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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/636,668	12/11/2009	Christopher J. Dawson	END920090106US1	1799

79980 7590 11/09/2018

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EXAMINER	
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ART UNIT	PAPER NUMBER
3684	

NOTIFICATION DATE	DELIVERY MODE
11/09/2018	ELECTRONIC

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPHER J. DAWSON, VINCENZO V. DILUOFFO, MICHAEL D. KENDZIERSKI, and JAMES W. SEAMAN

Appeal 2017-004630
Application 12/636,668
Technology Center 3600

Before JOHNNY A. KUMAR, JUSTIN BUSCH, and STEVEN M. AMUNDSON

KUMAR, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22, which are all the claims pending in this application. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellants identify International Business Machines Corporation as the real party in interest. Appeal Br. 2.

STATEMENT OF THE CASE

Claim 1 is exemplary and illustrative of the invention and reads as follows:

1. A method for brokering Cloud services across a network of a Cloud computing environment, comprising:

receiving, via at least one computing device, a request for Cloud resources of a Cloud service from an endpoint computing device, wherein the endpoint computing device initiates the request to a broker residing in the network of the cloud computing environment;

identifying, via at least one computing device, a set of Cloud service providers capable of providing the Cloud computing resources of the Cloud service based upon criteria established by the user, the criteria comprising a desired price for obtaining the Cloud computing resources of the Cloud service, and wherein the set of Cloud service providers capable of providing the Cloud computing resources of the Cloud service is continuously updated;

presenting, via at least one computing device, the set of Cloud service providers capable of providing the Cloud computing resources of the Cloud service to the endpoint computing device via a display device configured to display the set of Cloud providers capable of providing the Cloud service and to display an associated pricing rate plan for each of set of Cloud service providers for obtaining the Cloud computing resources of the Cloud service;

communicating across the network, via at least one computing device, with a specific Cloud service provider from the set of Cloud service providers to provide the Cloud computing resources of the Cloud service at the desired price;

receiving from the endpoint computing device, via at least one computing device, a selection of the specific Cloud service provider comprising the Cloud computing resources;

submitting over the network, via at least one computing device, a request to execute the Cloud computing resources of the Cloud service to the specific Cloud provider;

determining, via at least one computing device, whether another specific Cloud service provider is offering the Cloud computing resources of the Cloud service at a lower price than the specific Cloud service provider after the request to execute the Cloud service is submitted to the specific Cloud provider and before the Cloud computing resources of the Cloud service is executed by the specific Cloud provider;

determining, via at least one computing device, whether to de-select the specific Cloud service provider after the request to execute the Cloud computing resources of the Cloud service is submitted to the specific Cloud provider and before the Cloud computing resources of the Cloud service is executed by the specific Cloud provider and submit the request to execute the Cloud computing resources of the Cloud service to the another specific Cloud service provider based on a cost-benefit analysis; and

executing, via the at least one computing device, the Cloud computing resources by the specific Cloud service provider or the another specific Cloud service provider, based on a result of the determining whether to de-select the specific Cloud provider;

wherein each of the set of Cloud service providers comprises at least one computing device, and

wherein the Cloud computing resources of the Cloud service comprises at least one of a server or a storage device.

Supplemental Appeal Br. 2.

EXAMINER'S REJECTION

Claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to patent-ineligible subject matter. Final Act. 3–8.

DISCUSSION

In *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), the Supreme Court reiterates an analytical two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 79 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts," such as an abstract idea. *Id.* If the

claims are directed to eligible subject matter, the inquiry ends. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 79, 78). 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*, 566 U.S. at 72–73).

In rejecting claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 under 35 U.S.C. § 101, the Examiner determines these claims are directed to a "series of steps instructing how to broker telecommunications services, which is a fundamental economic practice, and hence, an abstract idea," and include limitations that are analogous or akin to (i) "comparing new and stored information [criteria and current rate plans] and using rules [cost benefit analysis] to identify options," as discussed in *SmartGene*; and (ii) "creating a contractual relationship—a 'transaction performance guaranty'" as discussed in *buySAFE*. Final Act. 3–5 (citing *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950 (Fed. Cir. 2014); and *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. 2014)). The Examiner also finds "the brokering steps" recited in the claims are mental steps that can be performed without the use of a computer. Final Act. 8; *see*

also CyberSource Corp. v. Retail Decisions, Inc., 654 F.3d 1366, 1370 (Fed. Cir. 2011).

The Examiner further determines that the additional elements (e.g., a computing device, cloud, network, cloud computing, display device), whether separately or in combination, do "not amount to significantly more than the judicial exception" because these additional elements are generic elements and are simply a conventional "implementation of the abstract idea." Final Act. 5–6.

