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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ROBERTO MAGRI and GIULIO BOTTARI<sup>1</sup>

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Appeal 2017-007584  
Application 14/406,907  
Technology Center 2400

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Before CARL W. WHITEHEAD JR, JEFFREY S. SMITH and  
JOSEPH P. LENTIVECH, *Administrative Patent Judges*.

WHITEHEAD JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants are appealing the final rejection of claims 1–6 and 16 under 35 U.S.C. § 134(a). Appeal Brief 1. We have jurisdiction under 35 U.S.C. § 6(b) (2012).

We affirm.

*Introduction*

The invention is directed to “method for computing a path that achieves a requested security level against unauthorized physical access to the path.” Appeal Brief 4.

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<sup>1</sup> Appellants identify the real party in interest as Telefonaktiebolaget L M Ericsson. Appeal Brief 2.

*Illustrative Claim*

1. A path computation method comprising:

receiving, at a processor configured as a path computation entity (PCE), a request for a path from an ingress node to an egress node, wherein the request indicates a security level;

accessing, by the processor, a database that comprises security level information associated with a plurality of nodes, wherein the security level information indicates levels of security against unauthorized physical access for the plurality of nodes; and

selecting, by the processor, the path along one or more of the plurality of nodes that achieves the security level based on the security level information.

*Rejections on Appeal*

Claims 1–6 and 16 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter of an abstract idea. Final Action 4–6.

Claim 16 stands rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter of software per se. Final Action 5–6.

Claims 1–6 and 16 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Goringe (US Patent 7,984,294 B1; issued July 19, 2011) and Sadananda (US Patent Application Publication 2004/0258409 A1; published December 23, 2004). Final Action 6–10.

## ANALYSIS

Rather than reiterate the arguments of Appellants and the Examiner, we refer to the Appeal Brief (filed December 21, 2016), the Reply Brief (filed April 20, 2017), the Answer (mailed February 23, 2017) and the Final Action (mailed May 20, 2016) for the respective details.

The U.S. Supreme Court provides a two-step test for determining whether a claim is directed to patent-eligible subject matter under 35 U.S.C. § 101.<sup>2</sup> In the first step, we determine whether the claims are directed to one or more judicial exceptions (i.e., law of nature, natural phenomenon, and abstract ideas) to the four statutory categories of invention (i.e., process, machine, manufacture, and composition of matter). *Id.* (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)) (“*Mayo*”). In the second step, we “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.” *Id.* at 2355 (citing *Mayo*, 132 S. Ct. at 1297–98). In other words, the second step is to “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.* (citing *Mayo*, 132 S. Ct. at 1294).

### 35 U.S.C. §101 rejection of claims 1–6 and 16

Appellants contend, “The Application explains, ‘[a]s the demand for network capacity grows, the issue of securing the physical layer of optical network cannot be overlooked’ and “optical networks can be almost as easy

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<sup>2</sup> *Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

to tap or interfere as copper wire based networks.” Appeal Brief 9 (citing Specification 1). Appellants argue, “Claim 1 also recites specific features of rules as claim limitations, Claim 1 is directed toward a specific process that achieves a desired technological improvement, and therefore, recites patent eligible subject matter. In addition, amended Claim 1 does not preempt approaches that use a different set of rules.” Appeal Brief 8.

The Examiner finds:

As per **independent claim, the limitations are merely instructions to implement the abstract idea on a computer and require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry (e.g. receiving request, accessing database and select a path).**

The request, access and select is a generic computing operation that does not enhance the functionality of the computer. Further, the claim does not recite an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment.

Final Rejection 5.

In the instant application, “the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)<sup>3</sup>. The claims address

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<sup>3</sup> We do not read *Alice* to broadly holding that all improvements in computer-related technology are inherently abstract and, therefore, must be considered at step two. Indeed, some improvements in computer-related technology when appropriately claimed are undoubtedly not abstract, such as a chip architecture, an LED display, and the like. Nor do we think that claims directed to software, as opposed to hardware, are inherently abstract

navigating and calculating a path through nodes of a communication network while validating the path's security protocols, therefore, improving the computer function. Consequently, we find Appellants' arguments persuasive and reverse the Examiner's non-statutory subject matter rejection of claims 1–6 and 16.

