph [0038], which states that the HLR query passes "through" the SMS router 13, the board notes that in the next sentence, it is stated that the router examines the message and responds to the query, without any suggestion that it waits for a response from the HLR. The term "through" therefore plausibly means here only that the query is routed to router 13 and processed there, and not that the query message is transmitted onward to the HLR.
- 3.11 The appellant also mentioned that Fig. 2 depicts a bi-directional communication path between the router and the HLR. However, this also does not mean in itself that a query intercepted at the router is forwarded to the HLR.
- 3.12 With regard to distinguishing feature (iii), the appellant referred to paragraph [0015] and in particular the wording "to communicate with the HLR but to provide a modified address ...". However, here too there is nothing in the detailed part of the description to support the appellant's interpretation. Instead, it is only stated that "the router responds to the routing query, giving the address of the SMS router (3)" (cf. paragraph [0038]). This is consistent with the term "modified address" in paragraph [0015] being understood in the broad sense that the address is different, rather than in the narrow sense that the

router modifies the address in an actual message received from the HLR.

- 3.13 The appellant further argued that the lack of disclosure in D1 would be understood by the skilled person as meaning that the router 13 behaved in the conventional manner of a router, which was to route messages onward, in particular the HLR query message, and maybe perform other conventional functions such as to "implement throttling, load balancing [and] address translation" (cf. D1, page 2, lines 30-32).
- 3.14 However, the board notes that router 13 does not act in a conventional manner in this case, because it is configured to respond to the SMSC query. In fact, in the board's view the lack of any disclosure regarding the nature of the communication with the HLR rather suggests that the query is not forwarded by the router.
- 3.15 In conclusion, as it is not disclosed that the query is routed onward by the router 13 to the HLR (distinguishing feature (i)), it follows that there is no disclosure of the HLR either receiving the query or generating a response to the query (cf. distinguishing feature (ii)), or of replacing an address in the response (cf. distinguishing feature (iii)).
- 3.16 Consequently, the board concludes that the subject-matter of claim 1 is new (Articles 52(1) and 54 EPC).
4. *Main request - claim 1 - inventive step starting out from D1*
- 4.1 As indicated above, the subject-matter of claim 1 differs from the disclosure of D1 in the presence of features (i), (ii) and (iii).

- 4.2 There was dispute at the oral proceedings as to the technical problem to be solved by these distinguishing features. In the view of the respondent, the problem was to maintain "end-to-end visibility" of the subscriber. The board however does not agree that this is the problem, mainly because claim 1 explicitly contains no feature which necessarily improves the end-to-end visibility as compared with D1. The respondent argued that the query message returned by the HLR and forwarded by the SSCN to the originating SMSC (with the replacement address) included other subscriber information relevant to visibility, e.g. the IMSI. However, this is not part of the claim. The putative technical effect is therefore speculative.
- 4.3 In the board's view, the problem starting out from D1 is how to generate the response message for the SMSC containing the "modified address".
- 4.4 As the board indicated above in the discussion on novelty, D1 does not disclose or give any hint to the router 13 to forward the HLR query to the HLR, wait for the reply, and replace the address in the query response. On the contrary, in the board's view, the skilled person would likely conclude from the disclosure of the detailed embodiments of D1 that the router 13 would respond on behalf of the HLR by formatting a response message itself (cf. especially points 3.10 and 3.15), especially as waiting for a response from the HLR would introduce an unnecessary delay. Therefore, purely considering the disclosure of D1 and the hints contained therein, the board judges that the skilled person would not arrive at the claimed subject-matter.

- 4.5 The appellant argued that the skilled person would be motivated by document D8 to arrive at the subject-matter of claim 1.
- 4.6 D8 is a document entitled "Prepaid mobile communications services using signalling transfer point". It is mainly concerned with the problem of providing prepaid services to a roaming subscriber. The background is that accounting data held on a server on the home network is not available in a foreign network (cf. paragraph [0010]). Further, the board notes that D8 is primarily concerned with voice communications, even if it is stated that "the invention applies equally well to other types of mobile communications as well, such as Short Message Service (SMS)" (cf. paragraph [0031]). However, no embodiment involving SMS transmission is actually described.
- 4.7 Outside the special context of permitting calls to roaming prepaid subscribers, D8 could be said to describe some general concepts concerned with intercepting communications destined for the HLR at a separate network element, i.e. a "signalling relay point" (SRP), and providing supplemental processing (cf. paragraphs [0067] and [0088]). Several different ways of implementing an SRP are disclosed, depending on the service application desired. In a first embodiment, the intercepted message may be modified or suppressed, or another message may be initiated (cf. paragraph [0095]). In another embodiment, an incoming message to the HLR may be relayed onto the HLR for conventional processing, while concurrently the SRP sends out another message to control the service or to initiate a further service (cf. paragraph [0099]).

