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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TAO YANG

Appeal 2019-002428
Application 12/866,978
Technology Center 2400

Before JOHN A. JEFFREY, ERIC S. FRAHM, and SCOTT E. BAIN,
Administrative Patent Judges.

FRAHM, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1 and 3–16. Claim 2 has been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm in part.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. “The word ‘applicant’ when used in this title refers to the inventor or all of the joint inventors, or to the person applying for a patent as provided in §§ 1.43, 1.45, or 1.46.” 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Alcatel Lucent (Appeal Br. 1).

INVENTION

Appellant’s invention “relates to the field of telecommunications, and more particularly to inter radio access technology (inter-RAT) handover[s] based on IP [Internet protocol] Packet forwarding in 3G LTE [Long Term Evolution]” (Spec. 1:2–4). Inter-RAT handovers are required when user equipment (e.g., a cellular phone) moves from one system to another (e.g., systems such as LTE, legacy 3G or Universal Mobile Telecommunications Systems (UMTS) Terrestrial Radio Access Network (UTRAN)). LTE is an IP only system, while UMTS supports “old voice” core network and data core network. Claims 1 and 16 are illustrative of the invention and are reproduced below, with emphases added to disputed portions of the claims.

1. A method for enabling inter-radio access technology handover in a communication system comprising a first network utilizing equipment of a first radio access technology and a second network utilizing equipment of a second radio access technology, when a user equipment moves from the first network into the second network and a handover is to be made, said method comprising:

processing, in the first radio access technology equipment comprising a radio network controller (RNC) or an evolved Node B (eNodeB) of the first network, protocol data units (PDUs) in non-IP packet format and buffered in the RNC or eNodeB of the first network into IP packets in response to a handover confirmation (HOcfm) sent by the second network;
and

forwarding the processed IP packets from the first radio access technology equipment of the first network to the second radio access technology equipment of the second network if the PDUs are buffered in the first network.

Appeal Br. 33, Claims Appendix.

16. A method for enabling inter-radio access technology handover in a communication system comprising a first

network utilizing equipment of *a first radio access technology and a second network utilizing equipment of a second radio access technology*, when a user equipment moves from the first network into the second network and a handover is to be made, said method comprising:

forwarding internet protocol (IP) packets from the first radio access technology equipment of the first network to the second radio access technology equipment of the second network if the IP packets are buffered in the equipment of the first radio access technology of the first network; and
retransmitting the IP packets after the user equipment is switched to the second network.

Appeal Br. 37, Claims Appendix.

EXAMINER'S REJECTIONS²

(1) The Examiner rejected claim 16 under 35 U.S.C. § 102(e) as being anticipated by Vesterinen et al. (US 2008/0188223 A1; published Aug. 7, 2008) (hereinafter, "Vesterinen"). Final Act. 2–3.

(2) The Examiner rejected claims 1, 5, 10, 11, and 13–15 under 35 U.S.C. § 103 as being unpatentable over Vesterinen, Blom et al. (US 2008/0095362 A1; published April 24, 2008) (hereinafter, "Blom"), and 3GPP TS 36.300, Version 8.2.0 Release 8 (2007–09) (hereinafter, "3GPP"). Final Act. 4–10.

(3) The Examiner rejected claims 3, 6, 7, and 9 under 35 U.S.C. § 103 as being unpatentable over Vesterinen and 3GPP. Final Act. 10–14.

² Throughout this Decision we refer to the Appeal Brief filed June 5, 2018 ("Appeal Br."); Reply Brief filed January 28, 2019 (Reply Br.); Final Office Action mailed April 5, 2018 ("Final Act."); and the Examiner's Answer mailed November 29, 2018 ("Ans.").

(4) The Examiner rejected claims 4 and 12 under 35 U.S.C. § 103 as being unpatentable over Vesterinen, Blom, 3GPP, and Appellant's Admitted Prior Art (*see* Spec. 2:27–3:5) (hereinafter, "AAPA"). Final Act. 14–15.

(5) The Examiner rejected claim 8 under 35 U.S.C. § 103 as being unpatentable over Vesterinen, 3GPP, and AAPA. Final Act. 15–16.

Appellant's Contentions

(1) Appellant contends that the Examiner erred in rejecting claim 16 under 35 U.S.C. § 102(e) over Vesterinen because, *inter alia*, Vesterinen fails to disclose radio access equipment of another technology as recited in claim 16 (*see* Appeal Br. 16–17; Reply Br. 3). More specifically, Appellant contends Vesterinen's mobility management entity/user plane entity (MME/UPE) is not radio access equipment (*see* Appeal Br. 16; Reply Br. 3), such as a radio network controller (RNC), an evolved node B (eNodeB) (*see* Appeal Br. 10, 11).

