

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VMWARE, INC., INTERNATIONAL BUSINESS MACHINES
CORPORATION and ORACLE AMERICA, INC.,
Petitioner,

v.

ELECTRONICS AND TELECOMMUNICATIONS RESEARCH
INSTITUTE,
Patent Owner.

Case IPR2014-00901
Case IPR2014-00949¹
Patent 6,978,346 B2

Before BRIAN J. McNAMARA, MIRIAM L. QUINN, and
GREGG I. ANDERSON, *Administrative Patent Judges*.

ANDERSON, *Administrative Patent Judge*.

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

¹This case was joined with IPR2014-00901 on Jan. 28, 2015 by Order in IPR2014-00949, Paper 25.

I. INTRODUCTION

A. Background

On July 21, 2014, VMWare, Inc. (“Petitioner”)² filed a Second Corrected Petition requesting an *inter partes* review of claims 1–9 of U.S. Patent No. 6,978,346 B2 (Ex. 1001, “the ’346 patent”). Paper 8 (“Pet.”). Electronics and Telecommunications Research Institute (“Patent Owner”) filed a Preliminary Response. Paper 11. Based on these submissions, on December 11, 2014, we granted the Petition and instituted trial for claims 1–9 of the ’346 patent on one of the grounds of unpatentability alleged in the Petition. Paper 14 (“Institution Decision” or “Dec. Inst.”).

After institution of trial, Patent Owner filed a Patent Owner Response. Paper 19 (“PO Resp.”). Petitioner filed a Reply. Paper 28 (“Pet. Reply”). In addition, the parties rely upon expert testimony. Petitioner proffered the Declaration of Dr. Robert Horst (“Horst Declaration,” Ex. 1003). Patent Owner proffered two declarations of Dr. Thomas Conte. First is a declaration from *Dell Inc. v. Electronics and Telecommunications Research Institute*, IPR2013-00635 (“’635 IPR”), a trial directed to the same ’346 patent (“Conte ’635 Declaration,” Ex. 2003). Second is a declaration of Dr. Conte filed with Patent Owner’s Response (“Conte ’901 Declaration,” Ex. 2301). Patent Owner also filed a declaration of Dr. Randy Katz (“Katz Declaration,” Ex. 2202), from another *inter partes* review directed at the ’346 patent, *International Business Machines Corp. v. Electronics and Telecommunications Research Institute*, Case IPR2014-00976. A transcript of Dr. Conte’s deposition (“Conte Dep.,” Ex. 1017) was submitted by

² International Business Machines Corporation (“IBM”) and Oracle America, Inc. (“Oracle”) are petitioners in IPR2014-00949, which is joined to this case, and are included in any reference to “Petitioner.”

Petitioner. A transcript of Dr. Horst's deposition ("Horst Dep.," Ex. 2302) was submitted by Patent Owner.

An oral hearing was held on August 28, 2015. The transcript of the consolidated hearing has been entered into the record. Paper 34 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). We conclude for the reasons that follow that Petitioner has not shown by a preponderance of the evidence that claims 1–9 of the '346 patent are unpatentable.

B. Related Proceedings

Petitioner advises that the '346 patent is involved in the following co-pending district court cases: *Safe Storage LLC v. StoneFly, Inc.*, 1:13-cv-01152;³ *Safe Storage LLC v. Int'l Business Machines Corp.*, 1:13-cv-01151; *Safe Storage LLC v. Emulex Corporation et al*, 1:13-cv-01150; *Safe Storage LLC v. 3PAR Inc.*, 1:13-cv-01088; *Safe Storage LLC v. Oracle America Inc. et al*, 1:13-cv-01089; *Safe Storage LLC v. ATTO Technology Inc. et al.*, 1:13-cv-01090; *Safe Storage LLC v. VMware Inc.*, 1:13-cv-00928; *Safe Storage LLC v. Promise Technology Inc.*, 1:13-cv-00927; *Safe Storage LLC v. Nexsan Corporation*, 1:13-cv-00931 ; *Safe Storage LLC v. Overland Storage Inc.*, 1:13-cv-00932; *Safe Storage LLC v. IQSS LLC*, 1:13-cv-00930; *Safe Storage LLC v. Infortrend Corporation*, 1:13-cv-00929; *Safe Storage LLC v. Cisco Systems, Inc.*, 1:13-cv-00926; *Safe Storage LLC v. Silicon Graphics Int'l Corp.*, 1:12-cv-01629; *Safe Storage LLC v. Dot Hill Systems Corp.*, 1:12-cv-01625 ; *Safe Storage LLC v. Hitachi Data Systems Corp.*, 1:12-cv-01627; *Safe Storage LLC v. Dell Inc.*, 1:12-cv-01624; *Safe Storage LLC v. NetApp Inc.*, 1:12-cv-01628; *Safe Storage LLC v. Hewlett-*

³ Litigation concluded. Paper 3, 3.