Alice/Mayo—Step 1 (Abstract Idea)

Turning to the first step of the *Alice* inquiry, Appellants argue the Examiner has over-generalized and mischaracterized the claimed method. Appeal Br. 9; Reply Br. 1–2. This argument is not persuasive because the Examiner is required to review all claims at some level of generalization and determine whether those claims are directed to an abstract idea under *Alice* step 1. However, there is no single definition of "abstract idea." As the Federal Circuit succinctly put it:

> The problem with articulating a single, universal definition of "abstract idea" is that it is difficult to fashion a workable definition to be applied to as-yet-unknown cases with as-yet-unknown inventions.

Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016). Because there is no single definition of an abstract idea, the Federal Circuit instructs us "to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided." *Amdocs*, 841 F.3d at 1294 (citing *Elec. Power Grp., v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)); *accord* USPTO Memorandum, July 2015 Update: Subject Matter Eligibility (July 30, 2015),

https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf (Instructing Examiners that "a claimed concept is not identified as an abstract idea unless it is similar to at least one concept that the courts have identified as an abstract idea."). In this case, the Examiner did just what he was required to do under the USPTO Memorandum and has characterized the claims as required pursuant to *Alice*.

Next, Appellants argue the claims are not directed to an abstract idea because (1) the claims are directed to computer-related technology, i.e., "brokering of Cloud (computing) services across a network of a Cloud computing environment" and, like the claims in *Enfish*, Appellants' invention "is directed to addressing a problem not solved by prior art in the computer-related arts"; (2) the claims "are directed to technology, which includes tangible elements [e.g., computing device, Cloud computing resources, network, and server] that could not be implemented simply in the mind of a person" and, as such, "cannot, therefore, only be abstract"; and (3) unlike the claims in *SmartGene* and *buySAFE*, Appellants' claims require computing resources and achieve "a tangible result at least in execution of Cloud computing resources" which is "in contrast to *buySafe's* result of processing of a request for obtaining a transaction performance guaranty." Appeal Br. 9–14.

Appellants' arguments are not persuasive. First, we note Appellants' reference to tangible elements and tangible results is misplaced because (1) the old "useful, concrete and tangible result" test articulated by the Federal Circuit in *In re Alappat,* 33 F.3d 1526, 1544 (Fed. Cir. 1994), and *State Street Bank & Trust Co. v. Signature Fin. Grp., Inc.* 149 F.3d 1368 (Fed. Cir. 1998), and (2) the so-called "machine-or-transformation" (MoT)

test endorsed by the Federal Circuit in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), have been overruled by *Alice*. As such, tangible elements and tangible results are no longer dispositive in determining whether a claim is directed to an abstract idea.

Second, we also note Appellants' reliance on *Enfish* is misplaced. In *Enfish*, the claims were directed to an improved database architecture, i.e., a self-referential table — "a specific type of data structure designed to improve the way a computer stores and retrieves data in memory." *Enfish,* 822 F.3d at 1339. Such a data structure has several alleged distinct advantages over conventional relational databases, including: (1) faster searching of data than would be possible with the conventional relational model (*see* US 6,151,604 "*Enfish* '604 patent," 1:55–59, 2:66–3:6); (2) more effective storage of data other than structured text, such as storage of images and unstructured text (*Enfish* '604 patent, 2:16–22, 2:46–52); and (3) more flexibility in configuring the database (*Enfish* '604 patent, 2:27–29).

In *Enfish*, the Federal Circuit characterized the "directed to" inquiry as a stage-one filter to the claims, "considered in light of the specification, based on whether 'their character as a whole is directed to excluded subject matter.'" *Enfish*, 822 F.3d at 1335. In particular, the Federal Circuit interpreted the "directed to" inquiry as asking "whether the claims are directed to an *improvement to computer functionality* versus being directed to an abstract idea." *Enfish*, 822 F.3d at 1335 (emphasis added). "[T]he focus of the claims is on the specific asserted improvement in computer capabilities (i.e., the self-referential table for a computer database)." *Id.* Based on the "plain focus of the claims," the Federal Circuit concluded that *Enfish's* claims were directed to "a specific improvement to the way

computers operate, embodied in the self-referential table," and, as such, were more than a mere abstract idea. *Id.* at 1336. Because the Federal Circuit decided step 1 of the *Alice* two-step analysis was satisfied, analysis under *Alice* step 2 was not required. *Id.*

In contrast to *Enfish*, Appellants' claims and Specification are directed to "the brokering of Cloud services within a Cloud computing environment." Spec. ¶ 1. According to Appellants, "[t]he present invention provides a solution to perform pricing and brokering of Cloud services" and "provides a way to display a price next to service." Spec. ¶ 3; Abstract. Contrary to Appellants' arguments, there is no improvement of any underlying technology; instead, Appellants' claimed invention simply utilizes existing technology to broker Cloud services within a Cloud computing environment, similar to the risk-hedging service discussed in *Bilski*,[2] and the intermediated-settlement service discussed in *Alice*.

