UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC., and APPLE INC.,
Petitioner,

v.

IXI IP, LLC,
Patent Owner.

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Case IPR2015-01443
Patent 7,295,532 B2

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Before KRISTINA M. KALAN, ROBERT J. WEINSCHENK, and
JOHN A. HUDALLA, *Administrative Patent Judges.*

KALAN, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Apple Inc. (collectively "Petitioner") filed a Petition (Paper 2, "Pet.") to institute an *inter partes* review of claims 1, 4, 5, 7–10, 12, 14–16, and 23–24 of U.S. Patent No. 7,295,532 B2 (Ex. 1001, "the '532 patent") pursuant to 35 U.S.C. §§ 311–319. IXI IP, LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp."). We instituted an *inter partes* review of claims 1, 4, 5, 7–9, 12, 14–16, and 23–24 on certain grounds of unpatentability alleged in the Petition (Paper 8, "Dec."). After institution of trial, Patent Owner filed a Patent Owner Response (Paper 14, "PO Resp.") and Petitioner filed a Reply (Paper 18, "Reply"). An oral hearing was held on September 15, 2016. A transcript of the hearing has been entered into the record. Paper 26 ("Tr.").

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has shown by a preponderance of the evidence that all claims for which trial is instituted, namely, claims 1, 4, 5, 7–9, 12, 14–16, and 23–24, are unpatentable.

II. BACKGROUND

A. Related Matters

The parties indicate that the '532 patent is the subject of the following district court proceedings: *IXI Mobile (R&D) Ltd. v. Samsung Electronics Co.,* Case No. 3:15-cv-03752-HSG (N.D. Cal.); *IXI Mobile (R&D) Ltd. v. Apple, Inc.*, Case No. 4:15-cv-03755-PJH (N.D. Cal.); and *IXI Mobile (R&D) Ltd. v. Blackberry Ltd.*, Case No. 3:15-cv-03754-RS (N.D. Cal.). Pet. 1–2; Paper 5, 1–2, Paper 7, 1–2.

B. The '532 Patent

The '532 patent describes a system, device and computer readable medium that monitors and reconfigures a local area network ("LAN") by a wide area network ("WAN") operator. Ex. 1001 at [54], Abstract. The '532 patent is directed to "a hand held device for providing communication between a wide area network and a wireless local area network." *Id.* at 1:61–63. Figure 1, reproduced below, illustrates an exemplary system of the '532 patent. *Id.* at 4:55–56.
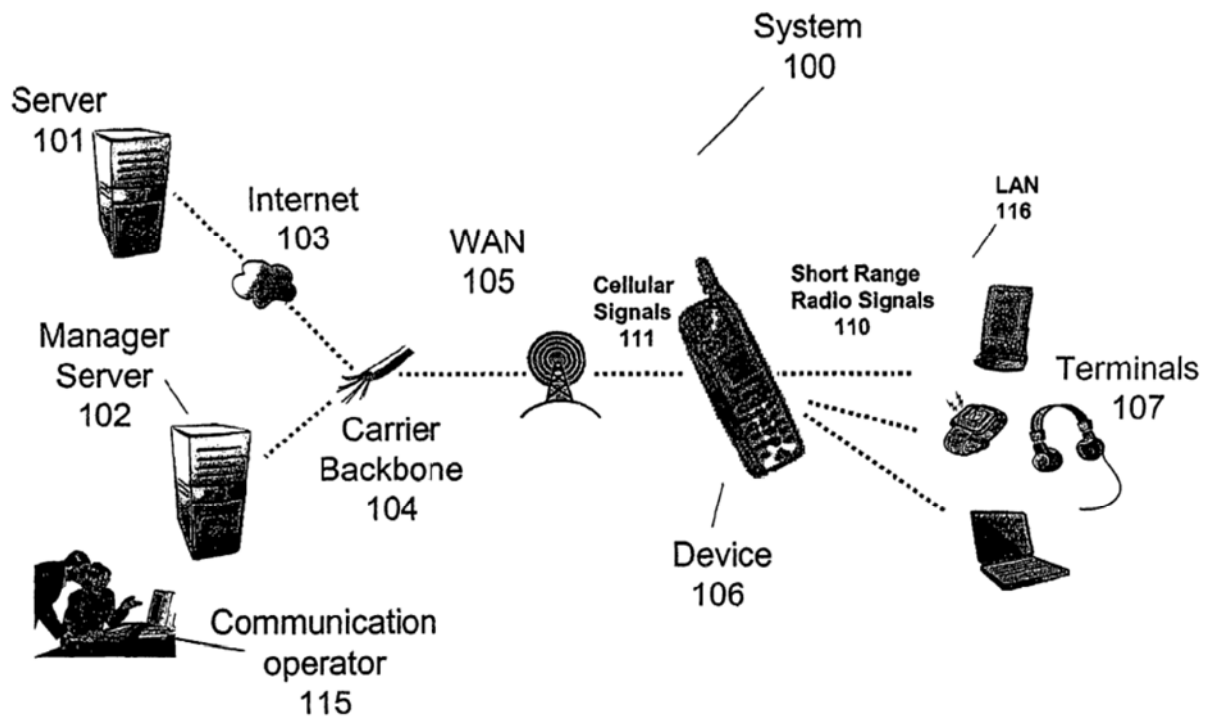

