United States Court of Appeals for the Federal Circuit

VERITAS TECHNOLOGIES LLC,
Appellant

v.

VEEAM SOFTWARE CORPORATION,
Appellee

2015-1894

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2014-00090.

Decided: August 30, 2016

K. LEE MARSHALL, Bryan Cave LLP, San Francisco, CA, argued for appellant. Also represented by JOSEPH J. RICHETTI, ALEXANDER DAVID WALDEN, New York, NY.

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MEREDITH HOPE SCHOENFELD, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, argued for intervenor Michelle K. Lee. Also repre-

sented by THOMAS W. KRAUSE, SCOTT WEIDENFELLER, ROBERT MCBRIDE, MOLLY R. SILFEN.

Before LOURIE, O'MALLEY, and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

At issue here is U.S. Patent No. 7,024,527, a computer patent owned by Veritas Technologies LLC. The patent describes and claims systems and methods through which, while certain processes for restoring computer data are in progress, particular data sought by an active application may be given priority for restoration and made immediately accessible to the application. In October 2013, Veeam Software Corp. filed a petition asking the Patent Trial and Appeal Board to institute an inter partes review of claims 1, 6, 8, 20, and 24 of the '527 patent, which Veeam asserted were unpatentable over prior art. The Board instituted the review in April 2014. After institution, the patent owner (Symantec Corp. at that time, but we will refer throughout to Veritas) filed a conditional motion to amend, seeking to add new claims 26 and 27 if the Board ultimately concluded that the challenged existing claims are unpatentable.

In its April 2015 final decision, the Board resolved the parties' claim-construction dispute at the heart of the proceeding. The Board concluded, contrary to Veritas's contention, that the claims were not limited to file-level background restoration processes, but could reasonably be read as also covering block-level restoration processes: the background restorer could proceed with restoration without identifying files, just by restoring blocks of data, which often will end up restoring whole files. Based on that construction, the Board rejected all of the challenged claims for obviousness, under 35 U.S.C. § 103. *Veeam Software Corp. v. Symantec Corp.*, No. IPR2014-90, 2015 WL 1906723, at *6–7, *8–14 (PTAB Apr. 23, 2015). The

Board also denied Veritas's motion to amend, though without making an evidentiary determination of patentability of the proposed claims 26 and 27. It concluded only that Veritas (and its expert declarant) had failed to address something the Board said must be addressed, namely, whether each newly added feature in each proposed claim, as distinct from the claimed combination of features, was independently known in the prior art. *Id.* at *14–15.

We affirm the Board's construction as the broadest reasonable interpretation of the claims and therefore uphold its obviousness determination. We vacate the Board's denial of Veritas's motion to amend because the Board was arbitrary and capricious in its sole ground for denying the motion. We remand for the Board to consider the patentability of the proposed claims, which, Veritas asserts, have the narrower claim scope (limited to file-level background restoration) that Veritas unsuccessfully urged for the original claims.

BACKGROUND

In a brief "technology background" discussion that the parties accept, the Board described a distinction at the center of the dispute here. "A data storage device (e.g., a hard disk) is divided into small storage containers called blocks." *Veeam* at *2. "A file is essentially a named collection of blocks, those blocks containing all of the data of the file," with "[a] file system keep[ing] track of which blocks have been allocated to which files." *Id.* A program may access data in two ways of relevance here. In one, "file-level access," a program "requests a file," in which case "the file system"—"acting as a translator between the logical file name and the physical collection of blocks"—"looks up which blocks hold the data of the file and sends the requestor the data in those blocks." *Id.* In the other, "block-level access," a program that "already knows which

block has the data it needs" may "ask for the data in that block, without consulting the file system." *Id.*

The '527 patent, entitled "Data Restore Mechanism," in describing the prior art, refers to both block-level-access and file-level-access methods for backing up and restoring data. '527 patent, col. 1, lines 41–51. The patent identifies a problem with existing systems:

> Typically, during restores, an application will have to wait for a file to be fully restored before accessing the file. Since a restore operation may restore files in any order, an application may have to wait a considerable amount of time for a particular file to be fully restored. Large databases may include hundreds of gigabytes or even terabytes of data; restores of these databases may take hours or even days before the data reaches a stable state. In many cases, applications may have to wait until all of the data is restored before they can access any of the data.

