United States Court of Appeals for the Federal Circuit

NETWORK-1 TECHNOLOGIES, INC.,
Plaintiff-Appellant

v.

HEWLETT-PACKARD COMPANY, HEWLETT PACKARD ENTERPRISE COMPANY,
Defendants-Cross-Appellants

2018-2338, 2018-2339, 2018-2395, 2018-2396

Appeals from the United States District Court for the Eastern District of Texas in Nos. 6:11-cv-00492-RWS, 6:13-cv-00072-RWS, Judge Robert Schroeder, III.

Decided: September 24, 2020

GREGORY S. DOVEL, Dovel & Luner, LLP, Santa Monica, CA, argued for plaintiff-appellant. Also represented by SEAN LUNER, RICHARD ELGAR LYON, III; JEFFREY A. LAMKEN, MoloLamken LLP, Washington, DC.

MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, argued for defendants-cross-appellants. Also represented by OMAR FAROOQ AMIN; HERSH H. MEHTA, Morgan, Lewis & Bockius LLP, Chicago, IL; NATALIE A. BENNETT, Washington, DC.

ANDREW M. MASON, Klarquist Sparkman, LLP, Portland, OR, for amicus curiae T-Mobile USA, Inc. Also represented by SARAH ELISABETH JELSEMA, JOHN D. VANDENBERG; SARAH J. KALEMERIS, Winston & Strawn LLP, Chicago, IL.

Before PROST, *Chief Judge*, NEWMAN and BRYSON, *Circuit Judges*.

PROST, *Chief Judge*.

Network-1 Technologies, Inc. ("Network-1") appeals a final judgment of the United States District Court for the Eastern District of Texas. Network-1 sued Hewlett-Packard ("HP"), alleging infringement of U.S. Patent No. 6,218,930 ("the '930 patent"). HP argued in response that the '930 patent is invalid, and that HP did not infringe. The jury found the patent not infringed and invalid. Following post-trial motions, the district court denied Network-1's request for a new trial on infringement but granted Network-1's motion for judgment as a matter of law ("JMOL") on validity.

Network-1 appeals the district court's final judgment that HP does not infringe the '930 patent, arguing the district court erred in its claim construction. HP cross-appeals the district court's determination that HP was estopped from raising certain validity challenges under 35 U.S.C. § 315(e)(2) based on HP's joinder to an inter partes review ("IPR") before the Patent Trial and Appeal Board ("Board"). On cross-appeal, HP also argues that Network-1 improperly broadened claim 6 of the '930 patent during reexamination.

For the reasons explained below, we affirm-in-part, reverse-in-part, vacate, and remand. Specifically, as to Network-1's appeal, we affirm-in-part and reverse-in-part the district court's claim construction and remand to the district court. As to HP's cross-appeal, we vacate the district

court's JMOL on validity and remand. And finally, we affirm the district court's decision with respect to improper claim broadening.

FACTUAL BACKGROUND

I. The '930 Patent

The '930 patent is titled "Apparatus and Method for Remotely Powering Access Equipment over a 10/100 Switched Ethernet Network." It discloses an apparatus and methods for allowing electronic devices to automatically determine if remote equipment is capable of accepting remote power over Ethernet. *See* '930 patent col. 1 ll. 13–17. According to the patented method, a "low level current" is delivered over a data signaling pair to an access device (also called remote equipment or remote access equipment). *Id.* at col. 2 ll. 8–10. After the low level current is sent, a network switch senses the resulting "voltage level" on the data signaling pair. *Id.* at col. 1 l. 65–col. 2 l. 14. If the device can accept remote power, the sensed voltage level will match a "preselected condition" of the voltage, such as a particular "varying voltage" level. *Id.* at col. 2 ll. 10–14, col. 3 ll. 2–17. Upon detecting the preselected condition, the network switch will increase the current from the low level to a higher level sufficient to allow the "remote equipment [to] become[] active." *Id.* at col. 3 ll. 17–22. If the preselected condition of the voltage is not detected, the network switch will determine that the device cannot accept remote power and will not transmit a higher current. *Id.* at col. 3 ll. 3–11.

The '930 patent issued in April 2001 with 9 claims, including two independent claims: claims 1 and 6. Claim 6 is representative of the issues on appeal. Claim 6 recites:

> 6. Method for remotely powering access equipment in a data network, comprising,
>
> providing a data node adapted for data switching, an access device adapted for data transmission, at

> least one data signaling pair connected between the data node and the access device and arranged to transmit data therebetween, a ***main power source*** connected to supply power to the data node, and a secondary power source arranged to supply power from the data node via said data signaling pair to the access device,
>
> delivering a ***low level current*** from said main power source to the access device over said data signaling pair,
>
> sensing a voltage level on the data signaling pair in response to the low level current, and
>
> controlling power supplied by said ***secondary power source*** to said access device in response to a preselected condition of said voltage level.

'930 patent claim 6 (emphases added to terms challenged on appeal).

On appeal, Network-1 contends that the district court erroneously construed the claim terms "main power source" and "low level current." On cross-appeal, HP contends that Network-1 improperly broadened the term "secondary power source" during reexamination.

II. The Reexamination Proceedings

After it issued, and concurrent with the underlying district court action, the '930 patent was reexamined twice before the U.S. Patent and Trademark Office. The first reexamination, No. 90/012,401 ("the '401 reexamination"), concluded in October 2014. *See* J.A. 333–35. It confirmed the patentability of claims 6, 8, and 9, and resulted in the issuance of claims 10–23. Relevant to HP's cross-appeal, claims 15 and 16 were added depending from original claim 6.

Claim 15 recites: "Method according to claim 6, wherein said ***secondary power source*** is the same source

of power as said main power source." '930 patent, Ex Parte Reexamination Certificate, col. 1 ll. 39–41 (emphasis added).

Claim 16 recites: "Method according to claim 6, wherein said ***secondary power source*** is the same physical device as the main power source." *Id*. at col. 1 ll. 42–44 (emphasis added).

The second reexamination, No. 90/013,444, concluded in November 2015. It confirmed the patentability of claims 6 and 8–23. *See* J.A. 336–37.

PROCEDURAL BACKGROUND

This case has a long and complicated history, which began in 2011 when Network-1 sued a number of defendants, including HP, for infringement of the '930 patent in the U.S. District Court for the Eastern District of Texas. After several stays, the district court finally reached the underlying final judgment in 2018. We discuss the relevant background here.

I. The Avaya IPR

After Network-1 filed its complaint in the district court, another defendant, Avaya Inc. ("Avaya"), petitioned for IPR of the '930 patent. The district court stayed its proceedings pending IPR. The Board partially instituted Avaya's petition. *See Avaya Inc. v. Network-1 Sec. Sols., Inc.*, No. IPR2013-00071, Paper 18, 2013 WL 8595554 (P.T.A.B. May 24, 2013) ("the Avaya IPR"). Specifically, the Board instituted review of claims 6 and 9 of the '930 patent based on two grounds: (1) anticipation under

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