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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH M. KRYSKOW JR.,
RICHARD E. HUDNALL, and LOWELL KOPP

Appeal 2015-004313¹
Application 13/761,232²
Technology Center 3600

Before TARA L. HUTCHINGS and AMEE A. SHAH, *Administrative Patent Judges*.

JAMES A. WORTH, *Administrative Patent Judges*, concurring-in-part and dissenting-in-part.

HUTCHINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

¹ Our decision references Appellants' Appeal Brief ("Br.," filed Oct. 31, 2014), and the Examiner's Answer ("Ans.," mailed Dec. 26, 2014) and Non-Final Office Action ("Non-Final Act.," mailed July 31, 2014).

² Appellants identify Infrastructure Innovations, LLC as the real party in interest. Br. 3.

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Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–5. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED INVENTION

Appellants' claimed invention "applies closed-loop control methodologies to the field of automated on-line business bandwidth planning tools." Spec. 2, ll. 1–2.

Claims 1 and 3 are the independent claims on appeal. Claim 3, reproduced below, is illustrative of the claimed subject matter:

3. Apparatus, configured to:
 - measure a parameter relating to bandwidth and provide a current bandwidth parameter signal having a magnitude indicative thereof,
 - compare the current bandwidth parameter signal with a service level agreement baseline signal and provide a difference signal, and
 - modify the baseline signal in response to the difference signal.

REJECTIONS

Claims 1–5 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1–5 are rejected under 35 U.S.C. § 103(a) as unpatentable over Klassen (US 6,711,137 B1, iss. Mar. 23, 2004), Basso (US 6,690,678 B1, iss. Feb. 10, 2004), and Matthieu Verdier et al., *Dynamic Bandwidth Management in ATM Networks*, PROCEEDINGS OF THE EUNICE'98 SUMMER SCHOOL ON NETWORK MANAGEMENT AND OPERATION (Sept. 1998) (downloaded from

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http://www.ee.ucl.ac.uk/~dgriffin/papers/eunice_bd98.pdf (hereinafter “Eunice”).

ANALYSIS

Non-Statutory Subject Matter

In rejecting claims 1–5 under 35 U.S.C. § 101, the Examiner finds that the claims are directed to the abstract idea of “bandwidth management software using signals.” Non-Final Act. 3. The Examiner finds that the additional elements or combination of elements in the claims amount to no more than “mere instructions to implement the idea on a computer processor.” *Id.* at 3–4. Appellants contend that the claims are not abstract, because they recite a “real world management method.” Br. 5.

Before determining whether the claims at issue are directed to an abstract idea, we must first determine the concept to which the claims are directed.

The “directed to” inquiry[] . . . cannot simply ask whether the claims involve a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S. Ct. at 1293 (“For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”) Rather, the “directed to” inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether “their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1375, 2016 WL 1393573, at *5 (Fed. Cir. 2016) (inquiring into “the focus of the claimed advance over the prior art”).

Enfish, 822 F.3d at 1335.

With respect to computer-enabled claimed subject matter, it can be helpful to determine whether “the claims at issue . . . can readily be understood as simply adding conventional computer components to well-known business practices” or not. *Id.* at 1338. *See also Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016). In *Enfish*, for example, the court noted that “[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can[.]” *Enfish*, 822 F.3d at 1335. The court put the question as being “whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Id.* at 1335–36. The relevant question is whether the claims as a whole “focus on a specific means or method that improves the relevant technology” or are “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

Here, independent claim 1 recites a method for bandwidth management comprising the steps for measuring, comparing, providing, and modifying. Independent claim 3 similarly recites an apparatus configured to “measure,” “compare,” and “modify.” We find that the claims as a whole are focused on bandwidth management planning methodology.³ Appellants’ Specification supports our determination. *See* Spec. ¶ 2 (“[t]his invention applies closed-loop control methodologies to the field of automated on-line business bandwidth planning tools.”) The Specification describes how