Id., col. 1, line 66, through col. 2, line 8; *see id.*, col. 3, lines 57–60. The patent then identifies the goal of the invention:

> Therefore, it is desirable to provide a restore mechanism that has reduced impact on production applications. It is also desirable to restore data needed from disk-based disaster recovery backups in a near instantaneous manner from the production application's perspective. It is also desirable to allow [the] application to be active and accessing data being restored while the restore is in progress transparent to the applications.

Id., col. 2, lines 9–16; *see id.*, col. 3, lines 55–57.

The specification describes a system and method "for performing restores from backups while applications are active and accessing the data being restored," *i.e.*, for

allowing an active application to request that specific data be restored first and to access that restored data while the background restore is still running. *Id.*, col. 2, lines 20–22; *id.*, Abstract. According to the summary of the invention, "a map correlating destination locations on primary storage to source locations on backup storage for a set of files to be restored may be generated," and "[a] restore of the set of files from the backup storage to the primary storage may be started." *Id.*, col. 2, lines 34–38. That background restore is performed by "a restore application." *Id.*, col. 6, lines 47–49; *id.*, fig. 2. While the background restore is underway, an actively running application may request "one or more blocks of data of a file in the set of files," and "[t]he map may be accessed to determine if the blocks have been restored." *Id.*, col. 2, lines 38–41. If not, the restore application is told to restore the needed block immediately, *id.*, col. 2, lines 40–43; *id.*, col. 8, lines 61–64, and once restored, the "blocks of data are accessible by the application while the restore is in progress," *id.*, col. 2, lines 43–45.

Claim 20 is illustrative. It reads as follows:

> 20. A computer-accessible medium comprising program instructions, wherein the program instructions are configured to implement:
>
> a restore application starting a restore of a set of files from a backup storage to a primary storage;
>
> during said restore:
>
> a file server determining that one or more blocks of data of a file in the set of files needed by an application have not been restored; and
>
> the file server directing the restore application to restore the determined one or more blocks of data in response to said determin-

> ing that the one or more blocks of data have not been restored; and
>
> the restore application restoring the determined one or more blocks of data;
>
> wherein the restored one or more blocks of data are accessible by the application while said restore is in progress.

Id., col. 12, lines 43–60.

In its corrected petition for inter partes review of the '527 patent under 35 U.S.C. § 312, Veeam requested cancellation of claims 1, 6, 8, 20, and 24 as anticipated by and obvious over several prior-art references. For one set of obviousness contentions, Veeam relied primarily on U.S. Patent Application Publication No. US 2002/0083366 to Ohran, in combination with other references (specifically, a user guide for Microsoft's Windows NT file system and U.S. Patent No. 7,234,077 to Curran et al.). Ohran discloses a block-level restoration system that uses two channels to provide an application on-demand access to lost data blocks while the lost data blocks are being restored. Ohran, Abstract. In the first channel, when a running application requests a data block that has not yet been restored, that data block is immediately restored from the backup to the primary storage. *Id.*, ¶¶ 11, 21, 38–39. In the second channel, a snapshot copy of all the lost data is taken at the backup storage and subsequently transported (often physically) to the primary storage. *Id.*, ¶¶ 13, 22, 44. Once the snapshot copy arrives at the primary storage, the blocks that have not yet been restored via the first channel fill in the missing slots. *See id.*, ¶¶ 13, 22, 45–46.

The Board, as delegee of the Director of the Patent and Trademark Office, 37 C.F.R. § 42.4, instituted review under 35 U.S.C. § 314(a) upon finding a reasonable likelihood that the system and method of the '527 patent's

claims are unpatentable because they would have been obvious over Ohran and other prior-art references. Veritas filed its response on the merits, which included arguments for reading the claims as limited to file-level background restoration. Veritas also filed a conditional motion to amend the existing claims under 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121, asking that, if the Board found the existing claims unpatentable, it allow proposed new claims 26 and 27, which attempt to claim more expressly what Veritas was urging as the proper construction of the existing claims.

After conducting its review under 35 U.S.C. § 316, the Board reached a final decision cancelling the challenged claims under § 318. The central issue addressed by the Board and presented in this appeal is whether the claims are restricted to file-level restoration or are broad enough also to cover block-level restoration. The Board adopted the latter construction, ruling that the claims in their broadest reasonable interpretation "do not require file-level knowledge or a file-level restoration." *Veeam* at *13. In particular, the Board concluded that the background restoration program's identification of "files" in executing its restore is not required by the claim language or specification and is not "required from a technical standpoint." *Id.* at *7.

