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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CHRISTOPHER J. DAWSON,  
VINCENZO V. DILUOFFO,  
RICK A. HAMILTON II, and  
MICHAEL D. KENDZIERSKI

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Appeal 2017-000489  
Application 12/342,344<sup>1</sup>  
Technology Center 3600

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Before HUBERT C. LORIN, ANTON W. FETTING, and  
BRADLEY B. BAYAT, Administrative Patent Judges.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Christopher J. Dawson, et al. (Appellants) seek our review under 35 U.S.C. § 134(a) of the Final Rejection of claims 1–24. We have jurisdiction under 35 U.S.C. § 6(b).

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<sup>1</sup> The Appellants identify International Business Machines Corporation as the real party in interest. App. Br. 1.

## SUMMARY OF DECISION

We AFFIRM.

### THE INVENTION

Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. A method for allocating workloads to manage energy in a data center comprising the computer-implemented steps of:

analyzing an operating state of each of a plurality of computer systems within a data center cluster environment in which a set of logical resources that share underlying physical computer system resources to determine an operating state of each of a set of computer systems from the plurality of computer systems within the data center, the operating state of each computer system being based on whether the computer system is currently operating and a current workload usage of the computer system, each computer system of the plurality of computer systems including a computer device;

assigning a priority to each of the plurality of computer systems based on the analyzing, the priority being a numerical rating that identifies the operating state of a particular computer system, wherein the assigning further comprises:

assigning a relatively low priority to a computer system having an operating state that is either off or has an error processing workload;

assigning a relatively low priority to a computer system that has an operating state that indicates that the current workload usage of the computer system indicates an energy usage that exceeds a predefined threshold; and

assigning a highest priority to a computer system has an operating state that is operating and has a current workload usage that indicates an energy usage that does not exceed the predefined threshold; and

prioritizing a routing of a workload to the set of computer systems from the plurality of computer systems within the data center based on the priority of each of the plurality of computer systems, wherein the workload comprises an application, and wherein the prioritizing is further based on a priority of the application.

App. Br. 18 (Claims Appendix).

### THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Fujino	US 2004/0194061 A1	Sept. 30, 2004
Malik	US 2010/0235654 A1	Sept. 16, 2010
Kennedy	US 2011/0063126 A1	Mar. 17, 2011

“[T]he examiner takes Official Notice that it was well-known in the art at the time the invention was made to charge a fee for services performed.” Final Rej. 16. (Official Notice)

The following rejections are before us for review:

Claims 1–24 are rejected under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter.

Claims 1, 2, 7, 8, 13, 14, 19, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujino and Kennedy.

Claims 3–5, 9–11, 15–17 and 21–23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Malik.

Claims 6, 12, 18, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Official Notice.

## ISSUES

Did the Examiner err in rejecting claims 1–24 under 35 U.S.C. §101 as being directed to judicially-excepted subject matter?

Did the Examiner err in rejecting claims 1, 2, 7, 8, 13, 14, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Fujino and Kennedy?

Did the Examiner err in rejecting claims 3–5, 9–11, 15–17 and 21–23 under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Malik?

Did the Examiner err in rejecting claims 6, 12, 18, and 24 under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Official Notice?

## ANALYSIS

*The rejection of claims 1–24 under 35 U.S.C. §101 as being directed to judicially-excepted subject matter.*

The Appellants argued these claims as a group. *See* App. Br. 7–12. We select claim 1 as the representative claim for this group, and the remaining claims 2–24 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

*Alice Corp. Proprietary Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014) identifies a two-step framework for determining whether claimed subject matter is judicially-excepted from patent-eligibility under 35 U.S.C. § 101.

According to *Alice* step one, “[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept,” such as an abstract idea. *Alice*, 134 S. Ct. at 2355.