- 4.8 The appellant referred in particular to the detailed embodiment described in Figure 11 and paragraphs [0136] ff.. This embodiment concerns how to process mobile terminated calls where the called subscriber is a prepaid mobile station roaming in a visited network. A routing request message to the HLR of the prepaid subscriber is intercepted by the SRP, but is also forwarded to the HLR. The SRP examines the message to determine whether the prepaid mobile station is permitted to receive the call. If the answer is no, the address data is replaced in the response message received from the HLR.
- 4.9 In the board's view, although this embodiment contains features superficially similar to distinguishing features (i) to (iii) of claim 1, these features are disclosed in an entirely different context. In this embodiment of D8, the underlying problem to be solved is that of deciding whether to permit calls to a prepaid subscriber roaming in a visited network (cf. D8, paragraph [0136]). In D1, the processing of SMS messages has no obvious parallel with permitting calls to or from a roaming prepaid subscriber, since the location and prepaid status of the SMS recipient are not relevant. Instead the problem to be solved by D1 (as by the patent in suit) relates to an SMS originating from an SMSC in a foreign network (cf. D1, page 4, lines 15-19 and paragraph [0005] of the patent). As the context is entirely different, the skilled person would not consider combining D1 with this embodiment of D8 without the benefit of hindsight.
- 4.10 However, even if for the sake of argument the skilled person were to take D8 into consideration, in the board's view he would seek a solution among the more general concepts referred to above (cf. point 4.7

above). In this case, the skilled person would, in the board's view, most likely adopt the teaching described in D8, paragraphs [0098] and [0099], namely that the SRP forwards the HLR query but generates its own response.

4.11 Consequently, the skilled person starting out from D1 would require an inventive step in order to arrive at the subject-matter of claim 1 when taking into account common knowledge and/or the disclosure of D8.

5. *Main request - claim 1 - inventive step starting out from D2*

5.1 D2 describes a system which is similar to the system of the present patent. In this respect, in D2, an SMSC of a foreign network sends a routing request (SRI-SM) to the HLR of a recipient's home network. This message is intercepted by an SMS router. The SMS router replies with a "false response", in which its own address is returned instead of the address of the recipient subscriber. The intercepting router also forwards the SRI-SM query to the HLR and receives the response. Page 6, second paragraph of D2 reads as follows:

"In Figure 4. the HLR query (2) is shown being made immediately the SRI-SM message arrives at the SMS Router. In practice, since the HLR response is not used until step (5), the HLR query may be delayed until after step (3), or delayed until after step (4). The reply may be sent before or after the HLR is queried, and before or after the HLR response is received." (board's underlining).

5.2 It follows that the "false response" is generated by the router and is not based on the reply from the HLR,

as is required by claim 1. Consequently, although D2 discloses distinguishing features (i) and (ii), it does not disclose distinguishing feature (iii). This point was not in dispute.

5.3 The appellant argued that the technical problem to be solved starting out from D2 was "how to respond in an improved manner". This problem could be solved by combining D2 with D8.

5.4 The board finds this argument unconvincing. It is firstly noted that D2 teaches strongly away from the invention, in that the HLR response is explicitly not used. Consequently, there is no motivation for the skilled person to modify this approach. Secondly, even if the skilled person were to consider improvements to the manner of generating the response to the intercepted HLR query, the board considers that a combination with D8 fails for the same reasons as given in connection with a combination of D8 with D1. Finally, the board notes that the plausibly most relevant teaching of D8 (see point 4.10 above) suggests the same solution as D2.

5.5 *Claim 1 - main request - inventive step based on the combination of D1, D2 and D8*

The appellant further suggested an attack based on the combination of D1, D2 and D8. However a combination of three documents would be even more clearly based on an ex-post facto analysis than the combinations of D1 and D8 or D2 and D8 respectively discussed above.

This attack therefore also fails to convince the board.

6. *Independent claims 17 and 21*

The reasoning given above in respect of claim 1 applies, *mutatis mutandis*, to independent claims 17 and 21. This was not disputed by the appellant, who did not make any additional submissions specifically concerning these claims.

7. *Conclusion*

The board agrees with the opposition division that the claims of the main request are allowable. It follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Rauh

F. van der Voort

Decision electronically authenticated