Under that broad construction, the Board observed, it was not a ground for distinguishing Ohran that, as Veritas argued, the Ohran-taught system employs only block-level restoration. *Id.* at *10, *13. The Board added that a person having ordinary skill in the art would understand that, because blocks often make up a file, running Ohran's block-level restore "in many instances" will "result in" restoration of a set of files, which under the Board's construction is all that the claims require. *Id.* at *13. On that basis, the Board concluded that "it would have been obvious to a person of ordinary skill in the art to operate Ohran's restoration process to restore a set of files." *Id.*

The Board then denied Veritas's contingent motion to add substitute claims, relying on what it deemed a deficiency in Veritas's motion and supporting declaration. Specifically, the Board explained that Veritas "offer[ed] no discussion of whether the newly added features" stated in substitute claims 26 and 27 were separately "known in the art." *Id.* at *14–15. All that Veritas discussed, the Board said, was that "the newly added feature[s] *in combination with other known features* [were] not in the prior art." *Id.* The Board found the statements of Veritas's expert, Dr. Levy, deficient for the same reason. *Id.* at *15. For that reason alone, the Board denied the motion to amend. *Id.*

Veritas appeals under 35 U.S.C. § 319, challenging the Board's claim construction, obviousness analysis, and denial of its motion to amend. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

A

We first address the Board's claim construction and its obviousness determination. The Board permissibly applied the broadest-reasonable-interpretation standard in this inter partes review proceeding, *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding Director's adoption of the standard), there being no issue here about an expiration date of the patent that would warrant application of the normal judicial claim-construction standard, *see* 37 C.F.R. § 42.100(b); 81 Fed. Reg. 18750, 18752–53 (Apr. 1, 2016). We review the Board's construction de novo because there is no dispute about findings or evidence addressed to extra-patent usage or other facts extrinsic to the patent. *In re Varma*, 816 F.3d 1352, 1359 (Fed. Cir. 2016). We review de novo the ultimate determination of obviousness and compliance with legal standards, and we review underlying factual

findings for substantial evidence. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015).

Although the '527 patent gives indications that the contemplated restore application operates at the file level, the indications here are not enough under the broadest-reasonable-interpretation standard to exclude block-level restoration. For example, the patent does not state that it is restricted to file-level background restorers; nor does it explain aspects of the contemplated process that make sense only for a file-level restorer, not by a block-level restorer, and so fairly imply such a restriction. Without those or other bases for limiting the claims to file-level restoration, it would not be unreasonable for a relevant skilled artisan to read the claims also to cover block-level restoration, as the Board concluded. We therefore uphold the Board's construction under the broadest-reasonable-interpretation standard.

We begin with the claim language, which refers to files in prescribing what the background restoration program does. Claim 20 states that the restore application "start[s] a restore of a set of *files*." '527 patent, col. 12, line 46 (emphasis added). That language on its face does tend to suggest that the restore is a file-level one (calling what is to be restored a "file," which some table would then translate to memory blocks for execution). But the words do not actually require that reading. They can bear a broader reading, under which the language would cover a restore at the block level as long as that process will result in restoring a set of files, as by restoring an entire disk that contains complete files. Starting a restore that results in restoring a set of files is one reasonable reading of "starting a restore of a set of files."

We draw the same conclusion about the claim requirement that, when directed by the file server to do so, the restore application first restores designated "blocks of data of a file in the set of files needed by an application."

Id., col. 12, lines 49–50. Like the "starting a restore of a set of files" language, the phrase "blocks of data *of a file in the set of files*" is reasonably, maybe even most naturally, read to refer to the restore application's retrieving blocks from files it identifies as such in undertaking its restoration, *i.e.*, engaging in a file-level restoration. But we see no sufficient reason that this language could not also reasonably be read so that the use of "file in the set of files" refers only to a result, with both the background restore and the out-of-priority grab of needed blocks occurring at the block level.

When we turn to the specification, we conclude that it too suggests that the restore application generally operates at the file level, but that it goes no further: nothing in the specification states or fairly implies a limitation to file-level restoration so as to make a broader reading unreasonable. Thus, in the summary of the invention and detailed description, including in the passages quoted earlier in this opinion, the specification speaks about starting a restore of files, rather than blocks. *See*, *e.g.*, *id.*, Abstract ("files to be restored"); *id.*, Abstract ("A restore of the files from the backup storage to the primary storage may be started."); *id.*, col. 2, lines 36–38 (same); *id.*, col. 6, lines 48–49 ("The restore application 112 may be requested to restore the set of files."); *id.*, col. 9, lines 38–40; *see also id.*, fig. 5 (depicting a flowchart where step 302 is to "[s]tart a restore of the set of files from the backup storage to the primary storage"). But those passages are no stronger than the claim language in excluding restorations that end up restoring files by operating at the block level.

