UNITED STATES PATENT AND TRADEMARK OFFICE

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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 MARTIN BEDNAR

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Appeal 2017-009375
Application 13/294,756[1]
Technology Center 2400

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Before ALLEN R. MacDONALD, IRVIN E. BRANCH, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

ENGLE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of
claims 1–8 and 11–19, which are all of the claims pending in the application.
We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Technology

The application relates to visualizations (e.g., charts) of performance
metrics for a cluster of computing devices. Spec. Abstract, ¶¶ 1–3.

Illustrative Claim

Claim 1 is illustrative and reproduced below with certain limitations at
issue emphasized:

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[1] Appellant states the real party in interest is VMware, Inc. App. Br. 3.

1. A system for monitoring operation of a cluster that includes a plurality of hosts executing a plurality of virtual machines (VMs), the system comprising:

a network communication interface configured to receive a plurality of sets of host performance metrics in the cluster, wherein each set of host performance metrics corresponds to a host executing one or more VMs, and each host performance metric is associated with a performance metric type of a plurality of performance metric types; and

a processor coupled to the network communication interface and programmed to:

combine the sets of host performance metrics to create combined performance metrics for the plurality of hosts within the cluster;

create a first chart including a plurality of axes, wherein each axis of the plurality of axes is associated with a performance metric type of the plurality of performance metric types for the cluster;

plot each combined performance metric of the combined performance metrics on the axis that is associated with the performance metric type associated with the combined performance metric for the cluster;

provide, on a display device, the first chart to a user;

generate at least one graphical distinction on the first chart as displayed on the display device in response to at least one combined performance metric violating a threshold;

receive instructions to separate the first chart into a plurality of second charts, each of the plurality of second charts corresponding to respective hosts of the plurality of hosts within the cluster;

create each of the plurality of second charts, wherein each of the plurality of second charts include two or more axes, wherein each axis of the two or more axes

is associated with one of a plurality of performance metric types for a respective one of the respective hosts; and

> plot each performance metric on a corresponding one of the two or more axis.

Rejections

Claims 1–8 and 11–19 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 6–7.

Claims 1–8, 11, 12, 14, 15, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Ostermeyer et al. (US 8,175,863 B1; May 8, 2012) and Majors et al. (US 2012/0001916 A1; Jan. 5, 2012). Final Act. 8–22.

Claims 13, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Ostermeyer, Majors, and Conley et al. (US 5,999,193; Dec. 7, 1999). Final Act. 22–25.

ISSUES

1.   Did the Examiner err in concluding claim 1 was directed to patent ineligible subject matter under § 101?

2.   Did the Examiner err in finding the combination of Ostermeyer and Majors teaches or suggests to "receive instructions to separate the first chart into a plurality of second charts, each of the plurality of second charts corresponding to respective hosts of the plurality of hosts within the cluster" and "create each of the plurality of second charts, wherein each of the plurality of second charts include two or more axes, wherein each axis of the two or more axes is associated with one of a plurality of performance metric types for a respective one of the respective hosts," as recited in claim 1?

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3. Did the Examiner err in finding Ostermeyer teaches or suggests to "receive instructions to separate one of the plurality of second charts into one or more third charts, each of the one or more third charts corresponding to a VM executed by a host associated with the one of the plurality of second charts" and "create the one or more third charts, wherein each of the one or more third charts represent a set of VM performance metrics corresponding to each VM executed the host associated with the one of the plurality of second charts," as recited in claim 5?

4. Did the Examiner err in finding Ostermeyer teaches or suggests "receiving a selection of two second charts of the plurality of second charts" and "combining the two second charts to create a combined host performance chart," as recited in claim 11?

ANALYSIS

§ 101: Claims 1–8 and 11–19

Section 101 defines patentable subject matter: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. The Supreme Court, however, has "long held that this provision contains an important implicit exception" that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (quotation omitted). "Issues of patent-eligible subject matter are questions of law." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1369 (Fed. Cir. 2011). To determine patentable subject matter, the Supreme Court has set forth a two-part test.

"First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts" of "laws of nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). "The inquiry often is whether the claims are directed to 'a specific means or method' for improving technology or whether they are simply directed to an abstract end-result." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017). A court must be cognizant that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas" (*Mayo*, 566 U.S. at 71), and "describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Instead, "the claims are considered in their entirety to ascertain 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).

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." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 79, 78). The Supreme Court has "described step two of this 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.* (quotation omitted). For computer-related technology, the Federal Circuit has held a claim may pass the second step if "the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in

the realm of computer [technology]." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (e.g., "a challenge particular to the Internet").