(2) Appellant also contends that the Examiner erred in rejecting claims 1 and 3–15 under 35 U.S.C. § 103 over the various applied combinations relying on Vesterinen as a base reference fail to disclose processing protocol data units (PDUs) in *non-IP packet format* in radio access technology equipment (claim 1, 10) or user equipment (claims 3, 6) as claimed.

Issues on Appeal

Based on Appellant's arguments in the Appeal Brief (Appeal Br. 10–32) and the Reply Br. (Reply Br. 3–13), the following principal issues are presented on appeal:

(1) Has Appellant shown the Examiner erred in rejecting claim 16 as being anticipated by Vesterinen, because Vesterinen fails to disclose

forwarding IP packets from network utilizing equipment of a first radio access technology to another radio access technology, as recited in independent claim 16?

(2) Did the Examiner err in rejecting claims 1 and 3–15 as being obvious over various applied combinations of references, all based on Vesterinen, because paragraphs 3–7 of Vesterinen fail to teach or suggest processing protocol data units (PDUs) in non-IP packet format, as recited in each of independent claims 1, 3, 6, and 10?

ANALYSIS

Issue (1): Anticipation Rejection of Claim 16 Over Vesterinen

We have reviewed the Examiner's rejection (Final Act. 2–3) in light of Appellant's arguments in the Appeal Brief (Appeal Br. 13–17) and the Reply Brief (Reply Br. 3) that the Examiner has erred, and the Examiner's response to Appellants' arguments in the Appeal Brief found at pages 2–5 of the Answer. We disagree with Appellant's arguments and conclusions. With respect to representative independent claim 16, we adopt as our own (1) the findings and reasons set forth by the Examiner in the Answer (Ans. 2–3), and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellant's Appeal Brief (Ans. 2–5). We concur with the findings and conclusion as to anticipation reached by the Examiner, and we provide the following for emphasis.

Appellant's arguments (*see* Appeal Br. 16) that sub-paragraph 8 of paragraph 91 of Vesterinen impliedly means that packets are buffered in the user equipment and not in radio access equipment of another technology as recited in claim 16, are not persuasive inasmuch as the Examiner does not

rely on sub-paragraph 8, but instead relies on sub-paragraphs 3, 5, 10, and 11 (*see* Final Act. 3; Ans. 5).

Appellant also contends that “cited sub-paragraph 5 [found in paragraph 91 of Vesterinen] discusses the target UTRAN preparation to receive buffered data from the MME/UPE (not from radio access equipment) of the source network,” and “cited sub-paragraph 10 discusses the eNB of Vesterinen sending a command to the MME/UPE of Vesterinen, telling that separate and different device to forward data buffered in the MME/UPE to the target UTRAN” (Appeal Br. 16) (emphases omitted). As a result, Appellant contends that “[t]his does not disclose or suggest and may even teach away from the eNB forwarding buffered data to the UTRAN” (Appeal Br. 16) (emphasis omitted).

However, we agree with the Examiner (*see* Ans. 4) that claim 16 does not require that the “first network utilizing equipment of a first radio access technology” (claim 16) be any particular equipment (e.g., RNC, node B, eNode B, access gateway, user equipment, MME, UPE). In claim construction, “the name of the game is the claim.” *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998) (quoting Giles Sutherland Rich, *Extent of Protection and Interpretation of Claims -- American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499 (1990)).

In addition, and as a result, we agree with the Examiner that the “first network utilizing equipment of a first radio access technology” recited in claim 16 encompasses the MME/UPE disclosed by Vesterinen (*see*

Vesterinen Fig. 3; ¶ 91). Under the broadest reasonable interpretation,³ the recited “equipment” can be any device used to communicate with radio access technology of a first type and forward IP packets to the second radio access technology equipment. We also note Appellant has not cited to a definition of “equipment” in the Specification that would preclude the Examiner’s broader reading.⁴ In any event, Vesterinen discloses a mobility management entity/user plane entity that operates in the manner required by claim 16. The arguments presented by Appellant (Appeal Br. 17–25; Reply Br. 3) based on paragraph 91 of Vesterinen do not suffice to rebut the Examiner’s detailed factual findings based on numerous other portions of Vesterinen which more positively disclose the subject matter set forth in claim 16.

Finally, we note that buffering the IP packets “in the equipment of the first radio access technology of the first network” is a conditional limitation, and as such, the recited condition need not be satisfied to meet the claim.

See Ex Parte Schulhauser, 2016 WL 6277792 (PTAB Apr. 28, 2016)

³ Claim terms are to be given their broadest reasonable interpretation, as understood by those of ordinary skill in the art and taking into account whatever enlightenment may be had from the Specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

⁴ Any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998); *see also Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008) (“A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however, a patentee must clearly express that intent in the written description.”) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, (Fed. Cir. 2005)).