Other passages in the specification are to similar effect. For example, some embodiments include preliminary preparatory steps—such as retrieving file properties (*e.g.*, file name and size), allocating space for the to-be-restored files on the primary storage, and mapping the locations of the file data on the backup and primary

storage, *see id.*, col. 6, lines 49–65; *id.*, col. 7, lines 9–10; *id.*, col. 8, lines 41–43, 48–58—that would be difficult or impossible to perform with a block-level restoration. But those references are all couched in terms of specific embodiments, not general requirements of the invention. *See In re Papst Licensing Digital Camera Patent Litig.*, 778 F.3d 1255, 1265 (Fed. Cir. 2015); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc). Likewise, we see no reason to draw an inference about file-level operation of the background restorer from the explicit discussion of blocks when describing the grabbing of blocks sought by an active application during the restore. *See*, *e.g.*, *id.*, Abstract ("During the restore, one or more blocks of data of a file needed by an application may be determined."); *id.*, col. 2, lines 38–40 (same).

Importantly, nothing in the claims or the specification explains why it makes a material difference—*e.g.*, to the challenges assertedly overcome by the invention—whether the background restore application does file- or block-level restoration. The specification distinguishes between file- and block-level access, noting that file-level access requires "some knowledge of the underlying file system," while block-level access does not because it uses physical storage device addresses. *Id.*, col. 1, lines 41–45, 49–51. And it explains that some prior-art systems required an application to wait for substantial periods for the restoration to finish before accessing a restored file. *Id.*, col. 1, line 66, through col. 2, line 8. But in those places, the specification does not clearly identify a material difference between performing an out-of-order block grab when the restorer is generally operating at the file level versus doing so when it is operating at the block level. It does not even say that such block grabbing for a block-level restorer is old and what is new is block grabbing for a file-level restorer. Without some kind of explanation along those lines, explicit or implicit, we think that the Board properly concluded that the broadest reasona-

ble interpretation of the claims includes block-level restoration.

Under that construction, we find no error in the Board's obviousness analysis and conclusion. The Board cited Veeam's contention that (in the Board's words) "it would have been obvious that the blocks in Ohran were part of files, such that when Ohran's block-level restore process was running, the result is the restoration of files." *Veeam* at *13. Veeam's contention was supported by the declaration of Veeam's expert Dr. Amer, which was cited by the Board. *See* J.A. 1461–62 ¶ 59 ("Since all files are composed of data blocks, it would have been obvious that the data blocks of Ohran cover data blocks of a file being accessed by the application . . . ."). The Board found that Veeam's evidence "suggests that a person of ordinary skill in the art would understand that, in many instances, Ohran's two-channel block-level restoration process will result in a restoration of a set of files." *Veeam* at *13. Because the claim construction covers such a result, even if reached by block-level restoration, the Board concluded that "it would have been obvious to a person of ordinary skill in the art to operate Ohran's restoration process to restore a set of files." *Id.* Once file-level restoration is rejected as a claim requirement, we see no basis for overturning the Board's conclusion of obviousness.

B

Our affirmance of the Board's obviousness determination as to the unamended claims requires that we proceed to address the Board's denial of Veritas's contingent motion to amend by adding substitute claims 26 and 27. We review that denial under the Administrative Procedure Act. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1306 (Fed. Cir. 2015); *see Belden*, 805 F.3d at 1080; *see also Cuozzo*, 136 S. Ct. at 2146. We set aside the Board's action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5

U.S.C. § 706(2)(A). We conclude here that the Board erred on its sole ground for denying Veritas's motion.

It appears to be undisputed that Veritas submitted substitute claims 26 and 27 in an effort to state more expressly the file-level restoration limitation that it urged as a construction of the unamended claims. Claim 26 is proposed to substitute for claim 1, and it adds that "the set of files is a subset of a plurality of files that were previously backed-up" and that the file server, during the restore, "receive[s], from an application, a request for at least a portion of a particular file on the primary storage." J.A. 345–46. Claim 27, proposed to substitute for claim 20, adds additional preparatory steps performed by the restore application and file server and makes explicit that the blocks needed by a running application are restored first. J.A. 346–47. At oral argument in this court, Veeam agreed that it did not contest before the Board that these amendments address the claim-construction dispute discussed above, Oral Arg. at 27:50–28:41, and its brief to this court does not do so either. But we need not here say whether the amended claims are properly construed as limited to a background restoration program operating at the file level or what arguments are open to the parties on that question in the remand we order.