Here, Appellant argues that "claim 1 does not preempt all processes for plotting data on a graph." App. Br. 11. We agree with the Examiner, however, that preemption is not the test. Ans. 8. "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). "Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Id.*

Appellant further argues that the Examiner's abstract idea oversimplifies claim 1 and that the "combination of claim elements is more than 'plotting data on a graph.'" App. Br. 10. We agree with the Examiner, however, that "[t]he claims are focused on the abstract idea, as the advance they purport to make is a process of gathering and analyzing information of a specific content (i.e., metrics) and displaying the results via plotting on charts, and not any particular asserted inventive technology for performing those functions." Ans. 4. The Federal Circuit has held that "the practices of collecting, analyzing, and displaying data, with nothing more, are practices whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas." *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097–98 (Fed. Cir. 2016) (quotation omitted). "Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating

those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016).

"The Supreme Court and this court have repeatedly made clear that merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract." *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016). Here, claim 1 limits the field of use to performance metrics for clusters, hosts, and virtual machines, but the claimed process of collecting, analyzing, and displaying data could just as easily be applied to any sort of metrics, such as demographics for countries, states, and counties. Thus, the conventional hardware components provide only a field of use, not a technical improvement. Ans. 6, 8–9. We also agree with the Examiner there is no evidence of the conventional computer components being arranged in a non-conventional way. *Id.* at 7. The software visualization components likewise are used in their conventional manner, including the "radar" charts (Spec. ¶ 14) and "graphical distinctions" to indicate violation of a threshold, such as via "a background pattern, a background color, a line weight, a line color, an icon, an animation, and/or any other method of visually differentiating user interface elements from one another." Spec. ¶¶ 45–46, Fig. 6. Thus, we are unpersuaded by Appellant's argument that such components, alone or in combination, add "significantly more" than the abstract idea. App. Br. 11.

Appellant further argues "a graphical user interface (GUI) on a computer is not a mental process" because "a person cannot 'provide, on a

display device, the first chart to a user'" or "generate at least one graphical distinction on the first chart as displayed on the display device in response to at least one combined performance metric violating a threshold." App. Br. 3. Although we are not persuaded that a human mind cannot visualize a chart or a warning that a threshold has been exceeded, at a minimum such charts and warnings certainly could be "carried out by a human using pen and paper." Ans. 6. Thus, "with the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper." *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016).

Accordingly, we sustain the Examiner's rejection of claim 1, and claims 2–8 and 11–19, which Appellant argues are patentable for similar reasons. *See* App. Br. 11–12; 37 C.F.R. § 41.37(c)(1)(iv).

§ 103

A) Claims 1–4, 6–8, 12, 14, 15, 18, and 19

Claim 1 recites a processor to "receive instructions to separate the first chart into a plurality of second charts, each of the plurality of second charts corresponding to respective hosts of the plurality of hosts within the cluster" and "create each of the plurality of second charts, wherein each of the plurality of second charts include two or more axes, wherein each axis of the two or more axes is associated with one of a plurality of performance metric types for a respective one of the respective hosts." Independent claims 8 and 14 recite commensurate limitations.

Appellant argues that in Ostermeyer's Figure 9, the second axis "represents time, not a performance metric." App. Br. 13. The Examiner,

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however, correctly notes that "Ostermeyer was not relied upon in the rejection to disclose this feature of the claim" and instead "Majors disclosed a chart in which each axis is associated with a different metric." Ans. 13 (emphasis omitted, citing Majors Fig. 2).

Appellant also argues Figure 9 of Ostermeyer only shows charts for *one* "particular host" whereas in claim 1, "there is one second chart for *each* host." App. Br. 12 (emphasis added). However, Appellant has not adequately addressed the Examiner's finding that "[a]s also shown in Figure 9, and described in the rejection, Ostermeyer provides the user with the ability to 'Choose Host' at the very top menu bar" and therefore discloses creating charts "for each host." Ans. 11–12.