³ We note that “[a]n abstract idea can generally be described at different levels of abstraction” without impacting the patentability analysis. *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240–41 (Fed. Cir. 2016).

service provider contracts “now mandat[e] service level agreements (SLAs) to try to get a mechanism in place to enforce what is promised versus what is delivered.” *Id.* The SLA between an Internet service provider (ISP) and an enterprise includes various baseline parameters relating to different types of traffic, such as voice, video, transaction data, or database queries. *Id.* at 9–10. Exemplary baseline parameters include multiple thresholds, warnings, and/or SLA metrics. *Id.* at 6. The Specification describes a shared interest between the ISP and the business enterprise in managing the transport of data between the business enterprise’s main site and remote sites so that “performance [can become] visible[,] and the environment can become one of trust.” *Id.* at 10. The Specification also recommends that the measurements and reporting be carried out by an independent operator, instead of the ISP or business enterprise, to further increase trust levels between the parties. *Id.*

Against this backdrop of increasing trust among partners, Appellants’ bandwidth management planning methodology “combin[es] highly accurate monitoring tools and automatic bandwidth simulation tools into a single planning tool framework.” *Id.* at 3. The invention “allows the user to simulate the effects of changes in business bandwidth.” *Id.* Specifically, the Specification describes a monitoring tool for measuring current business bandwidth data, comparing the measured bandwidth against baseline profiles, such as the SLA metrics, and determining compliance with the SLA. *See id.* at 5–6, Fig. 1. A simulation tool simulates the effects of changing baseline profiles, such as increasing capacity. *See id.* at 7, Fig. 1. Additional planning modules make network bandwidth SLA change recommendations, including price and performance tradeoffs resulting from changing one or more component SLA’s. *Id.* In sum, the Specification

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supports our determination that the focus of the claims as a whole is directed to a bandwidth management planning process that qualifies as an abstract idea for which computers are invoked merely as a tool, rather than any purported improvement in computer capabilities.

We are not persuaded by Appellants' argument that the claimed bandwidth management planning methodology is not abstract, because it is a "real world management method." Br. 5. Appellants assert that "[m]easuring a parameter relating to business bandwidth . . . is no different than measuring some other real world parameter[,] such as consumption of fuel." *Id.* at 6. Appellants analogize claim 1 to a hypothetical claim that is directed to oil supply management and recites limitations corresponding to the limitations recited in claim 1. *See id.* at 6–7. Providing no supporting authority, Appellants contend that the hypothetical claim "would not be considered to be directed to an abstract idea" and reason claim 1 is "statutory as well." *Id.* at 7.

Appellants' arguments are unpersuasive, at least because they are predicated on a false premise that claims directed to gathering and processing information regarding physical, consumable resources are patent eligible. *Cf. TDE Petroleum Data Solutions, Inc. v. AKM Enter., Inc.*, 657 Fed. Appx. 991 (Fed. Cir. 2016), cert. denied, 137 S. Ct. 1230 (2017) (method claim for determining the state of a well operation held to be abstract and patent-ineligible under § 101 where the claim recites the following three steps: (1) storing a plurality of states for a well operation, (2) receiving mechanical and hydraulic data reported for the well operation, and (3) determining that at least some data is valid); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011) ("the application of [only] human intelligence to the solution of practical problems

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is no more than a claim to a fundamental principle.”) (quoting *In re Bilski*, 545 F.3d 943, 965 (Fed. Cir. 2008). The Federal Circuit has made clear that the basic character of a process claim drawn to an abstract idea is not changed by claiming only its performance by a machine or apparatus, or by claiming the process embodied in program instructions on a computer-readable medium. *CyberSource*, 654 F.3d at 1375–76 (citing *In re Abele*, 684 F.2d 902 (CCPA 1982)).

