

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner,

v.

REALTIME DATA LLC,
Patent Owner.

Case IPR2016-01365
Patent 7,181,608 B2

Before GEORGIANNA W. BRADEN, J. JOHN LEE, and
JASON J. CHUNG, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
37 C.F.R. § 42.108

INTRODUCTION

On July 8, 2016, Petitioner Apple, Inc. filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–31 (“the challenged claims”) of U.S. Patent No. 7,181,608 B2 (Ex. 1001, “the ’608 Patent”). Patent Owner Realtime Data, LLC timely filed a Preliminary Response (Paper 9, “Prelim. Resp.”) on October 20, 2016.

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” *See also* 37 C.F.R. § 42.4(a) (delegating authority to the Board). Upon consideration of the Petition and Patent Owner’s Preliminary Response, and the evidence cited therein, we determine that the information presented demonstrates a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of each of the challenged claims. Accordingly, we institute an *inter partes* review of the challenged claims.

A. *Related Proceedings*

The parties identify the following cases as related to the challenged patent: *Realtime Data, LLC v. Microsoft Corporation*, Case No. 4:14-cv-00827 (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 8, 2.

B. *The ’608 Patent*

The ’608 Patent relates to “providing accelerated loading of operating system and application programs upon system boot or application launch,”

and to the use of data compression and decompression techniques for such purpose. Ex. 1001, 1:15–21. 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 1:39–52, 2:4–14. 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 storage rate of the target storage device and storing the compressed data in the target storage device.

Id. at 5:48–54.

C. *Challenged Claims*

Petitioner challenges claims 1–31 of the ’608 Patent. Pet. 2. Claims 1, 7, 22, and 27 are independent. Claim 1 is illustrative of the challenged claims, and is reproduced below:

1. A method for providing accelerated loading of an operating system, comprising the steps of:
 - maintaining a list of boot data used for booting a computer system;
 - initializing a central processing unit of the computer system;
 - preloading the boot data into a cache memory prior to completion of initialization of the central processing unit of the computer system, wherein preloading the boot data comprises accessing compressed boot data from a boot device; and
 - servicing requests for boot data from the computer system using the preloaded boot data after completion of initialization of the central processing unit of the computer system, wherein servicing requests comprises accessing compressed boot data from the cache and decompressing the compressed boot data at a rate that increases the effective access rate of the cache.

D. Asserted Prior Art and Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. § 103 (Pet. 2):

Challenged Claim(s)	Asserted Prior Art
1–31	Sukegawa ¹ and Dye ²
1–31	Sukegawa, Dye, and Settsu ³
1–31	Sukegawa, Dye, and Burrows ⁴
1–31	Sukegawa, Dye, Settsu and Burrows

Additionally, Petitioner relies on the Declaration of Dr. Charles J. Neuhauser (Ex. 1003) to support its challenges.

ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). No claim terms require express construction for purposes of this Decision. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

¹ U.S. Patent No. 5,860,083, issued Jan. 12, 1999 (Ex. 1005, “Sukegawa”).

² U.S. Patent No. 6,145,069, filed Apr. 26, 1999, issued Nov. 7, 2000 (Ex. 1008, “Dye”).

³ U.S. Patent No. 6,374,353 B1, filed Mar. 3, 1999, issued Apr. 16, 2002 (Ex. 1006, “Settsu”).

⁴ Michael Burrows et al., *On-line Data Compression in a Log-structured File System* (1992) (Ex. 1007, “Burrows”).

B. Overview of the Asserted Prior Art

1. Sukegawa

Sukegawa relates to “a data storage system using a flash memory unit and an HDD [(hard disk drive)].” Ex. 1005, at [57]. The flash memory unit is used, for example, to store “data which is used frequently for a relatively long time period.” *Id.* Such data could include “control information necessary for starting an application program (AP) and an OS [(operating system)].” *Id.* at 2:65–3:3. Although such control information is stored on the HDD, the data may be stored also on the flash memory unit so that the OS may be started using the control information on the flash memory unit instead of the HDD. *Id.* at 6:45–54. This is advantageous because the flash memory unit has a “higher access speed,” which allows the OS to be started more quickly. *Id.* at 6:54–58.

2. Dye

Dye relates to controllers for flash or embedded memory that include data compression and decompression engines “for increased effective memory density and improved bandwidth.” Ex. 1008, 1:17–22, 2:42–46. According to Dye, such a controller enables conventional flash memory to “achieve higher bandwidth, more effective density, with less system power and noise.” *Id.* at 3:3–12, 3:23–28. The technology permits data to be “saved in either a normal or compressed format, retrieved from the Flash Memory Array for MPU [(microprocessing unit)] execution in a normal or compressed format, or transmitted and stored on a medium in a normal or compressed format.” *Id.* at 3:66–4:8.

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