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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SAUMITRA BURAGOHAIN,
SATHISH KUMAR GNANASEKARAN, and
DENNIS HIDEO MAKISHIMA

Appeal 2014-003297
Application 12/838,627
Technology Center 3600

Before MICHAEL L. HOELTER, LYNNE H. BROWNE, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Saumitra Buragohain et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1–27. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. An apparatus comprising:
> a host computer;
> a storage area network (SAN) interface connected to the host computer and for coupling to a SAN; and
> a hypervisor executing on the host computer,
> wherein the SAN interface determines that a command has been received from the hypervisor for an unknown LUN/LBA; and
> wherein the SAN interface queries the hypervisor to determine virtual machine (VM) information related to the LUN/LBA.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hiltgen	US 2008/0155208 A1	June 26, 2008

REJECTIONS[1]

I. Claims 10–27 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

II. Claims 1–27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hiltgen.

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[1] The claims are objected to for failure to include parentheses. *See* Final Act. 4. Claim objections are petitionable, not appealable, matters and are not within the jurisdiction of the Board. *See* MPEP §§ 1002 and 1201.

DISCUSSION

Rejection I

The Examiner determines that "[i]ndependent Claim 10 does not positively recite a particular machine and the broadest reasonable interpretation of the recited retrieving/creating/activating, etc. steps do not substantively tie any method step to a particular machine." Final Act. 6. In addition, the Examiner determines that:

> Claim 19 is directed to a computer readable medium or media storing instructions which is a statutory class of invention; however the body of the claim does not disclose any structural limitations necessary to properly claim a computer readable medium or media storing instructions. Accordingly the claim is interpreted to be directed to data or software per se which is not statutory subject matter.

Id. The Examiner further determines that claims 11–18 are also directed to non-statutory subject matter as they do not cure the deficiency in claim 10 from which they depend and that claims 20–27 are directed to non-statutory subject matter for the same reason as claim 19. *See id.* at 6–7.

Appellants contend "that both SAN interface and hypervisor are particular machines under § 101." Appeal Br. 9. In support of this contention, Appellants explain that "hypervisors are specialized computer programs that execute on host machines, such as a PC server, and have two types of interfaces, one to the actual hardware of the host machine and the other to the guest operating systems that are executing in a virtualized environment." *Id.* at 9–10. Appellants further explain that "[a] SAN interface in the claims is the interface between the hypervisor and the network elements." *Id.* at 10. Thus, we understand the hypervisor interface to be the SAN interface discussed in the quoted portion from the Appeal

Brief at page 9 reproduced *supra*. Given this understanding, Appellants' statements amount to an admission that the claimed hypervisor is software and that the claimed SAN interface may also be software. Given Appellants' admission we further understand that claim 10 can be construed to encompass software.

Our reviewing court instructs us that "[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route." *Enfish, LLC v. Microsoft Corp.*, No. 2015-1244, 2016 WL 2756255, at *4 (Fed. Cir. May 12, 2016). We are further instructed that we must determine if "the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis." *Id.* Here the steps of "determining, by a storage area network (SAN) interface, that a command has been received from a hypervisor for an unknown LUN /LBA" (i.e., logic unit numbers), and "querying, by the SAN interface, the hypervisor to determine virtual machine (VM) information related to the LUN /LBA" recited in claim 10 (Appeal Br. 22) and the similar steps recited in claim 19 (*id.* at 23), are not directed to *improvement* of a computer's functionality. Accordingly, these claims are directed to an abstract idea.

However, this does not end our inquiry. According to the Supreme Court's framework set forth in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l.*, after determining that a claim is directed to an abstract idea, as we do *supra*, we must secondly "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*

Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347, 2355 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 132 S. Ct. 1289, 1297, 1298 (2012)). The Supreme Court characterizes the second step of the analysis as "a search for an 'inventive concept' — *i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* (quoting *Mayo*, 132 S. Ct. at 1294).

The limitations of claims 10 and 19 do not transform the abstract ideas embodied in the claims. Rather, they simply implement them. Claims 10 and 19, when considered "both individually and 'as an ordered combination,'" amount to nothing more than an attempt to patent the abstract ideas embodied in the steps of claims 10 and 19. *See Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, S. Ct. at 1298). Accordingly, the limitations of claims 10 and 19 fail to transform the nature of these claims into patent-eligible subject matter. *See id.* (citing *Mayo*, S. Ct. at 1297, 1298).

For these reasons, we sustain the Examiner's decision rejecting independent claims 10 and 19, and claims 11–18 and 20–27 which depend therefrom, as being directed to non-statutory subject matter.