The Board denied the motion based on its insistence that the patent owner discuss whether each newly added feature was separately known in the prior art. *Veeam* at *14–15. The Board concluded that the motion and the declaration of Veritas's expert, Dr. Levy, do not discuss the features separately but discuss only "the newly added feature *in combination with other known features*." *Id.* That conclusion, the sole basis for denying the motion to amend, is unreasonable and hence must be set aside as arbitrary and capricious.

The Board quoted statements in Veritas's motion that on their face satisfy the requirement of discussing wheth-

er the newly added features are in the prior art. In its motion to amend, Veritas stated:

> None of these prior art systems disclose any restoration process that restores a particular subset of files and, during the restore, determines whether a requested file is in this set of files before checking whether needed blocks in the file have been restored. . . . None of these prior art systems disclose any mechanisms for a restore process that passes various information back and forth between a restore application and a file server prior to starting a restore of a set of files and, during this file restoration provides on-demand restorations of requested blocks by restoring them ahead of a standard order in which the blocks that make up the files are being restored.

J.A. 358–59, *quoted at Veeam* at *15. Those passages cite to Dr. Levy's declaration, which contains similar statements that the newly added features are not described in the prior art. *See* J.A. 1927–29 ¶¶ 92, 95.

Veritas's motion and Dr. Levy's declaration also discuss the absence of newly added features in the two key prior-art references—Ohran and the Windows NT user guide. For example, with regard to claim 26's claiming of a subset of files, Veritas stated that "[n]either Ohran [n]or Windows NT disclose[s] any mechanism for restoring a particular set of files from a backup storage, let alone a subset of a group of files that were previously backed-up," J.A. 355, and Dr. Levy stated that "[n]othing in the data block-level restore of Ohran teaches or suggests the claimed file-level functionality [in substitute claim 26]," J.A. 1956 ¶ 148. Similarly, for claim 27's reciting that the blocks needed by a running application are restored first, Veritas stated that "[t]here is no disclosure in Ohran, however, of prioritizing the restoration of any blocks ahead of a standard order," J.A. 357, and Dr.

Levy stated that "neither Ohran nor Windows NT disclose[s] the step[ ] of restoring needed blocks ahead [of] other blocks in the set of files," J.A. 1957 ¶ 149. Veritas went through the same analysis, including citations to Dr. Levy's declaration, for each of the newly added features. *See* J.A. 355–57 (motion to amend), 1956–57 ¶¶ 148–49 (Dr. Levy declaration).

We do not see how the Board could reasonably demand more from Veritas in this case. What would it have added that was not already so clear as to be beyond dispute, including based on the patent itself, for Veritas to say that the prior art recognized that restoration can be done at the file level or that a "set of files [can be] a subset of a plurality of [already backed-up] files" or that an application requests part of a "particular file" on primary storage? *See generally* J.A. 1923–26 ¶¶ 80–89. Here, we have been shown no reason to doubt that it is only the combination that was the "new feature," a scenario recognized in a long line of Supreme Court and Federal Circuit cases noting that novel and nonobvious inventions often are only a combination of known individual features. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–19 (2007) ("[I]nventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known."); *Parks v. Booth*, 102 U.S. 96, 102 (1880); *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013); *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 698 (Fed. Cir. 1983); *In re Warner*, 379 F.2d 1011, 1016 (CCPA 1967). In this case, we fail to see how describing the combination is meaningfully different from describing what is new about the proposed claims, even in comparison to the unamended claims.

For that reason, we conclude that the Board erred in its sole reason for denying the motion to amend. The Board rationale here is erroneous independently of any

resolution of this court's recently initiated en banc proceeding in *In re Aqua Products, Inc.*, No. 2015-1177, petition for rehearing en banc granted, 2016 WL 4375651 (Fed. Cir. Aug. 12, 2016). We therefore vacate the Board's decision on the motion to amend and remand the matter to allow for a determination of the patentability of the proposed substitute claims.

CONCLUSION

For the foregoing reasons, we affirm the Board's construction and obviousness determinations for claims 1, 6, 8, 20, and 24. We vacate the Board's denial of the motion to amend, and remand the case for the Board to address the patentability of proposed substitute claims 26 and 27.

No costs.

AFFIRMED IN PART, VACATED IN PART, AND REMANDED