Trials@uspto.gov
571.272.7822

Paper No. 59
Entered: March 16, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner,

v.

REALTIME DATA LLC,
Patent Owner.

Case IPR2016-01738
Patent 8,880,862 B2

Before DEBRA K. STEPHENS, GEORGIANNA W. BRADEN, and JASON J. CHUNG, *Administrative Patent Judges*.

BRADEN, *Administrative Patent Judge*.

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

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6, and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 8–12, 14–22, 59–82, 101–104, 114, 115, and 117 ("the challenged claims") of U.S. Patent No. 8,880,862 B2 (Ex. 1001, "the '862 Patent") are unpatentable. Additionally, we grant Patent Owner's Contingent Motion to Amend with respect to proposed substitute claims 118–173.

A. Procedural History

Apple, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of the challenged claims the '862 Patent. Realtime Data, LLC ("Patent Owner") timely filed a Preliminary Response (Paper 6, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314(a), we instituted an *inter partes* review of (1) all claims challenged as unpatentable under 35 U.S.C. § 103(a)[1] in view of Sukegawa[2] and Dye[3]; (2) all claims challenged as unpatentable under 35 U.S.C. § 103(a) in view of Sukegawa, Dye, and Settsu[4]; (3) all claims challenged as unpatentable under 35 U.S.C. § 103(a) in view of Sukegawa,

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[1] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. § 100 et seq. effective on March 16, 2013. The '862 patent issued from an application filed before March 16, 2013; therefore, we apply the pre-AIA versions of the statutory bases for unpatentability.
[2] U.S. Patent No. 5,860,083, issued Jan. 12, 1999 (Ex. 1005, "Sukegawa").
[3] U.S. Patent No. 6,145,069, filed Apr. 26, 1999, issued Nov. 7, 2000 (Ex. 1008, "Dye").
[4] U.S. Patent No. 6,374,353 B1, filed Mar. 3, 1999, issued Apr. 16, 2002 (Ex. 1006, "Settsu").

Dye, and Burrows[5]; (4) all claims challenged as unpatentable under 35 U.S.C. § 103(a) in view of Sukegawa, Dye, Settsu, and Burrows; and (5) all claims challenged as unpatentable under 35 U.S.C. § 103(a) in view of Sukegawa, Dye, and Zwiegincew[6]. *See* Paper 7 ("Dec. to Inst."), 27–28.

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 21, "PO Resp."), to which Petitioner filed a Reply (Paper 24, "Reply"). In addition, Patent Owner filed a Motion to Amend Claims (Paper 20, "Mot. to Amend."), which was opposed by Petitioner (Paper 25, "Opp."). Patent Owner submitted a Reply in Support of its Motion to Amend. Paper 33, "PO Reply." During the intervening time, new case law was issued by the Court of Appeal for the Federal Circuit,[7] and the parties submitted additional briefing based on the new case law. Papers 39 ("Pet. Suppl. Opp."), 41 ("PO Suppl. Response in Support of Mot. to Amend."), 45 ("Pet. Reply to PO Suppl. Response in Support of Mot. to Amend.").

Patent Owner also filed objections to Evidence in Petitioner's Reply (Paper 46) and a Motion to Exclude Evidence (Paper 48). Petitioner opposed the Motion to Exclude (Paper 50) and Patent Owner submitted a Reply in support of its Motion to Exclude (Paper 55). In addition Patent Owner filed a list of alleged improper reply arguments (Paper 34) to which Petitioner filed a Reply (Paper 35).

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[5] Michael Burrows et al., *On-line Data Compression in a Log-structured File System* (1992) (Ex. 1007, "Burrows").
[6] U.S. Patent No. 6,317,818 B1, filed Mar. 30, 1999, issued Nov. 13, 2001 (Ex. 1010, "Zwiegincew").
[7] *See Aqua Products, Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017), discussed *infra* Section II.

An oral argument was held on January 8, 2018. A transcript of the oral argument is included in the record.[8] Paper 58 ("Tr.").