Based on the limitations recited in the claims and also Appellants' Specification, we agree with the Examiner that the claims are directed to an abstract idea of brokering telecommunications services, which is considered as a "fundamental economic practice" similar to fundamental economic, transactional practices and other concepts identified in *Alice* and *Bilski*. Final Act. 3; Ans. 2. Such activities are squarely within the realm of abstract ideas. Brokering services within a Cloud computing environment or any other environments is a fundamental business practice prevalent in our system of commerce, like (1) the risk hedging in *Bilski*, 561 U.S. 593; (2) the intermediated settlement in *Alice*, 134 S. Ct. at 2356–57;

[2] *Bilski v. Kappos*, 561 U.S. 593 (2010)

(3) verifying credit-card transactions in *CyberSource*, 654 F.3d at 1370; (4) guaranteeing transactions in *buySAFE*, 765 F.3d at 1354; (5) distributing products over the Internet in *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014); (6) determining a price of a product offered to a purchasing organization in *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306 (Fed. Cir. 2015); and (7) pricing a product for sale in *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015). Brokering services within a Cloud computing environment or any other environments is also a building block of a market economy and, as such, is an "abstract idea" beyond the scope of § 101. *See Alice* 134 S. Ct. at 2356.

Moreover, the steps recited in Appellants' claims 1, 8, and 15 are only abstract processes of collecting, storing, analyzing and sending information of a specific content, e.g., information identifying a specific Cloud service provider that best meets the needs of a user (e.g., price, schedule). Information, as such, is intangible, and data analysis and transmission are abstract ideas. *See, e.g.*, *Microsoft Corp. v. AT & T Corp.*, 550 U.S. 437, 451 n.12 (2007); *Alice*, 134 S. Ct. at 2355; *Parker v. Flook*, 437 U.S. 584, 589, 594–95 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972). "[C]ollecting information and analysis, including when limited to particular content (which does not change its character as information)," and "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more," are "within the realm of abstract ideas." *Elec. Power Grp.*, 830 F.3d at 1353–54; *see also Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1349 (Fed. Cir. 2015); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014); *CyberSource* 654 F.3d at 1370.

As further recognized by the Examiner (Ans. 8), the steps recited in Appellants' claims 1, 8, and 15, including: (1) "receiving . . . a request for Cloud resources of a Cloud service"; (2) "identifying . . . a set of Cloud service providers . . . based upon criteria [including price]"; (3) "presenting . . . the set of Cloud service providers . . . [with] associated pricing rate plan"; (4) "determining . . . whether another specific Cloud service provider . . . at a lower price"; and (5) "executing . . . the Cloud computing resources [based on a cost-benefit analysis]" are also "mental steps" that could be performed on a computer. *See CyberSource*, 654 F.3d at 1372–73 ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101."); *see also In re Comiskey*, 554 F.3d 967, 979 (Fed. Cir. 2009) ("[M]ental processes–or processes of human thinking–standing alone are not patentable even if they have practical application."); *Gottschalk*, 409 U.S. at 67 ("Phenomena of nature . . . , *mental processes*, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work" (emphasis added)). Additionally, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").

Separately, we note Appellants' claims 1, 8, and 15 do not improve the performance of a computer or solve a problem specific to computers. Appellants' Specification and arguments do not demonstrate the claims "improve the way a computer stores and retrieves data in memory," as the claims in *Enfish* did via a "self-referential table for a computer database."

See Enfish, 822 F.3d at 1336, 1339. Neither the steps recited in Appellants' claims 1, 8, and 15, nor the rest of Appellants' Specification supply any description or explanation as to how these data processing and transmission steps are intended to provide: (1) a "solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," as explained by the Federal Circuit in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014); (2) "a specific improvement to the way computers operate," as explained in *Enfish*, 822 F.3d at 1336; or (3) an "unconventional technological solution . . . to a technological problem" that "improve[s] the performance of the system itself," as explained in *Amdocs*, 841 F.3d at 1302.

Accordingly, we agree with the Examiner that claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 are directed to an abstract idea of "[pricing] and brokering Cloud services," which is "a fundamental economic practice" similar to fundamental economic and transactional practices identified in *Alice* and *Bilski*.