Rejection II

The Examiner finds that Hiltgen discloses each and every limitation of independent claims 1, 10, and 19. *See* Final Act. 8. In particular the Examiner finds that Hiltgen discloses a storage area network (SAN) interface that "determines that a command has been received from the hypervisor for an unknown LUN/LBA" and "queries the hypervisor to determine VM information." *Id.*

Appellants contend that Hiltgen fails to disclose a "SAN interface reviewing the storage commands from the hypervisor for LUN/LBA ranges, much less the SAN interface providing a query in response." Appeal Br. 13. In support of this contention, Appellants argue that "the VMM [i.e., virtual machine manager] is not equivalent to the SAN interface but is the hypervisor." *Id.* at 14 (citing Hiltgen ¶¶ 50, 51). Appellants further argue that "there is no indication of any determination of a command with an unknown LUN /LBA." *Id.*

Responding to these arguments, the Examiner acknowledges that the VMM corresponds to the claimed hypervisor. *See* Ans. 10. In addition, the Examiner identifies paragraphs 40–49 and 68 of Hiltgen as describing the "determining" step[2] and identifies paragraphs 40–52, 66–68, and 91–93 as describing the "querying" step.[3] *See id.* at 10–11.

Appellants correctly note that "[p]aragraphs 0040–0050 are just background information on computers, storage, networking, SANs,

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[2] The "determining" step is recited in claim 1 ("wherein the SAN interface determines that a command has been received from the hypervisor for an unknown LUN/LBA"), claim 10 ("determining, by a storage area network (SAN) interface, that a command has been received from a hypervisor for an unknown LUN /LBA"), and claim 19 ("determining, by a storage area network (SAN) interface, that a command has been received from a hypervisor for an unknown LUN /LBA"). Appeal Br. 21–23, Claims App'x.

[3] The "querying" step is recited in claim 1 ("wherein the SAN interface queries the hypervisor to determine virtual machine (VM) information related to the LUN/LBA"), claim 10 ("querying, by the SAN interface, the hypervisor to determine virtual machine (VM) information related to the LUN /LBA"), and claim 19 ("querying, by the SAN interface, the hypervisor to determine virtual machine (VM) information related to the LUN /LBA"). *Id.*

virtualization and hypervisors." Appeal Br. 13. Thus, these paragraphs do not address the determining and querying steps. Moreover, Hiltgen states:

> If manual configuration is implemented, a user enters an IP address (optional port number) and name/password for the network storage management interface. With the entered information, *the virtual machine manager authenticates*. After authenticating, *the virtual machine manager* connects to the network storage unit and *discovers available storage pools*. From the available discovered storage pools, the virtual machine manager divides the pools into primordial pools and data store pools, from which network storage units are created. *The virtual machine manager enumerates units (e.g., logical unit numbers (LUNs))* of the network storage from the storage pools, and compares the enumerated units against a list of in-band discovered LUNs across applicable hosts. The virtual machine manager displays root/boot LUNs, known virtual machine LUNs, and all other LUNs separately.

Hiltgen ¶ 68 (emphasis added). Thus, in Hiltgen, the virtual machine manager (i.e., the hypervisor), rather than the SAN interface, performs the determining and querying steps. Accordingly, the Examiner's findings are in error.

For this reason, we do not sustain the Examiner's decision rejecting independent claims 1, 10, and 19, and claims 2–9, 11–18, and 20–27, which depend therefrom as anticipated by Hiltgen.

DECISION

The Examiner's rejection of claims 10–27 under 35 U.S.C. § 101 is AFFIRMED.

The Examiner's rejection of claims 1–27 under 35 U.S.C. § 102(b) as anticipated by Hiltgen is REVERSED.[4]

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

AFFIRMED-IN-PART

[4] Should there be further prosecution of this application (including any review for allowance), the Examiner may wish to review the claims for compliance under 35 U.S.C. § 101 in light of the preliminary examination instructions on patent eligible subject matter. *See* the "2014 Interim Guidance on Patent Subject Matter Eligibility," 79 Fed. Reg. 74618 (Dec. 16, 2014), "July 2015 Update on Subject Matter Eligibility," 80 Fed. Reg. 45429 (July 30, 2015), and "May 2016 Subject Matter Eligibility Update," 81 Fed. Reg. 27381 (May 6, 2016), which supplement the "Preliminary Examination Instructions in view of the Supreme Court Decision in *Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*" (Memorandum to the Patent Examining Corps) (June 25, 2014).