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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEPHEN JOHNSON
and FRANCIS SCAHILL

Appeal 2019-001885
Application 15/121,695
Technology Center 2400

Before KALYAN K. DESHPANDE, CHARLES J. BOUDREAU,
and SHARON FENICK, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–23. We have jurisdiction under 35 U.S.C. § 6(b)(1).

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies British Telecommunications Public Limited Company as the real party in interest. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Appellant’s invention “relates to a wireless network including a wireless access gateway and a method for controlling traffic roaming between cellular and non-cellular networks.” Spec. 1:10–12.

Claims 1, 12, and 23 are independent. Claim 1, reproduced below, is illustrative of the subject matter on appeal (emphasis added):

1. A method of controlling a wireless access gateway (WAG), the WAG interconnecting at least one non-cellular network and at least one cellular network in an at least one-to-many relationship, the method comprising:

a WAG receiving a first IP address for a User Equipment (UE) from a first cellular network;

the WAG allocating a second IP address for the UE and sending the second IP address to a first non-cellular network, *the second IP address being different from the first IP address*; and

the WAG defining a routing rule including the first and second IP addresses for the UE and a data path identifier.

Appeal Br. 35 (Claims App.).

REJECTIONS

Claims 1–4, 6, 11–15, 17, and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Muley² and Dorenbosch.³ Final Act. 4–13.

Claims 5 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Muley, Dorenbosch, and Walker.⁴ Final Act. 13–15.

² Muley et al., US 2015/0003415 A1 (pub. Jan. 1, 2015).

³ Dorenbosch et al., US 2004/0028009 A1 (pub. Feb. 12, 2004).

⁴ Walker et al., US 2011/0004758 A1 (pub. Jan. 6, 2011).

Claims 7, 8, 18, and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Muley, Dorenbosch, Walker, and Koodli.⁵ Final Act. 15–19.

Claims 9, 10, and 20–22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Muley, Dorenbosch, and Mahaffey.⁶ Final Act. 19–21.

OPINION

The Examiner finds that Muley teaches all the limitations of independent claims 1, 12, and 23, except for the limitation that “the second IP address [is] different from the first IP address.” Final Act. 4–6, 8–13. The Examiner relies on Dorenbosch for that limitation, citing Dorenbosch’s disclosure of a handoff between two IP connections, the first IP connection using a first IP address for a cellular network and the second IP connection using a second, different IP address for a wireless IP access point. *Id.* at 6, 10, 13 (citing Dorenbosch ¶ 19, Fig. 2). The Examiner further finds that it would have been obvious to one of ordinary skill in the art to “modify . . . Muley to include the teachings of Dorenbosch in order to provide different IP addresses for cellular and non-cellular connections.” *Id.*; *see also* Ans. 5 (“[I]t is obvious to combine the references in order to allocate two different IP addresses to different RAN and communicate them to the RANs.”).

Appellant argues that the Examiner has failed to establish a *prima facie* case of obviousness because the proposed combination would render Muley inoperable for its intended purpose of “seamlessly transition[ing]

⁵ Koodli et al., US 2013/0155851 A1 (pub. June 20, 2013).

⁶ Mahaffey et al., US 2015/0188949 A1 (pub. July 2, 2015).

devices between cellular networks and non-cellular networks without dropping calls or data connections.” Appeal Br. 22; *see id.* at 23–24, 29. Specifically, Appellant argues that “maintaining the control plane session such that the UE is still attached to the same [Serving GPRS (General Packet Radio Service) Support Node (“SGSN”)] following the handover is essential in Muley to provide [a] seamless handover experience.” *Id.* at 24.

According to Appellant, “[o]ne of ordinary skill in the art would understand that any change in IP address would result in any existing data session having to be re-established to use the new IP address, which would be completely contradictory to the purpose of Muley.” *Id.*

We agree with Appellant. As Appellant points out, Muley’s “UE 102 is associated with the same Internet Protocol (IP) address for each of a Wi-Fi access bearer path and a 3GPP/LTE bearer path” and “traffic flowing to or from the UE may be addressed using this same IP address.” Muley ¶ 21; *see* Appeal Br. 23. In this way, Muley’s handover occurs while retaining an existing UE control session, thereby providing substantially seamless mobile service continuity as the UE transitions between multiple wireless access networks. Muley ¶¶ 6, 18, 21.

The Examiner does not explain, nor do we ascertain, how Muley would maintain the existing UE control session and avoid interruption of service when modified to use two different IP addresses, as taught by Dorenbosch. We disagree with the Examiner’s finding that Muley’s disclosure of a “pool of addresses” indicates that Muley’s control session may continue with a different IP address. *See* Ans. 4–5 (citing Muley ¶ 27). We agree with Appellant’s argument that Muley’s “pool of addresses” does not indicate a second, different IP address for the UE, but rather is discussed

in the context of “mechanisms for implicit indication of UE handover without a new control session.” Muley ¶ 27; *see* Reply Br. 2–3. When only the IP address associated with the UE is communicated (i.e., without a bit, flag, or other explicit handover indicator), a non-new-control handover may be implicitly indicated “if the IP address of the UE matches an allocated address from a pool of addresses associated with Wi-Fi sessions.” Muley ¶¶ 27, 37.

The Examiner also cites Muley’s disclosure of an “address pool” in Figure 2 (step 245) and paragraph 33 as indicating that “the first and second IP addresses may be the same or different.” Ans. 4 (emphasis omitted); *see also* Final Act. 5, 9, 12. The cited paragraph of Muley, however, merely discloses with reference to step 245 that an “address association mechanism to identify the correct UE [Gateway GPRS Support Node (“GGSN”)] may comprise checking an Access Point Name (APN) Internet Protocol (IP) address pool.” Muley ¶ 33. The Examiner does not explain, and we do not discern, how that disclosure supports the Examiner’s finding.

While the Examiner finds that it would have been obvious to one of ordinary skill in the art to “modify . . . Muley to include the teachings of Dorenbosch in order to provide different IP addresses for cellular and non-cellular connections” (Final Act. 6, 10, 13), we note that the Examiner does not explain why one of ordinary skill would have been motivated to provide different IP addresses for cellular and non-cellular connections in Muley, absent hindsight knowledge of the claimed invention.

Accordingly, we do not sustain the Examiner’s rejections of independent claims 1, 12, and 23, or of claims 2–11 and 13–22, which depend directly or indirectly from them.

CONCLUSION

We reverse the Examiner's rejections of claims 1–23 under 35 U.S.C. § 103.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1–4, 6, 11–15, 17, 23	103	Muley, Dorenbosch		1–4, 6, 11–15, 17, 23
5, 16	103	Muley, Dorenbosch, Walker		5, 16
7, 8, 18, 19	103	Muley, Dorenbosch, Walker, Koodli		7, 8, 18, 19
9, 10, 20–22	103	Muley, Dorenbosch, Mahaffey		9, 10, 20–22
Overall Outcome				1–23

REVERSED