Appellant contends modifying Ostermeyer with the charts of Majors would render Ostermeyer "unsatisfactory for its intended purpose" and "substantially redesign" Ostermeyer's screen display because it "would result in loss of the time axis in each chart," thereby "defeating the purpose of the screen display." App. Br. 13. Yet merely because there is a "difference" between two prior art references does not necessarily affect the "principle of operation." *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). Here, Appellant has provided no evidence that a time axis is Ostermeyer's "principle of operation" rather than merely a minor design choice. Nor has Appellant presented any evidence or explanation why displaying Majors' spider plot rather than Ostermeyer's time plot would have required an unreasonable or substantial amount of effort for a person of ordinary skill in the art. We agree with the Examiner that "[w]hile Ostermeyer discloses presenting performance statistics in one manner, Majors simply provides another option for displaying statistics" and it would

have been obvious to change between the two types of visualizations "to enable comparison of sets of gathered data in a convenient and user-friendly way." Ans. 14, 13 (quotation omitted).

Accordingly, we sustain the Examiner's rejection of independent claims 1, 8, and 14, and their dependent claims 2–4, 6, 7, 12, 13, 15, 18, and 19, which Appellant argues are patentable for similar reasons. *See* App. Br. 13; 37 C.F.R. § 41.37(c)(1)(iv).

B) Claim 5

Claim 5 depends from claim 1 and further recites the processor is programmed to "receive instructions to separate one of the plurality of second charts into one or more third charts, each of the one or more third charts corresponding to a VM executed by a host associated with the one of the plurality of second charts" and "create the one or more third charts, wherein each of the one or more third charts represent a set of VM performance metrics corresponding to each VM executed the host associated with the one of the plurality of second charts."

Appellant argues "[t]here is no teaching in *Ostermeyer* or *Majors* that the charts of Fig. 9 in *Ostermeyer* can be further separated into third charts particular to VMs in the host." App. Br. 14. We agree with the Examiner, however, that Ostermeyer discloses:

> Dashboards 228, in certain embodiments, comprise single-purpose screens that provide a user with a quick summary of a select component or group of components. For instance, certain dashboards 228 can provide numerical and/or graphical representations of utilization metrics associated with the single object (e.g., datacenter, cluster, host server, resource pool, *virtual machine*, datastore or the like) or collection of objects.

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Ostermeyer 8:34–41 (emphasis added); Ans. 16. Thus, Ostermeyer teaches viewing the data at all three levels of the cluster (first chart), host (second chart), and virtual machine (third chart). The Examiner further finds "each representation are hierarchical such as a datacenter to cluster, cluster to hosts, hosts to VM" and "thus the chart is being driven from one chart to another." Final Act. 13. For example, Figure 8 of Ostermeyer depicts charts at the "datacenter" level (15:20–36), whereas Figure 9 depicts charts for "a specific host system." (15:54–59). *See also* Final Act. 8–9 (citing and discussing Figs. 8–9). Notably, Figure 9 depicts information regarding the virtual machines on that specific host. Ostermeyer 15:62–16:17. As quoted above, the Examiner correctly cites to Ostermeyer teaching to "select" a component. *See also* Ostermeyer 8:44–64 (e.g., "shows the top five virtual machines . . . for the selected object"). Thus, Appellant has not persuaded us the Examiner erred in concluding claim 5 would have been obvious.

Accordingly, we sustain the Examiner's rejection of claim 5.

C) Claim 11

Claim 11 depends from independent claim 8 and further recites "receiving a selection of two second charts of the plurality of second charts" and "combining the two second charts to create a combined host performance chart."

Appellant argues "[t]he charts in Fig. 9 of *Ostermeyer* are not combined in any way" and "there is no way to display different metric values (which can have different scales) on one [chart]." App. Br. 15. We agree with the Examiner, however, that as quoted above Ostermeyer discloses dashboards "comprise single-purpose screens that provide a user with a quick summary of a select component *or group of components*" and

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"can provide . . . graphical representations of utilization metrics associated with the . . . *collection of objects*." Ostermeyer 8:34–41 (emphasis added); Ans. 16. Thus, Ostermeyer discloses viewing charts for a "group" or "collection" of selected objects. Contrary to Appellant's assertion, this would entail viewing the *same* metrics across different objects (e.g., hosts).

Accordingly, we sustain the Examiner's rejection of claim 11.

D) Claims 13, 16, and 17

For claims 13, 16, and 17, Appellant argues "Conley Jr. does not cure the deficiencies of Ostermeyer and Majors." App. Br. 15 (emphasis omitted). For the reasons discussed above, we do not agree that Ostermeyer and Majors are deficient.

Accordingly, we sustain the Examiner's rejection of claims 13, 16, and 17.

DECISION

For the reasons above, we affirm the Examiner's decision rejecting claims 1–8 and 11–19.

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. § 41.50(f).

AFFIRMED