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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RONG ZHOU, SUDHENDU RAI, MINH BINH DO, and
CRAIG LAMBRECHT

Appeal 2018-005211
Application 13/156,573
Technology Center 2600

Before ROBERT E. NAPPI, JAMES W. DEJMEK, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1, 3–12, and 14–25. Appellant has canceled claims 2 and 13. *See* Appeal Br. 41, 44. We have jurisdiction over the remaining pending claims under 35 U.S.C. § 6(b).

We REVERSE.

¹ Throughout this Decision, we use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42 (2017). Appellant identifies Palo Alto Research Center Incorporated and Xerox Corporation as the real parties in interest. Appeal Br. 1.

STATEMENT OF THE CASE
Introduction

Appellant's disclosed and claimed invention generally relates to the planning and scheduling of print jobs across a plurality of print shops. Spec. ¶¶ 1, 5. In particular, Appellant describes a multi-site scheduler configuration wherein the scheduling is based on a fastest completion time. Spec. ¶ 5. One of the considerations to take into account for such scheduling is the transportation time associated with sending the print jobs between print shops. Spec. ¶ 24. In a disclosed embodiment, the transportation delay is modeled as a transportation delay matrix, wherein the matrix includes an entry for each direction of transportation between shops. Spec. ¶ 25. An example transportation delay matrix, Table 1, is reproduced below:

Delay in hours	A	B	C
A	0	24	48
B	24	0	72
C	36	∞	0

Table 1: Inter-shop delay matrix in hours.

Spec. ¶ 25. As shown, the delay between shops may be the same in both directions (e.g., from A to B and B to A) or may differ (e.g., from A to C the transportation delay is 48 hours, but from C to A, the delay is 36 hours).

Spec. ¶ 26. In addition, the transportation delay matrix may reflect operational or security constraints as an infinite transportation delay (e.g., the delay from C to B). Spec. ¶ 26. In this scenario, shop B may be able to send jobs to shop C, but not the other way around because B does not have the same security clearance level as shop C. Spec. ¶ 26.

Claim 1 is illustrative of the subject matter on appeal and is reproduced below with the disputed limitations emphasized in *italics*:

1. A system for managing scheduling of a plurality of jobs in a multi-site cell based shop environment comprising:

a plurality of cell based print shops having resources and equipment to complete at least one type of job; and

a multi-site cell based scheduler configured to automatically assign and schedule jobs to one of a home shop or a non-home shop, based on an earliest completion time, each of the plurality of scheduled jobs configured to specify its home shop, wherein the home shop includes all equipment and resources necessary for producing a job, wherein a completion time of a job in a particular home shop is defined as an actual time taken to complete the job and a completion time of a job in a particular non-home shop is defined as the actual time taken to complete the job and a transportation delay, wherein the transportation delay is defined as a time taken to transport a completed job from the particular non-home shop to the completed job's home shop, wherein resources are tentatively allocated and a schedule is tentatively generated for both the home shop and for the particular non-home shop to both produce the print job in accordance with print data corresponding to the print job, *wherein the transportation delay is determined via a transportation delay matrix generated in accordance with symmetric and asymmetric delays corresponding to transportation of the print job to and from each non-home shop and the home shop*, wherein at least one of the asymmetric delays includes a security constraint such that the home shop includes a first security clearance level and a non-home shop includes a second security clearance level, wherein the first security clearance level and the second security clearance level are neither more nor less secure than the other such that the first and second security levels are incompatible, *wherein the security constraint is enforced by modeling the transportation delay between the home shop and the non-home shop as an infinite transportation delay to the at least one of the home shop or the non-home shop*, and wherein the multi-site cell based scheduler is implemented using at least one electronic processor.

The Examiner's Rejections

1. Claims 1, 3–12, and 14–22 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over LaVigne et al. (US 2011/0286016 A1; Nov. 24, 2011) (“LaVigne”); Komine (US 2010/0238484 A1; Sept. 23, 2010); Mizumo (US 2001/0021311 A1; Sept. 13, 2001); Shiohara (US 6,822,754 B1; Nov. 23, 2004); and Schmidt et al. (US 2011/0010543 A1; Jan. 13, 2011). Final Act. 10–28.

2. Claim 23 stands rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Lobiondo (US 5,287,194; Feb. 15, 1994); Shiohara; LaVigne; Komine; and Schmidt. Final Act. 28–37.

3. Claims 24 and 25 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over LaVigne, Komine, Mizumo, Shiohara, Schmidt, and Lobiondo. Final Act. 37–38.