(precedential) citing *Appier a Corp. v. Illumina, Inc.*, 375 F. App'x 12, 21 (Fed. Cir. 2010) (unpublished) (affirming a district court's interpretation of a method claim as including a step that need not be practiced if the condition for practicing the step is not met); *Cyber settle, Inc. v. Nat'l Arbitration Forum, Inc.*, 243 F. App'x 603, 607 (Fed. Cir. 2007) (unpublished) ("It is of course true that method steps may be contingent. If the condition for performing a contingent step is not satisfied, the performance recited by the step need not be carried out in order for the claimed method to be performed.").

In view of the foregoing, Appellant has not shown the Examiner's anticipation rejection to be in error, and we sustain the rejection of independent claim 16 as being anticipated by Vesterinen.

Issue (2): Obviousness Rejections Based Upon Vesterinen

We have reviewed Appellant's arguments in the Briefs, the Examiner's rejections, and the Examiner's response to Appellant's arguments. Appellant's arguments have persuaded us of error in the Examiner's rejection of all of the remaining disputed claims under 35 U.S.C. § 103.

Appellant presents several arguments asserting the Examiner's rejection of independent claims 1, 3, 6, and 10 based upon Vesterinen is in error (*see* Appeal Br. 10–13, 17–28; Reply Br. 3–11). The dispositive issue presented by these arguments is did the Examiner err in finding paragraphs 3–7 of Vesterinen, and thus the combinations of references teaches or suggests processing protocol data units (PDUs) in non-IP packet format, as recited in each of independent claims 1, 3, 6, and 10.

The Examiner, in rejecting independent claims 1, 3, 6, and 10, finds that Vesterinen teaches protocol data units (PDUs) in non-IP packet format in paragraphs 4 and 6 (Final Act. 4). The Examiner further finds that paragraphs 4 and 6 describe compressed and ciphered packets that meet the disputed limitation (*see* Final Act. 4; Ans. 6–9).

Although paragraph 4 of Vesterinen describes that “[t]he UPE performs user plane ciphering (or encryption) and IP (internet protocol) header compression functions for user downlink data” (Vesterinen ¶ 4), and paragraph 6 of Vesterinen describes “user data are ciphered and possibly also header compressed over a S1-u interface (user plane interface between an eNB and an aGW (access gateway) (MME/UPE)” (Vesterinen ¶ 6), Vesterinen is silent as to processing protocol data units (PDUs) in non-IP packet format as required by each of the claims 1, 3, 6, and 10. Specifically, performing IP header compression functions as described by Vesterinen neither teaches nor suggests processing PDUs in non-IP format as claimed. Compression of an IP header is different than compression of the IP data in the body of a packet.

Appellant’s arguments have persuaded us of error in the Examiner’s rejection of independent claims 1, 3, 6, and 9. Although we concur with the Examiner’s finding that Vesterinen’s paragraphs 6 and 7 teach or suggest buffering data in an RNC or eNode B (claims 1, 10) or user equipment (claims 3, 6) (*see* Final Act. 6–7; Ans. 7), we do not find Vesterinen teaches or suggests processing PDUs in non-IP format as recited in claims 1, 3, 6, and 10.

In addition, though Blom may suggest transferring functionality from

a user plane entity to an eNB (*see* Blom ¶ 3), there is no teaching or suggestion in either Vesterinen or Blom to transfer the specific function recited in claims 1 and 10 of processing PDUs in non-IP packet format and buffering them into IP packets in response to a handover confirmation sent by another network. As a result, Appellant's contentions that the Examiner, in modifying Vesterinen with Blom, has (i) made a conclusory assertion regarding design choice as a motivation for making the suggested combination (*see* Appeal Br. 19–20, 24); and (ii) used impermissible hindsight to make the necessary changes in Vesterinen's handover method (*see* Appeal Br. 20, 24); are persuasive.

Accordingly, we do not sustain the Examiner's rejection of independent claims 1, 3, 6, and 10 or dependent claims 4, 5, 7–9, and 11–15 based upon Vesterinen in combination with the various other prior art references.

CONCLUSIONS

(1) Appellant has not adequately shown the Examiner erred in rejecting claim 16 as being anticipated under 35 U.S.C. § 102(e) by Vesterinen.

(2) The Examiner erred in rejecting claims 1 and 3–15 as being unpatentable under 35 U.S.C. § 103 over Vesterinen in view of the other applied prior art references.

Therefore, we affirm the Examiner anticipation rejection of claim 16, and we reverse the Examiner's obviousness rejections of claims 1 and 3–15 under 35 U.S.C. § 103.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
16	102(e)	Vesterinen	16	
1, 5, 10, 11, 13–15	103	Vesterinen, Blom, 3GPP		1, 5, 10, 11, 13–15
3, 6, 7, 9	103	Vesterinen, 3GPP		3, 6, 7, 9
4, 12	103	Vesterinen, Blom, 3GPP, AAPA		4, 12
8	103	Vesterinen, 3GPP, AAPA		8
Overall Outcome			16	1, 3–15

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. §1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART