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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 OFIR MANOR and NIR LIVNEH

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Appeal 2019-002380
Application 14/975,899
Technology Center 2400

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Before ELENI MANTIS MERCADER, JOHN A. EVANS, and
CARL L. SILVERMAN, *Administrative Patent Judges*.

EVANS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] seeks our review under 35 U.S.C. § 134(a) of the

Examiner's Final Rejection of claims 1–16, all pending claims. Claims

App'x.; *see also* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.[2]

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[1] We use the word "Appellant" to refer to "Applicant" as defined in
37 C.F.R. § 1.42. Appellant states the real party in interest is Equalum Ltd.
Appeal Br. 3.

[2] Rather than reiterate the arguments of Appellant and the Examiner, we
refer to the Appeal Brief filed October 23, 2018 ("Appeal Br."); the Reply
Brief filed January 1, 2019 ("Reply Br."); the Examiner's Answer mailed
November 30, 2018 ("Ans."); the Final Action mailed July 12, 2018 ("Final
Act."); and the Specification filed December 21, 2015 ("Spec.") for their
respective details.

STATEMENT OF THE CASE

The claims relate to dynamic shared compression methods. *See* Abstract.

Invention

Claims 1, 9, and 13 are independent. Claims App'x. An understanding of the invention can be derived from a reading of illustrative claim 1, which is reproduced below in Table I.

References

Name	Publication Number	Date
Paparella	US 7,743,165 B2	June 22, 2010
Freundlich	US 2012/0257117 A1	Oct. 11, 2012
Parkinson	US 2015/0370827 A1	Dec. 24, 2015 Filed June 24, 2014

Rejections[3]

Claims Rejected	35 U.S.C. §	References/Basis
1–16	101	Subject Matter Eligibility Final Act. 5–6
1–5, 7–16	103, Obviousness	Parkinson, Paparella Final Act. 7–15
6	103, Obviousness	Parkinson, Paparella, Freundlich Final Act. 15–16

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[3] The Application was examined under the first inventor to file provisions of the AIA. Final Act. 2.

ANALYSIS

We have reviewed the rejections of claims 1–16 in light of Appellant's arguments that the Examiner erred.

CLAIMS 1–16: INELIGIBLE SUBJECT MATTER

Appellant argues these claims as a group without specific reference to any particular claim or claims. *See* Appeal Br. 7–17. Therefore, we decide the appeal of the 35 U.S.C. § 101 rejection on the basis of illustrative claim 1 and refer to the rejected claims collectively herein as "the claims." *See* 37 C.F.R. § 41.37(c)(1)(iv); *see also In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

The Rejection and Appellant's Contentions.

The Examiner finds Claims 1, 9, and 13 involve generating and storing pattern-related compression data and providing the data to a second node. Final Act. 5. The Examiner finds the process of collecting, analyzing, and transmitting data is an abstract idea. *Id.*, 5–6 (citing *Classen,*[4] *Electric Power Group,*[5] and *Smart Systems Innovations*[6]). The Examiner further finds the steps of the claimed method are not intrinsic to computers, rather, the computer is being used merely as a tool. Final Act. 6. The Examiner

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[4] *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (2011).

[5] *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016).

[6] *Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364 (2017).

finds the additional steps of the method, i.e., "wherein the compression metadata comprises a data set smaller than a data set of the determined pattern," is not sufficient to amount to significantly more than the judicial exception because "this addition [*sic*, "additional"] limitation is a well-known term." *Id.*

Appellant contends "the claims are directed strictly to an improvement in a computer system and **not** to using the computer system as a tool to implement some practice outside of the computer world along with the requirement to perform it on a computer." Appeal Br. 8. Appellant argues the claims impart improved functionality to any computer system comprising at least two nodes. *Id.* at 9. Appellant argues the claims "strictly relate[] to the *computer* function of reducing the number of bits that need to be transmitted, thereby, advantageously, increasing effective transmission speed, reducing required bandwidth, and saving power regardless of the application for which the computer is being used or for which the information is being transferred." *Id.*

We review the record *de novo*. *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1331 (Fed. Cir. 2010) ("Whether a claim is drawn to patent-eligible subject matter is an issue of law that we review de novo."). Patent eligibility under 35 U.S.C. § 101 is a question of law, based on underlying factual findings. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018). Based upon our review of the record in light of recent policy guidance with respect to patent-eligible subject matter rejection under 35 U.S.C. § 101, we reverse the rejection of claims 1–16 for the

specific reasons discussed below.[7]

35 U.S.C. § 101

Section 101 provides that a patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." *See* 35 U.S.C. § 101. The Supreme Court has long recognized, however, that 35 U.S.C. § 101 implicitly excludes "[l]aws of nature, natural phenomena, and abstract ideas" from the realm of patent-eligible subject matter, as monopolization of these "basic tools of scientific and technological work" would stifle the very innovation that the patent system aims to promote. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)); *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–78 (2012); and *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).

Under the mandatory Revised Guidance, we reconsider whether Appellant's claims recite:

1. any **judicial exceptions**, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human interactions such as a fundamental economic practice, or mental processes), and

2. **additional elements** that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).

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[7] *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Revised Guidance").

Only if a claim, (1) recites a judicial exception, and (2) does not
integrate that exception into a practical application, do we then reach
the issue of whether the claim:

3. adds a specific limitation beyond the judicial exception that is not
    "**well-understood, routine, conventional**" in the field (*see* MPEP
    § 2106.05(d)); or

4. simply appends well-understood, routine, conventional activities
    previously known to the industry, **specified at a high level of
    generality**, to the judicial exception.

Whether the claims recite a judicial exception.

The Revised Guidance extracts and synthesizes key concepts
identified by the courts as abstract ideas to explain that the abstract-idea
exception includes the following groupings of subject matter, when recited
as such in a claim limitation(s) (that is, when recited on their own or *per se*):
(a) mathematical concepts,[8] i.e., mathematical relationships, mathematical
formulas, equations,[9] and mathematical calculations;[10] (b) certain methods
of organizing human activity—fundamental economic principles or practices

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[8] *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("The concept of hedging . . .
reduced to a mathematical formula . . . is an unpatentable abstract idea.").

[9] *Diehr*, 450 U.S. at 191 ("A mathematical formula as such is not accorded
the protection of our patent laws."); *Parker v. Flook*, 437 U.S. 584, 594
(1978) ("[T]he discovery of [a mathematical formula] cannot support a
patent unless there is some other inventive concept in its application.").

[10] *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018)
(holding that claims to a "series of mathematical calculations based on
selected information" are directed to abstract ideas).

(including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions);[11] and (c) mental processes—concepts performed in the human mind (including observation, evaluation, judgment, opinion).[12]

The preamble of independent claim 1 recites: "A computerized method for dynamic shared compression between a first node and at least a second node communicatively connected over a network, the method comprising." The limitations recited in the body of the claim are analyzed in Table I against the categories of abstract ideas as set forth in the Revised Guidance.

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[11] *Alice*, 573 U.S. at 219–20 (concluding that use of a third party to mediate settlement risk is a "fundamental economic practice" and thus an abstract idea); *see* Revised Guidance, 84 Fed. Reg. 52 n.13 for a more extensive listing of "certain methods of organizing human activity" that have been found to be abstract ideas.

[12] *Mayo*, 566 U.S. at 71 ("[M]ental processes[ ] and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.") (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

Table I

Claim 1	Revised Guidance
[a][13] receiving by the first node a first plurality of data inputs from the at least a second node;	Insignificant extra-solution activity, mere data-gathering. Revised Guidance, 84 Fed. Reg. 55 n.31.
[b] continuously determining at least a pattern corresponding to the received first plurality of data inputs;	Mental processes, i.e., concepts performed in the human mind including observation, evaluation, judgment, opinion. 84 Fed. Reg. 52.
[c] periodically generating compression metadata corresponding to the at least a pattern;	Mathematical concepts, i.e., mathematical relationships, mathematical formulas or equations, mathematical calculations. 84 Fed. Reg. 52.[14]
[d] storing the compression metadata in a memory; and	Insignificant extra-solution activity, mere data-storage. Revised Guidance, 84 Fed. Reg. 55 n.31.
[e] providing the compression metadata to the at least a second node for use by the second node to at least compress subsequent data to be transmitted to the first node;	Not Applicable.
[f] wherein the compression	Not Applicable.

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[13] Step designators, e.g., "[a]," were added to facilitate discussion.

[14] If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016).

metadata comprises a data set smaller than a data set of the determined pattern.	

In view of Table I, we find limitations [b] and [c] of independent Claim 1 recite abstract ideas, i.e., mental processes and mathematical concepts. Appellant contends the claims are directed to an improvement in computer function. Appeal Br. 8. Under the Revised Guidance, Appellant's "directed to" contention is addressed at *Step 2A(ii)*.

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims recite a patent-ineligible concept, as we conclude above, we proceed to the "practical application" *Step 2A(ii)* wherein we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

For the reasons which follow, we conclude that Appellant's claims integrate the judicial exception into a practical application.

