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WILMERHALE / RED HAT, INC.			TANG, JIEYING	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* BENJAMIN ELLIOTT MARZINSKI and DANIEL RAYMOND  
PHILLIPS

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Appeal 2010-007288<sup>1</sup>  
Application 11/218,567  
Technology Center 2100

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Before JEAN R. HOMERE, JASON V. MORGAN, and ERIC B. CHEN,  
*Administrative Patent Judges.*

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL

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<sup>1</sup> The real party in interest is Red Hat, Inc. (App. Br. 3.)

## STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-26. (App. Br. 3.) We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

### *Appellants' Invention*

Appellants invented a method and system for managing a plurality of data blocks contained within a storage device. Upon receiving a request to modify a data block, metadata associated therewith is written in a data block that is not shared by an origin and a snapshot thereof before making the requested modification. (Abstract, Fig. 2.)

### *Illustrative Claim*

Independent claim 1 further illustrates the invention as follows:

1. A computer assisted method of organizing a data structure for managing a computer storage device that contains a plurality of blocks, the method comprising:

(a) initializing entries of the data structure to indicate that the blocks are shared between an origin and one or more snapshots;

(b) receiving a first request to modify a first portion of the storage device;

(c) identifying a first chunk that contains the first portion to be modified, wherein the first chunk includes at least one block;

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(d) writing first metadata into an entry of the data structure to indicate that the first chunk is unshared; and

(e) allowing, after act (d), the first chunk to be modified.

*Prior Art Relied Upon*

The Examiner relied upon the following prior art as evidence of unpatentability:

Bixby	US 2005/0065986 A1	Mar. 24, 2005
Rajan	US 2006/0179261 A1	Aug. 10, 2006 (filed Apr. 11, 2003)
Darcy	US 7,124,249 B1	Oct. 17, 2006 (filed Oct. 1, 2003)

Soules et al., *Metadata Efficiency in Versioning File Systems*, Proceedings of Fast '03: 2<sup>nd</sup> Usenix Conference on File and Storage Technologies (2003).

*Rejections on Appeal*

The Examiner rejected the claims on appeal as follows:

1. Claims 1, 6, 8, 11, 12, 15, 16, 19, 23, and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rajan.
2. Claims 2, 9, 10, 13, 14, 20, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Rajan and Bixbey.
3. Claims 3-5, 17, 18, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Rajan and Soules.

4. Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Rajan and Darcy.

#### ANALYSIS

We consider Appellants' arguments *seriatim* as they are presented in the principal Brief, pages 10-15.

Dispositive Issue: Have Appellants shown that the Examiner erred in finding that Rajan describes *writing metadata into a data structure entry indicating that a requested data chunk is not shared between an origin and a snapshot*, as recited claim 1?

Appellants argue that Rajan does not describe the disputed limitations emphasized above. (App. Br. 10-15.) In particular, Appellants argue that even though Rajan discloses storing metadata in a data block of a storage medium block, Rajan does not indicate that the data block is unshared between an origin and a snapshot. (App. Br. 12-14.)

In response, the Examiner finds that Rajan's disclosure of writing all modified data including newly allocated metadata exclusively in areas of a writable virtual disk (vdisk) not shared with a read-only snapshot file describes the disputed limitations, as claimed. (Ans. 14-15.)

On the record before us, we agree with the Examiner's finding of anticipation. Rajan discloses a plurality of writable, read-only snapshots of an active file operating on a storage system (900) including a vdisk layer (920) containing a plurality of blocks (922), some of which containing horizontal lines indicating the data therein is backed up in a separate snapshot file (934) of a snapshot layer (930). (Para. [0072], Fig. 9.)

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Subsequent modifications including newly allocated metadata that are written with hash marks to data blocks in the vdisk indicating that the data therein is unshared with the snapshot file until the next backup operation. In other words, Rajan discloses that unmodified data blocks marked with horizontal lines are shared between vdisk and the snapshot, whereas modified including newly allocated metadata blocks marked with hashed lines remain unshared between the two areas of the storage device. (Para. [0073], [0077]-[0079].) We find that because the disclosed newly allocated metadata is written only in a vdisk data block that is not yet shared with the snapshot file ¶ [0013], Rajan describes writing the metadata into an entry in data structure that is not shared with the snapshot file. We are therefore satisfied that Rajan's disclosure describes the disputed limitations. It follows that Appellants have not shown error in the Examiner's rejection of claim 1 as being anticipated by Rajan.

Because Appellants reiterate for claims 2-26 the arguments presented for patentability of claim 1 above, and we find no discrepancies in Rajan for the other references to cure, claims 2-26 fall together with claim 1 as set forth above. *See* 37 C.F.R. § 1.37(c)(1)(vii).

## DECISION

We affirm the Examiner's decision to reject claims 1-26 as set forth above.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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