Alice/Mayo—Step 2 (Inventive Concept)

In the second step of the *Alice* inquiry, Appellants argue (1) the "collection of steps [recited in claims 1, 8, and 15] in itself, comprises 'significantly more' [i.e., inventive concept] than the purported 'abstract idea' submitted by the Examiner"; and (2) "[t]he absence of any current rejection under 35 U.S.C. § 102 or § 103, evidences that the claims are, in fact, novel and non-obvious." Appeal Br. 10–12.

Appellants' arguments are not persuasive. At the outset, we note that (1) "the concept of inventiveness is distinct from that of novelty" and (2) "[t]he inventiveness inquiry of § 101 should therefore not be confused

with the separate novelty inquiry of § 102 or the obviousness inquiry of § 103." *Amdocs*, 841 F.3d at 1311. We may even assume that the techniques claimed are "[g]roundbreaking, innovative, or even brilliant," but that is not enough for eligibility. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013); *accord buySAFE*, 765 F.3d at 1352. Nor is it enough for subject-matter eligibility that claimed techniques be novel and nonobvious in light of prior art, passing muster under 35 U.S.C. §§ 102 and 103. *See Mayo*, 566 U.S. at 89–90; *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) ("[A] claim for a *new* abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty."); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (same for obviousness). The claims here are ineligible because their innovation is an innovation in ineligible subject matter. Their subject matter is nothing but pricing and brokering Cloud services (Spec. ¶ 3). An advance of that nature is ineligible for patenting.

For example, the Federal Circuit decisions in (1) *DDR*, 773 F.3d at 1257, and (2) *Amdocs*, 841 F.3d 1288, are more instructive because, like Appellants' invention, these cases also involve business-centric inventions.

For example, in *DDR* and *Amdocs*, the Federal Circuit opted to bypass *Alice* step 1 in favor of step 2. In particular, the Federal Circuit found *DDR's* claims contain an "inventive concept" under *Alice* step 2 because *DDR's* claims (1) do not merely recite "the performance of some business practice known from the pre-Internet world" previously disclosed in *Bilski* and *Alice*, but instead (2) provide a technical solution to a technical problem unique to the Internet, *i.e.*, a "solution . . . necessarily rooted in computer

technology in order to overcome a problem specifically arising in the realm of computer networks." *DDR,* 773 F.3d at 1257. Likewise, the Federal Circuit also decided *Amdocs'* claims contain a sufficient "inventive concept" because like the claims in *DDR*, *Amdocs'* claims "entail[] an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases)" and "improve the performance of the system itself." *Amdocs*, 841 F.3d at 1300, 1302.

Under current Federal Circuit precedent, an "inventive concept" under *Alice* step 2 can be established by showing, for example, that the patent claims:

> (1) provide a technical solution to a technical problem unique to the Internet, e.g., a "solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" (*see DDR*, 773 F.3d at 1257);
>
> (2) transform the abstract idea into "a particular, practical application of that abstract idea," e.g., "installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user" (*see BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350, 1352 (Fed. Cir. 2016)); or
>
> (3) "entail[] an unconventional technological solution ([e.g.,] enhancing data in a distributed fashion) to a technological problem ([e.g.,] massive record flows [that] previously required massive databases)" and "improve the performance of the system itself" (*see Amdocs,* 841 F.3d at 1300, 1302).

In this case, however, we find no element or combination of elements recited in Appellants' claims 1, 8, and 15 that contains any "inventive

concept" or adds anything "significantly more" to transform the abstract concept (i.e., "pricing and brokering Cloud services") into a patent-eligible application. *Alice*, 134 S. Ct. at 2357. We agree with the Examiner that the recited computer elements (such as a computing device, cloud, network, cloud computing, display device) cannot transform the abstract idea into a patent eligible invention. As our reviewing court has observed, "after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible." *DDR*, 773 F.3d at 1256 (citing *Alice*, 134 S. Ct. at 2358).

Because Appellants' claims 1, 8, and 15 are directed to a patent-ineligible abstract concept and do not recite something "significantly more" under the second prong of the *Alice* analysis, we sustain the Examiner's rejection of claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 under 35 U.S.C. § 101.

CONCLUSION

On the record before us, we conclude Appellants have not demonstrated the Examiner erred in rejecting claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 under 35 U.S.C. § 101.

DECISION

As such, we affirm the Examiner's rejection of claims 1, 3–5, 7, 8, 10–12, 14, 15, 17–19, 21, and 22 under 35 U.S.C. § 101.

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