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**Datasheet for the decision
of 11 January 2018**

Case Number: T 2328/13 - 3.5.03

Application Number: 07760662.2

Publication Number: 2011314

IPC: H04L29/06

Language of the proceedings: EN

Title of invention:

Automatic selection of a home agent

Applicant:

QUALCOMM Incorporated

Headword:

Automatic selection of a home agent/QUALCOMM

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step

Decisions cited:

Catchword:



Beschwerdekammern
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Case Number: T 2328/13 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 11 January 2018

Appellant: QUALCOMM Incorporated
(Applicant) Attn: International IP Administration
5775 Morehouse Drive
San Diego, CA 92121 (US)

Representative: Carstens, Dirk Wilhelm
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 20 June 2013
refusing European patent application No.
07760662.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

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

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division refusing European patent application No. 07760662.2, with publication number WO 2007/121365.

- II. The refusal was based, *inter alia*, on the ground that the subject-matter of claim 1 respectively of a main request and an auxiliary request did not involve an inventive step (Articles 52(1) and 56 EPC) starting out from the prior art document D1, *i.e.*:

G. Giaretta et al, "MIPv6 Authorization and Configuration based on EAP", MIP6 Working Group, Internet Draft, no. 3, March 2006, ISSN: 0000-0004, pages 1 to 37.

- III. The appellant filed a notice of appeal against the above decision. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or the auxiliary request on file, or the claims of a second auxiliary request as filed together with the statement of grounds of appeal.

Oral proceedings were conditionally requested.

- IV. In a communication accompanying a summons to oral proceedings, the board gave a preliminary opinion essentially agreeing with the reasoning of the examining division as regards claim 1 of the main and auxiliary requests. With respect to claim 1 of the second auxiliary request, the board raised matters concerned with clarity and inventive step.

V. With a letter of response to the board's communication dated 11 December 2017, the appellant submitted claims of new first and second auxiliary requests to replace the existing versions of these requests, and also submitted claims of a third auxiliary request. The amendments were said to take account of the board's comments.

VI. Oral proceedings were held on 11 January 2018.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of a **main request** consisting of the "**new second auxiliary request**" filed with the letter dated 11 December 2017 or, in the alternative, on the basis of the claims filed with the letter dated 16 January 2012, or one of the new first and third auxiliary requests, both as filed with the letter dated 11 December 2017.

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

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

"A method (400) executed within a base station for registering a wireless terminal (504) with a home agent (510), comprising:

receiving (404) an *[sic]* network access request with identifying indicia associated with a subscriber from the wireless terminal when the wireless terminal requests access to a network;

providing (406) the identifying indicia to an authentication server (508);

receiving (408), at said base station (506), a profile associated with the subscriber (504), wherein there are a plurality of home agents to which registration information from the wireless terminal could be routed, wherein the plurality of home agents are associated with different mobile virtual network operators, wherein the profile identifies a plurality of home agents (510) that are assigned to a mobile virtual network operator associated with the subscriber in a list, and wherein the profile is received from the authentication server (508); and

routing (410) registration information from said wireless terminal (504) to an identified home agent, wherein routing registration information comprises

receiving a registration request at the base station,

resolving at the base station which home agent to utilize during registration by selecting one of the identified plurality of home agents in the profile, and

transmitting the registration request from the base station to the selected home agent."

VIII. In view of the board's decision, it is not necessary to reproduce the wording of the other requests.

Reasons for the Decision

1. *Main request - claim 1 - compliance with Article 84 and Article 123(2) EPC*

1.1 The board considers that claim 1 is clear within the meaning of Article 84 EPC.

1.2 Claim 1 is based on claims 1, 2 and 9 as originally filed and paragraphs [0044] and [0045] of the description. Claim 1 therefore complies with Article 123(2) EPC.

2. *Background*

In mobile IP, in order to reach a wireless terminal which is roaming, a so-called home agent is assigned to the wireless terminal and communications are routed via the home agent. The present application is broadly concerned with the problem of assigning the home agent, in particular as part of an authentication, authorisation and accounting ("AAA") procedure, although claim 1 is not limited with respect to an AAA procedure.

3. *Main request - claim 1 - inventive step starting out from D1*

3.1 D1 concerns a method for assigning a home agent to a mobile terminal during an AAA procedure in Mobile IP version 6 (Mobile IPv6).

