

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent of: Baek et al.	§	Petition for <i>Inter Partes</i> Review
	§	
U.S. Patent No. 6,978,346	§	Attorney Docket No.: 47415.430
	§	
Issued: December 20, 2005	§	Customer No.: _____
	§	
Title: APPARATUS FOR	§	Real Parties in Interest: Dell Inc.,
REDUNDANT INTER-	§	Hewlett-Packard Company, and NetApp,
CONNECTION	§	Inc.
BETWEEN MULTIPLE	§	
HOSTS AND RAID	§	

Second Declaration of Dr. M. Ray Mercer

Under 37 C.F.R. § 1.68

I, Dr. M. Ray Mercer, do hereby declare:

1. I am making this declaration at the request of Dell Inc., Hewlett-Packard Company, and NetApp, Inc. in the matter of the *Inter Partes* Review of U.S. Patent No 6,978,346 (“the ‘346 Patent”) to Baek et al. I am being compensated for my work in this matter. My compensation in no way depends upon the outcome of this proceeding.

2. I provide my qualifications and professional experience in paragraphs 5-11 of my previous declaration in this proceeding.

3. In the preparation of this declaration, I have studied:
- (1) The documents listed in paragraph 3 of my previous declaration;
 - (2) The Patent Owner's Reply and all exhibits thereto, including the Declaration of Dr. Thomas Conte (hereinafter, the "Conte Declaration");
 - (3) Peter Chen et al., RAID: High-Performance, Reliable Secondary Storage, submitted to ACM Computing Surveys, October 29, 1993, DHPN-1011;
 - (4) *The Authoritative Dictionary of IEEE Standards Terms, 7th Ed.*, 2000 definition of "network interface controller"
 - (5) Microsoft Computer Dictionary, 4th Edition, definition of "network interface card"
 - (6) Conte's Deposition transcript
4. In forming the opinions expressed below, I have considered:
- (1) The documents listed above,
 - (2) The relevant legal standards, including the standard for obviousness provided in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) and any additional authoritative documents as cited in the body of this

declaration or my previous declaration in this proceeding, and

(3) My knowledge and experience based upon my work in this area as described below.

Interpretation of Claims

RAID

5. I disagree with Dr. Conte's definition of RAID in paragraphs 37 and 38 of the Conte declaration. Dr. Conte attempts to narrow the term RAID beyond what is appropriate for the broadest reasonable interpretation. Specifically, Dr. Conte asserts that a RAID would be understood to be a "single logical unit," whereas I note that not all definitions of the term RAID require a single logical unit. I refer back to my first declaration at paragraphs 42 – 45, where I provide at least two independent definitions of RAID and note that different definitions of RAID have been propounded.

6. Particularly, I note that the definition from the reference Weygant, which I cited in my first declaration, starts off by noting that RAID "is an acronym for redundant array of inexpensive disks." It also states that, "a RAID device consists of a group of disks that can be configured in many ways, either as a single unit or in various combinations of striped and mirrored configurations." The Weygant definition of the term RAID is consistent with the board's definition – a

redundant array of inexpensive disks. The Weygant definition is inconsistent with Dr. Conte's definition because, on its face, it indicates that a group of disks do not have to be configured as a single unit. Weygant indicates that Dr. Conte's definition of the term RAID includes an unnecessary limitation and is therefore too narrow.

7. Patent Owner (PO) is incorrect to argue in its response that Hathorn does not include a RAID. For instance, Hathorn teaches a shadowing operation for data. A person of ordinary skill in the art would have understood that shadowing and mirroring are essentially the same concept. For example, Chen states: "The traditional solution, called mirroring or shadowing, uses twice as many disks as a nonredundant disk array [Bitton88]." Emphasis added. *See*, Peter Chen et al., "RAID: High-Performance, Reliable Secondary Storage," submitted to ACM Computing Surveys, October 29, 1992, Section 3.2.2 titled Mirrored (RAID Level 1), page 10. Weygant indicates that mirroring is a configuration of RAID (RAID level 1), as I noted in paragraph 44 of my first declaration. Therefore, the act of "shadowing" taught in Hathorn should be understood to lie within the broadest reasonable interpretation of the term RAID.

8. For the reasons above I agree with the board's definition of the term RAID and disagree with Dr. Conte's definition.

RAID Controlling Unit

9. I disagree with Dr. Conte's definition of the term "RAID controlling unit" at paragraphs 39 – 41 of the Conte declaration. Dr. Conte did not address the file history or the specification in his discussion of the term RAID controlling unit, and he failed to note that there is nothing in the file history or the specification that would indicate that the term should be limited beyond the board's definition of RAID controlling unit ("a component that controls operation of a RAID"). By contrast, I did discuss the specification in my first declaration at paragraphs 39 and 40 and observed that the term "RAID controlling unit" does not appear in the specification and therefore is neither defined nor narrowed in the specification.

10. Furthermore, Dr. Conte's technical arguments regarding RAID controlling unit are not correct. For instance, I noted above that Dr. Conte states that a RAID must be a single logical unit; however that is not a required definition or feature, as evidenced by Weygant. Also, as evidenced by Chen, shadowing/mirroring is included within the broad concept of RAID storage, and the breadth of "RAID" and "RAID controlling unit" must include shadowing/mirroring in any event. Dr. Conte bases his definition of "RAID controlling unit" on his argument regarding a single logical unit, and this definition (as confirmed by the board's construction) is too narrow.

Network [Interface] Controlling Unit

11. I also disagree with Dr. Conte's definition of the terms, "network

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