

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SEQUOIA TECHNOLOGY, LLC, :
 :
 Plaintiff, :
 :
 v. : C.A. No. 18-1127-LPS-CJB
 : (CONSOLIDATED)
 :
 DELL INC., DELL TECHNOLOGIES :
 INC. and its subsidiary EMC :
 CORPORATION (AKA DELL EMC), :
 :
 Defendants. :

RED HAT, INC., :
 :
 Plaintiff, :
 :
 v. : C.A. No. 18-2027-LPS-CJB
 :
 :
 SEQUOIA TECHNOLOGY, LLC and :
 ELECTRONICS AND :
 TELECOMMUNICATIONS RESEARCH :
 INSTITUTE, :
 :
 Defendants. :

SEQUOIA TECHNOLOGY, LLC, :
 :
 Counterclaim Plaintiff, :
 :
 v. :
 :
 :
 RED HAT, INC. and INTERNATIONAL :
 BUSINESS MACHINES CORPORATION, :
 :
 Counterclaim Defendants. :

MEMORANDUM ORDER

WHEREAS, Magistrate Judge Burke issued a 33-page Report and Recommendation (“Report”) (D.I. 231)¹ on October 1, 2020, recommending that the Court adopt certain claim constructions for disputed terms in U.S. Patent No. 6,718,436 (the “436 patent”);

WHEREAS, on October 29, 2020, Sequoia Technology, LLC and Electronics and Telecommunications Research Institute (“ETRI” and, together with Sequoia Technology, LLC, “Sequoia”) objected to the Report (“Objections”) (D.I. 247), asserting that it incorrectly construed the terms “extent allocation table . . . used or not used,” “disk partition,” and “computer-readable recording medium storing . . .”;

WHEREAS, on December 1, 2020, Red Hat, Inc. (“Red Hat”) responded to the Objections (“Response”) (D.I. 251);

WHEREAS, the Court has considered the parties’ objections and responses *de novo*, see *St. Clair Intell. Prop. Consultants, Inc. v. Matsushita Elec. Indus. Co., Ltd.*, 691 F. Supp. 2d 538, 541-42 (D. Del. 2010); 28 U.S.C. § 636(b)(1); Fed. R. Civ. P. 72(b)(3);

NOW, THEREFORE, IT IS HEREBY ORDERED that the Objections (D.I. 247) to Judge Burke’s constructions of “extent allocation table . . . used or not used,” “disk partition,” and “computer-readable recording medium storing . . .” are **OVERRULED** and the constructions set forth in the Report are **ADOPTED**.

1. Sequoia objects to the recommended construction of “extent allocation table for indicating whether each extent in the disk partition is used or not used” as meaning “extent allocation table for indicating whether each extent in a disk partition is or is not storing

¹ All references to the docket index (D.I.) are to the lead case, C.A. No. 18-1127.

information.” (*Id.* at 4) The parties dispute what it means for an extent to be “used or not used.” (*See* D.I. 231 at 19) The Report determined that “used or not used” refers to whether the extent “is or is not storing information,” and the Court agrees with the three reasons it gives for this conclusion. (*Id.* at 19-21) First, the patent’s specification describes an “extent” as “a minimum unit of space allocation to **store information**,” directly linking an extent’s purpose to storing information. (*See id.* at 19-20) (citing ’436 patent at 7:2-3) (emphasis added) Second, the patent cites a publication in which its inventors indicate that “an extent is ‘used’ when it is storing information.” (*Id.* at 20) Third, the extent allocation map referenced in a preferred embodiment allocates all of a disk partition’s extents to one logical volume. (*Id.* at 20-21) This map would be superfluous under Sequoia’s view that an extent allocation table shows merely whether an extent has been **allocated** to a logical volume, and not whether it is actually **storing** information. (*See id.*)² While not dispositive, this is “another point in favor of Red Hat’s construction.” (*Id.* at 21)

2. Sequoia objects to the recommended construction of “disk partition” as meaning “section of a disk that is a minimum unit of a logical volume.” (D.I. 247 at 4-9) The Report describes how the ’436 patent identifies a hierarchical process for storing information at three levels: at the lowest level is the extent, which is a “minimum unit of space allocation to store information;” at the next level is the disk partition; and at the highest level is the logical volume. (D.I. 231 at 7-8) (citing ’436 patent 6:58-59, 65, 7:1-3) Red Hat does not dispute that disk