Here, claim 1 recites steps of “measuring,” “comparing,” “providing . . . a validation signal,” and “modifying the baseline signal.” Yet these steps recite nothing more than collecting, processing, and manipulating information — steps that the Federal Court has repeatedly held to be in the realm of the abstract. *See, e.g., Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (claims “directed to the abstract idea of collecting, displaying, and manipulating data”); *see also Elec. Power Grp. LLC v. Alstom*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collection, manipulation, and display of data is abstract); *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1326–27 (Fed. Cir. 2017) (encoding and decoding image data did not improve the functioning of a computer but invoked computers merely as a tool). In addition, the steps of claim 1 also could be characterized as a process claim drawn to an application of human intelligence to a practical problem (e.g., complying with an SLA) or steps that can be performed manually by a human. *See, e.g., Return Mail, Inc. v. USPS*, No. 2016-1502, 2017 WL 3687450 *13 (Fed. Cir. Aug. 28, 2017) (“[e]ncoding and decoding mail recipient information—including whether the sender wants a corrected address—are processes that can, and have been, performed in the human mind”).

Contrary to Appellants' suggestion in the Appeal Brief, an abstract idea is not rendered patentable just because of its connections to the physical world. *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2358 (2014) (“The fact that a computer necessarily exist[s] in the physical, rather than purely conceptual realm . . . is beside the point”). For example, despite the claims in *TDE Petroleum* reciting measuring mechanical and hydraulic data for the well operation, the Federal Circuit found nothing inventive in “storing state values, receiving sensor data, validating sensor data, or determining a state based on sensor data” when the claim limitations were considered individually, and as an ordered combination. *TDE Petroleum*, 657 Fed. Appx at 993. To the contrary, the court found that the claim recited “generic computer functions that amount to nothing more than the goal of determining the state of an oil well operation.” *Id.* Likewise, the claims in *Electric Power* were held to be patent ineligible despite reciting various measurements relating to an interconnected electric power grid and deriving a composite indicator indicating the power grid's vulnerability. *See Electric Power Grp.*, 830 F.3d at 1354 (“limiting the claims to the particular technological environment of power-grid monitoring is, without more, insufficient to transform them into patent-eligible applications of the abstract idea”).

Here, claim 1 recites a generic “apparatus” for performing the recited steps. But we find that the abstract idea of bandwidth management planning methodology is not altered by the incorporation of a generic apparatus, operating in its ordinary capacity. *See Alice Corp.*, 134 S. Ct. at 2358 (neither “limiting the use of an abstract idea to a particular technological environment” nor stating an abstract idea while adding “wholly generic computer implementation” can transform an abstract idea into a patentable

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invention). For example, there is no indication that any specialized hardware is required for the “apparatus.” To the contrary, the Specification recommends using a “plurality of n-port SLA modules . . . for measuring, changing and reporting business bandwidth usage” provided as an “independent service” by an “independent operator” to address issues of trust between the parties. Spec. 10.

We are not persuaded by Appellants’ argument that claim 1 includes additional steps, such as the modifying step, that adds “significantly more” to the abstract idea of bandwidth planning management methodology because it constitutes an inventive concept, is an application of an idea to a new and useful end, and distinguishes over claims to building blocks of human ingenuity. *See* App. Br. 7–8. Appellants do not explain how, and we do not see how, the claimed steps are technically done such that they are not routine, conventional functions of a generic computer. Like the claims in *Electric Power* and *TDE Petroleum*, claim 1 “recite[s] the *what* of the invention, but none of the *how* that is necessary to turn the abstract idea into a patent-eligible application.” *TDE Petroleum*, 657 Fed. Appx at 993 (quoting *Elec. Power*, 830 F.3d at 1353). Although the Dissent points to the Specification at pages 8–9 for support that the step of modifying is technological and not abstract, the Appellants do not point out, and we do not see where, the Specification provides that the modifying step is done in such a way that it is not a generic computer implementation or how it is a technological step. *See Intellectual Ventures I LLC v. Erie Indemnity Co.*, 850 F.3d 1315, 1320–30 (Fed. Cir. 2017); *see also In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (“not every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry.”). Here, the Specification supports finding that the method is

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performed by generic technology. *See* Spec. 10 (describing a generic four-port SLA module).