IPR2014-00901
Patent 6,978,346 B2

Packard Company, 1:12-cv-01626, all pending in the United States District Court for the District of Delaware. Pet. 1, Paper 3, 2–3.

In a final written decision in the '635 IPR we determined that claims 1–3 and 5–8 of the '346 patent had not been shown to be unpatentable. '635 IPR, Paper 39. We declined to institute *inter partes* review of the '346 patent in the following cases: *Dell Inc., Hewlett-Packard Co., & NetApp, Inc. v. Electronics & Telecommunications Research Institute*, IPR2014-00152, Paper 12 (PTAB May 16, 2014); *Dell Inc., Hewlett-Packard Co., & NetApp, Inc. v. Electronics & Telecommunications Research Institute*, IPR2014-00549, Paper 10 (PTAB Mar. 26, 2015); and *International Business Machines Corp. v. Electronics & Telecommunications Research Institute*, Case IPR2014-00976, Paper 14 (PTAB Dec. 11, 2014) (“'976 IPR”).

C. The '346 Patent

The '346 Patent describes an apparatus with “redundant interconnection between multiple hosts and a redundant array of inexpensive disks (hereinafter referred to as ‘RAID’).” Ex. 1001, Abstract. As a result of the redundant interconnection, the apparatus allows increased bandwidth in the event one of the two RAID controllers 460 and 461 has a failure. *Id.* at 3:1–9.

Figure 4 of the '346 patent is reproduced below:

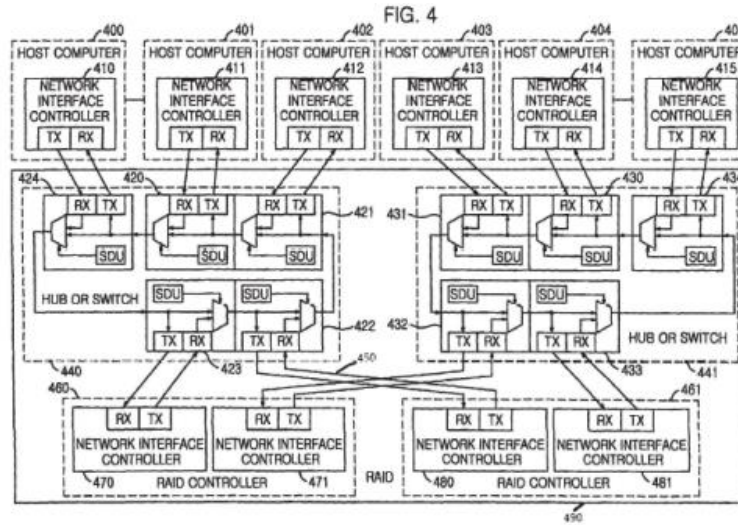


Figure 4 is a block diagram of a host matching system including RAID 490 and its interconnection to host computers 400–405. Ex. 1001, 2:64–3:6. RAID 490 includes two RAID controllers 460, 461 and hubs 440, 441. *Id.* at 3:10–18. Each RAID controller includes a pair of network interface controllers. For example, RAID controller 460 includes network interface controllers 470, 471, and RAID controller 461 includes network interface controllers 480, 481. *Id.* at 3:11–13. Each host computer has its own network interface controller (410 to 415), which connects the host computer through the hubs and to network interface controllers (470, 471, 480, 481) of RAID controllers 460, 461. *Id.* at 3:31–35.

The '346 patent describes that the result is two independent networks with twice the bandwidth of a single network and a “communication passage” between the two RAID controllers. *Id.* at 3:62–64. The communication passage creates a “fault tolerant function” should one of RAID controllers 460 or 461 fail. *Id.* at 3:64–66. According to Figure 4, communications line 450 interconnects network interface controller 480 of RAID controller 461 and network interface controller 470 of RAID

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