35 U.S.C. § 101 rejection of claim 16

The Examiner further finds:

**Claim 16** is rejected **under 35 U.S.C. [§] 101** because the claimed invention is directed to non-statutory subject matter because the apparatus claim does not constitute any physical

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and therefore only properly analyzed at the second step of the *Alice* analysis. Software can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route. We thus see no reason to conclude that all claims directed to improvements in computer-related technology, including those directed to software, are abstract and necessarily analyzed at the second step of *Alice*, nor do we believe that *Alice* so directs. Therefore, we find it relevant to ask whether 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.

For that reason, the first step in the *Alice* inquiry in this case asks whether the focus of the claims is on the specific asserted improvement in computer capabilities (i.e., the self-referential table for a computer database) or, instead, on a process that qualifies as an “abstract idea” for which computers are invoked merely as a tool. As noted *infra*, in *Bilski* and *Alice* and virtually all of the computer-related § 101 cases we have issued in light of those Supreme Court decisions, it was clear that the claims were of the latter type—requiring that the analysis proceed to the second step of the *Alice* inquiry, which asks if nevertheless there is some inventive concept in the application of the abstract idea. *See Alice*, 134 S. Ct. at 2355, 2357–59. In this case, however, the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.

device and or machine and merely recite **software per se**.

Appellants did not make any arguments regarding rejection to claim 16 under 35 U.S.C. [§] 101 [in the Appeal Brief]. Therefore, the rejection is maintained.

Answer 8.

We agree with the Examiner’s findings. Appellants’ arguments in regard to claim 16 are not persuasive because they are not considered timely, and Appellants have not shown good cause for being untimely. Reply Brief 2–3. “Any argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner’s answer . . . will not be considered by the Board for purposes of the present appeal, unless good cause is shown.” 37 C.F.R. § 41.41(b)(2). *See Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006). We sustain the Examiner’s non-statutory subject matter rejection of claim 16 as directed to software per se.

35 U.S.C. § 103 rejection of claims 1–6 and 16

Appellants contend:

*Goringe’s process first makes a path selection and then determines the trustworthiness of the selected path based on received information, which is the reverse order of [the claimed] first “accessing . . . a database that comprises security level information” and then “selecting . . . the path along one or more nodes of the plurality of nodes that achieves the requested security level for the path based on the security level information.”*

Furthermore, *Goringe’s* process is initiated by the sending end point transmitting a PATH message to the selected path. *Goringe* arbitrarily selects a path to transmit the PATH message without knowledge of the trustworthiness of the selected path. Therefore, *Goringe’s* process does not begin in response to “receiving . . . a request for a path from an ingress node to an

egress node, wherein *the request indicates a security level.*”

Appeal Brief 13.

Goringe discloses:

A method and apparatus determine a trust level of a path through a plurality of routers by an endpoint by transmitting a path setup message requesting a path reservation for a first path through a subset of the routers, by receiving in response to transmission of the path setup message a trust level message containing trust level information inserted by each router in the first path through the subset, and by evaluating the inserted trust level information to determine if the first path has a sufficient trust level.

Goringe, column 1, lines 54–61; *see* Final Rejection 7.

We agree with Appellants that Goringe first sends out a path setup message requesting a path reservation for a first path and then evaluates the security level based upon the received information, as opposed to the claimed invention which sends a request for a path reservation specifying a security level and then the processor selects the path accordingly.

Sadananda however discloses that the receiver selects the path:

The working path and the protection path are typically established at the same time. In the case of a 1+1 protected path, the same traffic is carried on both paths, and the receiving node selects the best of the paths (i.e., if the one currently selected by the receiving node degrades or fails, that node will switch to the other).

Sadananda, paragraph 15; Final Action 8–9. Appellants do not argue the combination of Goringe/Sadananda. *See* Answer 12–14. “Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642

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F.2d 413, 425 (CCPA 1981)). Accordingly, we sustain the Examiner's obviousness rejection of claims 1–6 and 16.

#### DECISION

The Examiner's non-statutory subject matter rejection of claims 1–6 and 16 as being directed to an abstract idea is reversed.

The Examiner's non-statutory subject matter rejection of claim 16 as being directed to software per se is affirmed.

The Examiner's obviousness rejection of claims 1–6 and 16 is affirmed.

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

AFFIRMED