Fig. 1

Figure 1 above shows wireless device 106 and one or more terminals 107 communicating via short-range radio signals 110 to form LAN 116. *Id.* at 5:30–35. Figure 1 also shows WAN 105 coupled to device 106; WAN 105 includes a cellular network transmitting and receiving cellular signals 111. *Id.* at 5:52–55. WAN 105, carrier backbone 104, and manager server 102

are, singly or in combination, a telecommunication network managed and monitored by operator 115. *Id.* at 5:62–65. WAN 105 is shown as being coupled to wireless carrier internal network or carrier backbone 104; carrier backbone 104 may be coupled to manager server 102 or Internet 103. *Id.* at 6:20–25. In one embodiment, servers 101 and 102 provide information to terminals 107 by way of device 106. *Id.* at 6:26–29. Microrouter 404 of device 106 "enables an IP based network between the device 106 and terminals 107." *Id.* at 8:29–30. Software components, or plug-ins 406, may be added to microrouter 404, using software components called hooks 590. *Id.* at 8:33–36, 45–49. A remote operator on WAN 105 is able to load software on device 106 to provide LAN network services to devices on LAN 116. *Id.* at 5:10–13, 10:11–17.

C. Illustrative Claim

Claim 1 of the '532 patent is reproduced below:

1. A hand-held device for enabling communication between one or more devices connected to one or more cellular networks and one or more devices connected to a wireless local area network, comprising:

a) a first transceiver to communicate with the one or more devices connected to said one or more cellular networks by sending and receiving cellular signals, the first transceiver having a cellular network address;

b) a second transceiver to communicate with the one or more devices connected to the wireless local area network by sending and receiving short-range radio signals;

c) a storage device to store:

c.1. a router software component to transfer a plurality of data packets between the one or more devices connected to the one or more cellular networks and the one or more devices connected to the wireless local area network by the cellular signals and the short-range radio signals; and

c.2. an interface software component to add a first network service software component that provides one or more network services to the wireless local area network, the first network service software component loaded into the storage device from the one or more devices connected to the one or more cellular networks: and one or more processors connected to the storage device to process the cellular signals and the short-range radio signals, wherein the cellular network includes a plurality of public IP addresses and the wireless local area network includes a plurality of private IP addresses, and wherein the router software component translates a first IP address in the plurality of public IP addresses to a second IP address in the plurality of private IP addresses.

Ex. 1001, 16:40–17:7. Claims 4, 5, 7–10, 12, 14–16, and 23–24 all depend, directly or indirectly, from claim 1.

D. Prior Art References Relied Upon by Petitioner

1. PCT Pub. No. WO 01/76154 A2 to Marchand, published October 11, 2001 ("Marchand") (Ex. 1005);

2. Dan Decasper *et al., Router Plugins A Software Architecture for Next Generation Routers, Proceedings of ACM SigComm '98 Conference*, 28 COMP. COMM. REV. No. 4, 229–240 (October 1998) ("Router Plugins") (Ex. 1006);

3. U.S. Patent No. 6,622,017 B1 to Hoffman, issued September 16, 2003 ("Hoffman") (Ex. 1007).

4. IEEE Std. 802.11b-1999, *Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Higher-Speed Physical Layer Extension in the 2.4 GHz Band*, IEEE-SA Standards Board (published January 20, 2000) ("802.11b") (Ex. 1008);

5. P. Srisuresh & M. Holdredge, *RFC 2663: IP Network Address Translator (NAT) Terminology and Considerations*, The Internet Society (August 1999) ("RFC 2663") (Ex. 1009); and

6. U.S. Patent No. 6,963,912 B1 to Schweitzer *et al.*, issued November 8, 2005 ("Schweitzer") (Ex. 1011).

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