Appellants advance the same arguments with respect to claims 2–5 as advanced for claim 1 and, thus, are similarly unpersuasive. *See* Br. 8–10. None of Appellants’ arguments persuade us of Examiner error in rejecting claims 1–5 under 35 U.S.C. § 101.

In view of the foregoing, we sustain the Examiner’s rejection under 35 U.S.C. § 101 of claims 1–5.

Obviousness

Independent Claim 1 and Dependents Claim 2

In rejecting claim 1 under 35 U.S.C. § 103(a), the Examiner finds that Klassen describes “measuring . . . a parameter relating to business bandwidth currently provided according to a service level agreement and providing a current bandwidth parameter signal having a magnitude indicative thereof,” and “comparing . . . the current bandwidth parameter signal.” Non-Final Act. 5–6 (citing Klassen, Abstract, col. 5, ll. 24–36, col. 8, ll. 60–67, col. 9, ll. 1–10, col. 11, ll. 45–54, col. 17, ll. 14–52). The Examiner acknowledges that Klassen “might not explicitly disclose comparing the current bandwidth parameter with a baseline,” and relies on Basso to cure the deficiency. *Id.* at 6 (citing Basso, Claims 4–6, Abstract, col. 8, ll. 62–67, col. 10, ll. 44–67, col. 11, ll. 1–30, col. 15, ll. 22–54, col. 21, ll. 22–64, Fig. 9). We do not disagree with the Examiner’s findings regarding the references individually.

The difficulty with the Examiner’s analysis, however, is that the Examiner has not established that a person of ordinary skill in the art, at the time of Appellants’ invention, would have had an apparent reason, in view of Basso, to modify Klassen to arrive at the claimed invention, as recited in

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claim 1. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (establishing a prima facie case of obviousness requires an apparent reason to modify the prior art as proposed by the Examiner). For example, the Examiner determines that one of ordinary skill in the art would have been motivated to modify Klassen “to dynamically adjust the bandwidth of a Continuous Bit Rate (CBR) Virtual Path Connection (VPC) according to the current network resource reservation.” Non-Final Act. 6 (citing Basso col. 4, ll. 25–27). But this language, copied from the Basso reference, fails to adequately explain why one of ordinary skill in the art would have modified the Klassen reference, which does not disclose a CBR VPC, to dynamically adjust bandwidth.

On this record, the Examiner fails to adequately explain why one of ordinary skill in the art would combine Klassen and Basso to arrive at the claimed invention. Therefore, we do not sustain the Examiner’s rejection of independent claim 1 and dependent claim 2 under 35 U.S.C. § 103(a).

Independent Claim 3, and Dependent Claims 4 and 5

Independent claim 3 includes language substantially similar to the language of independent claim 1 and stands rejected based on the same rationale we deem to be inadequate. *See* Non-Final Act. 9. Therefore, we do not sustain the rejection of independent claim 3 and dependent claims 4 and 5 under 35 U.S.C. § 103(a) for the same reasons set forth with respect to claim 1.

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DECISION

The Examiner's rejection of claims 1–5 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejection of claims 1–5 under 35 U.S.C. § 103(a) is reversed.

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH M. KRYSKOW JR.,
RICHARD E. HUDNALL, and LOWELL KOPP

Appeal 2015-004313
Application 13/761,232
Technology Center 3600

Before TARA L. HUTCHINGS and AMEE A. SHAH, *Administrative Patent Judges*.

WORTH, *Administrative Patent Judge*, concurring-in-part and dissenting-in-part.

While I concur with the majority regarding the rejection under 35 U.S.C. § 103, I do not join the majority opinion regarding the rejection under 35 U.S.C. § 101 because, in my view, the limitation “modify[] the baseline signal,” as recited by independent claims 1 and 3, is directed to a non-abstract, technological approach. *See also* Spec. 8–9 (discussing modification of baselining 116).