ANALYSIS²

In rejecting independent claim 1, the Examiner relies on Schmidt to teach modeling a transportation delay in the transportation delay matrix as infinite when there are incompatible security levels between two shops. Final Act. 15 (citing Schmidt ¶¶ 76, 117, 374). In particular, the Examiner finds Schmidt teaches “certain devices are not authorized to interact with others based on security levels” and that “[b]y having the inability to communicate, then the job would never be sent to the other device and

² Throughout this Decision, we have considered the Appeal Brief, filed January 12, 2018 (“Appeal Br.”); the Reply Brief, filed April 20, 2018 (“Reply Br.”); the Examiner’s Answer, mailed February 23, 2018 (“Ans.”); and the Final Office Action, mailed July 12, 2017 (“Final Act.”), from which this Appeal is taken.

therefore an infinite transportation time would be produced.” Final Act. 15; Ans. 33.

Appellant argues, *inter alia*, that “Schmidt discloses cyberspace delays in the form of very short TCP/IP network delay on the order of milliseconds” as opposed to the pending claims that describe “a real-world ship delay time between two sites on the order of hours, days or times.”

Appeal Br. 14; Reply Br. 4.

The Examiner responds that “[t]here is no definition as to what constitutes transportation within the claims and therefore can be interpreted as any type of transportation, including transportation of a signal. Therefore, measuring the delay in terms of milliseconds, still counts as measuring the transportation delay in regards to the security.” Ans. 34.

When construing claim terminology during prosecution before the Office, claims are to be given their broadest reasonable interpretation consistent with the Specification, reading claim language in light of the Specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). However, the broadest *reasonable* interpretation differs from the broadest *possible* interpretation. *In re Smith Int’l, Inc.*, 871 F.3d 1375, 1383 (Fed. Cir. 2017). The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is “an interpretation that corresponds with what and how the inventor describes his invention in the specification, *i.e.*, an interpretation that is ‘consistent with the specification.’” *Smith*, 871 F.3d at 1382–83 (quoting *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997)). Additionally, we are mindful that limitations

are not to be read into the claims from the Specification. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

When read in light of the Specification, we agree with Appellant that the transportation delay relates to a physical-world time to traverse the distance between two print shops, rather than a time to merely electronically communicate between two shops. *See, e.g.*, Spec. ¶¶ 23–26, 33–34, 38–41, 46–49, 56. As such, we do not find that Schmidt teaches or reasonably suggests modeling a transportation delay between two physical sites as an infinite delay in a transportation delay matrix if the security clearance levels between the two sites are incompatible.

Moreover, to the extent the Examiner relies on LaVigne to teach the claimed transportation delay matrix, we disagree. Rather, we find the Examiner has not identified sufficient evidence to support a finding that LaVigne uses, contemplates, or suggests a transportation delay matrix. *See* Final Act. 11 (reasoning that in the Examiner’s scenario of LaVigne, a “delay in shipping [] be calculated based on multiple factors, symmetric and asymmetric delays. This would also require a more complex analysis [than] a simple vector analysis, which would mean utilizing a matrix.”). *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) (declining to resort to impermissible speculation or assumptions to cure deficiencies in the factual bases of the rejection).

Because we find it dispositive that the Examiner has not shown by a preponderance of evidence that the cited prior art teaches or reasonably suggests modeling a physical-world transportation delay between two print shops as an infinite delay in a transportation delay matrix to indicate an incompatibility between the security clearance levels of the two print shops,

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we do not address other issues raised by Appellant's arguments related to these claims. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (finding an administrative agency is at liberty to reach a decision based on "a single dispositive issue").

For the reasons discussed *supra*, we are persuaded of Examiner error. Accordingly, we do not sustain the Examiner's rejection of independent claim 1. For similar reasons, we do not sustain the Examiner's rejection of independent claims 12 and 23, which recite commensurate limitations. Additionally, we do not sustain the Examiner's rejections of claims 3–11, 14–22, 24, and 25, which depend directly or indirectly therefrom.

CONCLUSION

We reverse the Examiner's decision rejecting claims 1, 3–12, and 14–25 under pre-AIA 35 U.S.C. § 103(a).

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–12, 14–22	103(a)	LaVigne, Komine, Mizumo, Shiohara, Schmidt		1, 3–12, 14–22
23	103(a)	LaVigne, Komine, Schmidt, Shiohara, Lobiondo		23
24, 25	103(a)	LaVigne, Komine, Mizumo, Shiohara, Schmidt, Lobiondo		24, 25
Overall Outcome				1, 3–12, 14–25

REVERSED