² Sequoia insists that the Report incorrectly concludes all extents in a disk partition must be used by a logical volume. (*See* D.I. 247 at 4) Sequoia, however, misconstrues the Report’s conclusion, as Red Hat explains. (*See* D.I. 251 at 3) The Report simply observed that **in the preferred embodiment** all the extents in the disk partition are allocated to one logical volume, and Sequoia’s construction would render the extent allocation table in that embodiment nonsensical. (*See* D.I. 231 at 20)

partitions (and therefore the logical volume) are *made up of* extents, which are smaller than disk partitions. (See D.I. 251 at 5 n.4) For its part, Sequoia agrees that a disk partition *can* be a minimum unit of a logical volume; it only disagrees with the Report's requirement that it *must* be. (See D.I. 247 at 5-6) The key question is whether a logical volume can be constructed or resized in units *less than* whole or entire disk partitions. The Report answers this question in the negative. Sequoia opposes this conclusion on three grounds, each of which is unavailing.

3. First, Sequoia contends the Report misconstrues the intrinsic evidence. (See *id.* at 5-7) The Report notes that the claims suggest a whole or entire disk partition is used to construct a logical volume, describing “disk partitions forming” and “constructing” the logical volume and explaining that the first step in the method is “creating the logical volume by gathering disk partitions.” (D.I. 231 at 9) (citing '436 patent at 12:20, 24-25, 28-29, 13:19-20, 15:7-8) The Report also points to language in the specification explaining that “[t]he present invention constructs a logical volume by using a disk partition as a volume construction unit,” adding that “[t]he disk partition is a minimum unit of the logical volume” and “[t]he logical volume is a union of disk partitions.” (*Id.* at 9-10) (citing '436 patent at 11:66-67, 6:60-61, 64-65) While Sequoia is correct that several of these statements are directed to a preferred embodiment (see D.I. 247 at 6-7), the Report acknowledged this fact (see D.I. 231 at 10 n.3) and went on to explain that “the particular language used by the patentee (“[t]he disk partition *is*”)” sounds like a definition and, in any event, supports Red Hat and does not support Sequoia (*id.*).

Sequoia relatedly argues that the Report “disregards” a portion of the specification describing “an Extent Size 95” as “a minimum space allocation unit of a corresponding volume.” (D.I. 247 at 5) (citing '436 patent at 8:35-36) There is no basis to conclude that Judge Burke disregarded this or any other portion of the record. As importantly, this statement does not

contradict the Report's conclusion: an extent may be the minimum unit for allocating space on a disk, but it does not follow that it is also the minimum unit for creating or resizing logical volumes (which is the disputed issue). (*See* D.I. 251 at 5)³ Rather, the patent claims and specification indicate to a person of ordinary skill in the art ("POSA") that the disk partition is the minimum unit for that function.

Nor is the Court persuaded by Sequoia's arguments with respect to Figures 5 and 8. Figure 5 shows a field for the "total number of extents in volume" alongside a field for the "total number of disk partitions." (D.I. 247 at 2-3, 6) In Sequoia's view, if all the extents in the disk partition must be allocated to the logical volume, then the first field would be easily calculable and, thus, unnecessary. (*See id.* at 3) The Court agrees, however, with Red Hat that the first field may provide help where, for example, a logical volume comprises many disk partitions, which in turn each comprise a different number of extents. (*See* D.I. 251 at 5) Figure 8 contains a mapping map 75, which stores information on the extent numbers, not just the partitions. (*See* D.I. 247 at 6) Sequoia argues that the extent number would be unnecessary if the disk partition were the smallest unit. (*Id.*) The Court agrees with Red Hat that Sequoia is conflating the roles of the extent and the disk partition. (*See* D.I. 251 at 5-6)

4. Second, Sequoia asserts that the Report's construction would render logical volume management ("LVM") essentially useless, as the "purpose of LVM is to allow for logical volumes to be dynamically resized, without any restriction limiting it to whole partitions." (D.I. 247 at 7) Sequoia argues this notion is supported by statements Red Hat's expert made after the *Markman* hearing. (*Id.*) The statements at issue, however, relate to the accused Red Hat

³ The Report explicitly acknowledges that an extent is a "minimum unit of space allocation to store information." (D.I. 231 at 7-8) (citing '436 patent at 7:2-3)

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