3.2 Using the wording of claim 1, D1 discloses:

A method executed within a base station ("AAA client") for registering a wireless terminal ("MN") with a home agent ("HA"), comprising:

receiving a network access request with identifying indicia ("NAI") associated with a subscriber from the wireless terminal when the wireless terminal requests

access to a network (cf. Fig. 2, step 1 and page 12, section 5.1);

providing the identifying indicia to an authentication server ("AAAH"; idem);

receiving, at said base station ("AAA client"), a profile associated with the subscriber (home address and Home Agent address; cf. page 16, 5th paragraph), wherein there are a plurality of home agents to which registration information from the wireless terminal could be routed (cf. page 3, 3rd paragraph), and wherein the profile is received from the authentication server (cf. page 16, 5th paragraph; NB: the profile is routed to the wireless unit MN via the access point AAA client); and

routing registration information from said wireless terminal to an identified home agent (cf. Fig. 2, step 6), wherein routing registration information comprises:

receiving a registration request at the base station (cf. page 8, lines 4-6; NB: implicitly the "binding update" message passes via the AAA client), and

transmitting the registration request from the base station to the selected home agent (idem).

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

(i) the plurality of home agents are associated with different virtual mobile network operators;

(ii) the profile identifies a plurality of home agents that are assigned to a mobile network operator associated with the subscriber in a list; and

(iii) the step of "routing registration information from said wireless terminal to an identified home agent" comprises additionally the step of "resolving at the base station which home agent to utilize during registration by selecting one of the identified plurality of home agents in the profile".

3.4 Contrary to the view of the appellant, the board agrees with the examining division that distinguishing feature (i) does not contribute to inventive step essentially for the reasons explained in the impugned decision, point 13.1, line 25 ff.. However, this issue is moot since the features (ii) and (iii) confer an inventive step for the reasons given below.

3.5 In accordance with D1, a selection of the home agent HA is performed by the AAAH server, i.e. a network element sited in the home network remote from the AAA client (assumed to be sited at a base station). Features (ii) and (iii) relate to the selection of the home agent being carried out by the base station. With regard to inventive step, the question to be answered is whether the skilled person starting out from D1 would find it obvious to move this functionality to the AAA client, which is regarded as equivalent to a base station.

3.6 The examining division commented that "Merely shifting the selection from one network entity to another one is obvious to the skilled person in order to relieve the AAAH of the corresponding computation work" and that "the question of whether the network operator accepts to have an entity outside his own network ... is a

business policy decision as this is not imposed by technical limitations" (cf. the impugned decision, point 17 of the reasons).

- 3.7 The board firstly considers that moving the selection of the HA to the base station is not just related to a business policy decision, since in a mobile network there will clearly be technical consequences, for example concerned with hand-over from one base station to another which will impact on the various tunneling connections required.
- 3.8 Secondly, D1 clearly teaches against performing Mobile IPv6 negotiation (and thus selection of the HA) in the AAA client, since the AAA client serves only to route communications concerned with IPv6 negotiation. In this respect, D1 states the following (cf. page 8, 6th paragraph):

"In summary, the proposed architecture has the following advantages:

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- [It] can be deployed, or extended with new features, without having to update the access equipment and the AAA protocols in use. Only minor changes in the AAA servers, the Home Agents and the mobile terminals are required, in that the AAA client does not play any active role in MIPv6 negotiation (i.e. it is a pass-through for EAP signaling). This reduces the deployment costs and makes the solution easy to use even when a Mobile Node is roaming with a provider different from its own;" (board's underlining).

3.9 Consequently, even if the skilled person were to contemplate carrying out the selection of the HA in a different node in order to reduce the computational load on the AAAH server, he would not contemplate carrying out this step in the AAA client. The inclusion of features (ii) and (iii) is therefore not obvious having regard to the disclosure of D1.

3.10 The board concludes that the subject-matter of claim 1 involves an inventive step having regard to the disclosure of D1 (Articles 52(1) and 56 EPC).

4. *Independent claims 10 and 12*

The above points apply, *mutatis mutandis*, to independent claims 10 and 12.

5. *Conclusion*

The objection leading to the refusal of the application has been overcome by amendment. Consequently, the decision under appeal is to be set aside. However, the board has neither examined the independent claims in the light of the remaining documents cited in the international search report, nor has it examined the dependent claims. In order that these matters can be considered, the case is remitted to the examining division for further prosecution (Article 111(1) EPC).

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 the main request, i.e. the "new second auxiliary request" filed with the letter dated 11 December 2017.

The Registrar:

The Chairman:



G. Rauh

F. van der Voort

Decision electronically authenticated