In that regard, the Examiner determined that the claims are directed to the abstract idea of allocating workloads to manage energy which is viewed as the comparing of new and stored information and using rules to identify options (Federal Register vol. 79, No. 241 (SmartGene: 17 see Section IV.B.4.)) which is the mental steps done on a computer, this is the case because it appears the claims consist solely of gathered data which next involves the mental steps that can be carried out by a human using pen and paper including a file containing state data. This managing of workloads can be broken down into the steps of understanding a system, prioritizing the tasks of what needs to be done and then assigning the workload which is viewed as the scheduling of resources which is seen as a form the organizing of human activities and thus an abstract idea;

Final Rej. 5.

Step two is “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.’” *Alice*, 134 S. Ct. at 2355 (*quoting Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 US 66, 73 (2012)).

In that regard, the Examiner determined:

The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because analyzing, assigning, and prioritizing are viewed as a computer program that is merely instruction to determine the organizing of human activities on a generic computer and therefore an abstract idea. The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because it is not clear that there is any meaningful improvement in the technology or to the technological environment. Specifically, the claims reciting a handful of generic computer components configured to implement the abstract idea merely perform the abstract idea and therefore the claims do not amount to significantly more than the underlying abstract idea. This is

further supported in pars. [0014]-[0015] of the specification which discloses generic computers which makes it unclear that there is any meaningful improvement in the technology or to the technological environment.

Final Rej. 4–5.

Given the determinations reached via steps one and two of the *Alice* analytical framework, the Examiner concluded that the claimed subject matter was directed to an abstract idea and thereby judicially-expected from patent-eligibility. Final Rej. 7.

The Appellants challenge the Examiner’s conclusion on the ground that “embodiments of the invention herein are, in fact, *rooted* in computer technology. The limitations of the claims are indivisible from computer technology.” App. Br. 10 (emphasis original).

“In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered as a whole.” *Diamond v. Diehr*, 450 U.S. 175, 188 (1981). The 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).

Claim 1 calls for a method comprising computer-implemented steps of analyzing an operating state, assigning a priority, and prioritizing a routing of a workload. *Cf.* Spec., para. 3. The Specification indicates that generic computers may be employed to perform said steps. *See* Spec., paras. 12–17. The claim steps are further limited as follows:

The “analyzing an operating state” is “of each of a plurality of computer systems within a data center cluster environment in which a set of logical resources that share underlying physical computer system resources” and is “to determine an operating state of each of a set of computer systems from the plurality of computer systems within the data center.” “[T]he operating state of each computer system [is] based on whether the computer system is currently operating and a current workload usage of the computer system, each computer system of the plurality of computer systems including a computer device.” Claim 1. The “plurality of computer systems within a data center cluster environment in which a set of logical resources that share underlying physical computer system resources” whose operating state a generic computer is to analyze (via the claim 1 method) is itself well known. *See* Spec., Fig. 2, element 106. Accordingly, the claim step covers a generic computer “analyzing an operating state” of a known computer system based on the condition of said computer system (e.g., if it is operating) in order to determine its operating state.

The “assigning a priority” is “based on the analyzing” and is a “numerical rating that identifies the operating state of a particular computer system.” The assigning comprises “assigning a relatively low priority to a computer system” having certain operating states (e.g., not operating) and “assigning a highest priority to a computer system” having another. Claim 1. Accordingly, the claim step covers a generic computer “assigning a priority” by giving a number to a known computer system depending on its determined operating state.



The “prioritizing a routing of a workload” calls for prioritizing a routing of an application based on the priority of a computer system and the application.