B. Related Proceedings

The parties identify the following cases as related to the challenged patent: *Realtime Data, LLC v. Microsoft Corp.*, Case No. 4:14-cv-00827 (E.D. Tex.), *Realtime Data, LLC v. Apple, Inc.*, Case No. 6:15-cv-00885 (E.D. Tex.), and *Realtime Data, LLC v. Apple, Inc.*, Case No. 3:16-cv-02595 (N.D. Cal.) (transferred from *Realtime Data, LLC v. Apple, Inc.*, Case No. 6:15-cv-00885 (E.D. Tex.)). Pet. 1; Paper 5, 2 (Patent Owner's Mandatory Notice).

C. The '862 Patent

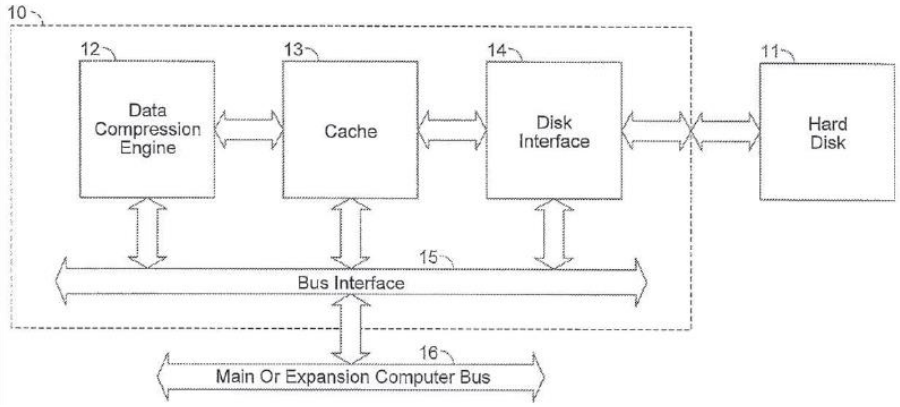
The '862 Patent relates to "providing accelerated loading of operating system and application programs upon system boot or application launch," and the use of data compression and decompression techniques for such purpose. Ex. 1001, 1:20–26. The specification discusses the limits of prior art storage devices, particularly the significant bandwidth limitations of "mass storage devices" such as hard disk drives. *Id.* at 1:43–57, 2:9–18. According to the specification,

> "[A]ccelerated" data storage comprises receiving a digital data stream at a data transmission rate which is greater than the data storage rate of a target storage device, compressing the input stream at a compression rate that increases the effective data

[8] Petitioner filed Objections to Demonstrative Exhibits. Paper 54. In this Final Written Decision, we rely directly on the arguments presented properly in the parties' briefs and the evidence of record. The demonstrative exhibits were only considered to the extent they are consistent with those arguments and evidence; therefore, the objections are overruled.

> storage rate of the target storage device and storing the compressed data in the target storage device.

Id. at 5:41–47. One embodiment of the '862 Patent is illustrated in Figure 1, reproduced below.



As shown in Figure 1, data storage controller 10 is "operatively connected" to hard disk 11 and to host system's bus 16. *Id.* at 5:63–6:53. Controller 10 includes cache 13 for data storage/preloading, and data compression engine 12 for data compression/decompression. *Id.* at 5:63–6:53, 20:50–22:11. The '862 Patent explains that, following reset or power on of a computer system, the "initial bus commands inevitably instruct the boot device controller [e.g., controller 10] to retrieve data from the boot device (such as a disk) [e.g., hard disk 11] for the operating system." *Id.* at 20:36–49.

D. Illustrative Claims

As noted above, an *inter partes* review was instituted as to claims 8–12, 14–22, 59–82, 101–104, 114, 115, and 117 of the '862 Patent. Dec. to Inst. 27–28. Claims 8, 11, and 14 are independent. Claim 8 is illustrative of the challenged claims, and is reproduced below:

> 8. A method of loading an operating system for booting a computer system, comprising:
>
> storing a portion of the operating system in a compressed form in a first memory;

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