Put together, claim 1 is directed to a method comprising computer-implemented steps of analyzing an operating state, assigning a priority, and prioritizing a routing of a workload whereby a generic computer “analyz[es] an operating state” of a known computer system based on the condition of said computer system (e.g., if it is operating) in order to determine its operating state; the generic computer “assigning a priority” by giving a number to said known computer system depending on its determined operating state; and, prioritizing a routing of an application based on the priority of a computer system and the application. Put more simply, claim 1 is directed to using a generic computer to analyze a known computer system, assign it a number, and prioritize it when routing an application. The claim as a whole does not focus on a specific means or a method that improves relevant technology. Rather, the claim is directed to a result (analysis, assigning a number, prioritizing) that itself is the abstract idea and merely invoke generic processes and machinery. *Cf. Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1343 (Fed. Cir. 2016) (“When “the focus of the asserted claims” is “on collecting information, analyzing it, and displaying certain results of the collection and analysis,” the claims are directed to an abstract idea.”)

The Appellants argue that

[t]he limitations of the claims are indivisible from computer technology. Embodiments include a set of physical computer system about which a continuous stream of operating state data is gathered

(e.g., over a computer network) by the computer system of the claimed invention. This operating state data is used to assign priorities to the computer systems for assigning new workloads to the computer systems in such a way that energy in the data center is managed. These processes are achieved by following a series of computer-automated steps, which facilitates the assignment of relative priorities and allocation of workloads to the physical computer system. All communication occurs electronically over a network; no human intervention is required; and the large amount and continuous nature of the incoming data and the operations performed thereon precludes the feasibility of a human performing these processes. Accordingly, none of these components, or the process in its complete form, can be implemented without a computer.

App. Br. 10–11.

This argument cannot be persuasive as to error in the Examiner’s conclusion because it is not commensurate in scope with what is claimed. There is no mention in the claim of “a continuous stream of operating states data [that] is gathered (e.g., over a computer network) by the computer system of the claimed invention.” There is no mention of a “communication occur[ing] electronically over a network.” There is no mention of “facilitat[ing] the assignment of relative priorities and allocation of workloads to the physical computer system.” (There is also no mention of “a constant automatic analysis,” Reply Br. 4). Claim 1 simply assigns a priority (i.e., a number) and prioritizes based on the assignment. Which assignment determines the prioritization the claim does not say.

The Appellants argue that a “problem solved by the invention is the efficient allocation of workloads among a number of computer systems in a data center.” App. Br. 11. This argument is unpersuasive as to error in the Examiner’s conclusion. Notwithstanding the preamble (more broadly) recites “[a] method for allocating workloads to manage energy in a data

center,” the body of the claim covers using a generic computer to analyze a known computer system, assign it a number, and prioritize it when routing an application. The method as claimed does not necessarily result in an “efficient allocation of workloads among a number of computer systems in a data center.”

Finally, the Appellants argue that

the claims are composed of a large number of elements for execution, each of which is performed using a continuous stream of data. In combination, it would not be reasonable to imagine that a human being could execute all of those elements continuously in his/her head as an abstract idea. The elements are complex and the process is intricate. In order for each and every one of the elements to be executed accurately, precisely, and within a reasonable amount of time, a computer would be necessary. The combination of elements, both in their number AND nature, make the implementation by a computer necessary and inherent. The computerization is explicitly recited in the claims as computer implemented (claim 1), a computer system (claim 7), or a computer-readable storage device storing computer instructions, which, when executed, enables a computer system to ... (claim 13). Accordingly, the invention is rooted in computer technology.

App. Br. 11–12. (As before, an argument about, for example, “a continuous stream of data” is not commensurate in scope with what is claimed.)

The fact that the claimed analyzing, assigning, and prioritizing is *applied* to a computer system – and a well known one at that – does not necessarily mean the claim as a whole is “rooted in computer technology.” Here, as claimed, the computer system is the intended object of the analyzing, assigning, and prioritizing steps. The subject of the invention - as it is now claimed - are the analyzing, assigning, and prioritizing steps. They

themselves are not rooted in computer technology, especially given that all that is needed to perform them is a generic computer.

The difficulty here is that the claim has been drafted so that as a whole it provides a result-oriented solution but without the computer-centric details for accomplishing it. The Appellant discusses many such details via arguments in support of the invention being “rooted in computer technology.” But the claim does not now reflect those details. *Cf. Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1342 (Fed. Cir. 2017) (explaining that “[o]ur law demands more” than claim language that “provides only a result-oriented solution, with insufficient detail for how a computer accomplishes it”) and *Elec. Power Grp.*, 830 F.3d at 1354 (explaining that claims are directed to an abstract idea where they do not recite “any particular assertedly inventive technology for performing [conventional] functions”).

We have considered all of the Appellants’ remaining arguments (including those made in the Reply Brief) and find them unpersuasive. Accordingly, because we are not persuaded as to error in the determinations that representative claim 1, and claims 2–24 which stand or fall with claim 1, are directed to an abstract idea and do not present an “inventive concept,” we sustain the Examiner’s rejection that they are directed to patent-ineligible subject matter for being judicially-excepted from 35 U.S.C. § 101. *Cf. LendingTree, LLC v. Zillow, Inc.*, 656 Fed. Appx. 991, 997 (Fed. Cir. 2016) (“We have considered all of LendingTree’s remaining arguments and have found them unpersuasive. Accordingly, because the asserted claims of the patents in suit are directed to an abstract idea and do not present an

“inventive concept,” we hold that they are directed to ineligible subject matter under 35 U.S.C. § 101.”); *see also, e.g., OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1364 (Fed. Cir. 2015) and *FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016).

*The rejection of claims 1, 2, 7, 8, 13, 14, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Fujino and Kennedy.*

The Appellants argue that cited references do not show the claimed numerical assigning of priorities. App. Br. 13. We agree. All the claims require this. *See* independent claims 1, 7, 13, and 19.

The Examiner conceded that Fujino does not disclose said assigning, relying instead on paragraph 93 of Kennedy. Final Rej. 7. Said disclosure is reproduced below:

[0093] As discussed previously, hub 102 can manage consumption endpoints 114 according to one or more policies 502. In accordance therewith, such policies can be input via user interface 510, and particularly via a policy interface 702 included in or provided by user interface 510. Specifically, policy interface 702 can be configured to receive input 704 that defines policies 502 associated with the set of consumption endpoints 114. In one or more aspect, such policies 502 can determine at least one of (i) actions of at least one consumption endpoint 114 in response to a price associated with resource 108; (ii) actions of at least one consumption endpoint 114 in response to an alert or load control message received from utility resource provider 212 or resource metering device 106; (iii) a resource priority associated with the set of consumption endpoints 114 in connection with a limitation on or a shortage of resource 108; (iv) whether to opt-in or opt-out of a program or service associated with utility resource provider 212; or (v) whether a notification is issued to a user such as a request for a response, verification, or other feedback. For example graphical depictions of the abovementioned features, see e.g., FIGS. 18A and 19B, *infra*.

We do not see there the numerical assigning as claimed.

Accordingly, a prima facie case of obviousness for the claimed subject matter has not been made out in the first instance.

*The rejection of claims 3–5, 9–11, 15–17 and 21–23 under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Malik.*

*The rejection of claims 6, 12, 18, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Official Notice.*

These claims which depend from the independent claims whose rejection we do not sustain for the reasons above, and whose rejections rely on the position taken with respect to the independent claims (Final Rej. 11 and 15) are not sustained for the same reasons.

#### CONCLUSIONS

The rejection of claims 1–24 under 35 U.S.C. §101 as being directed to non-statutory subject matter is affirmed.

The rejection of claims 1, 2, 7, 8, 13, 14, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Fujino and Kennedy is reversed.

The rejection of claims 3–5, 9–11, 15–17 and 21–23 under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Malik is reversed.

The rejection of claims 6, 12, 18, and 24 under 35 U.S.C. § 103(a) as being unpatentable over Fujino, Kennedy, and Official Notice is reversed.

#### DECISION

The decision of the Examiner to reject claims 1–24 is affirmed.

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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