MPEP § 2106.05(a) *"Improvements to the Functioning of a Computer or to Any Other Technology or Technical Field."*

"In determining patent eligibility, examiners should consider whether the claim 'purport(s) to improve the functioning of the computer itself'" or "any other technology or technical field." MPEP § 2106.05(a).

With respect to technological improvements, Appellant contends the claims relate to the computer function of reducing the number of bits that need to be transmitted between two nodes in a network. Appeal Br. 9. Appellant argues the claims thereby, advantageously, increase the effective transmission speed, reduce the required bandwidth, and save power regardless of the application for which the computer is being used or for which the information is being transferred. *Id.*

The Examiner finds the claims are focused on recognizing input data and transmitting that data to another node. Ans. 4. The Examiner finds the claims do not improve computer processing or solve a technical problem. *Id.* However, the Answer fails to respond to Appellant's contention that the claims operate to reduce the number of bits required to be transmitted, increase transmission rates, and reduce the required bandwidth and power consumption, all problems intrinsic to computer technology.

Appellant discloses "[a]dvances in technology result in an abundance of data generated, such as measurements, performance indicators, [and] sensor readings." Spec. ¶ 2. Appellant discloses "each event may be small . . . events may be tens or hundreds of thousand event per second. Typically, the data is generated by many nodes connected through a network to a main node." *Id.* Appellant discloses a problem in that "sending data of this volume requires substantial bandwidth." *Id.* Appellant contend this problem is solved by the claimed "computerized method for dynamic shared compression between a first node and at least a second node communicatively connected over a network." Spec. ¶ 4. According to Appellant, the claims continuously determine a pattern corresponding to a

received first plurality of data inputs, the claims generate compression metadata corresponding to the determined pattern, and the compression metadata is provided to at least a second node. *Id.* The compression metadata is used to compress and decompress subsequently transmitted data. Spec. ¶ 5. Appellant discloses "[c]ompression of a second plurality of data input is performed at the second node using the compression metadata. Upon receiving this compressed data from the second node, decompression is performed at the first node using the stored compression metadata." Spec. ¶ 12.

Under *Alice*, we determine whether the claims are directed to an abstract idea. *Alice*, 573 U.S. at 217. "In cases involving software innovations, this inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies an abstract idea for which computers are invoked merely as a tool." *Uniloc USA, Inc. v. LG Electronics USA, Inc.*, 2019-1835, slip op. at 5 (Fed. Cir. April 30, 2020) (citing *Customedia Techs., LLC v. DISH Network Corp.*, 951 F.3d 1359, 1364 (Fed. Cir. 2020) (citing *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018)).

In *Uniloc*, the Federal Circuit held "the claims at issue are directed to a patent-eligible improvement to computer functionality, namely the reduction of latency experienced by parked secondary stations in communication systems." *Uniloc*, slip op. 7. Similarly, we find the claims improve a computer technology, i.e., data transmission in computer networks. We, therefore, do not sustain the rejection of Claims 1–16 under § 101.

CLAIMS 1–16: OBVIOUSNESS OVER

PARKINSON, PAPARELLA, AND FREUNDLICH

Appellant argues these claims as a group with reference to the recitations of independent Claim 1. *See* Appeal Br. 17, 24. Therefore, we decide the appeal of the 35 U.S.C. § 101 rejection on the basis of illustrative Claim 1 and refer to the rejected claims collectively herein as "the claims." *See* 37 C.F.R. § 41.37(c)(1)(iv); *see also In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

Independent Claim 1 recites, *inter alia*, "continuously determining at least a pattern corresponding to the received first plurality of data inputs [and] periodically generating compression metadata corresponding to the at least a pattern." Independent Claims 8 and 13 contain commensurate recitations.

The Examiner finds Parkinson teaches periodically generating compression metadata corresponding to the at least a pattern. Final Act. 7 (citing Parkinson, ¶ 10).

Appellant contends Parkinson fails to teach "generating compression metadata," as claimed. Appeal Br. 18. Appellant argues in Parkinson's teaching there is no compression metadata corresponding to the claimed "at least a pattern" that is generated where such compression metadata is to be used for compressing future data. *Id.* Rather, Appellant argues, Parkinson generates compressed metadata and further argues "compressed metadata" is something very distinct from "compression metadata" and moreover, is not used to compress subsequently-transmitted data, but is used to bring an older file version up to date. *Id.*

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The Examiner finds Parkinson teaches a cloud controller receives a version update request for a file and version differences are determined as metadata deltas. Ans. 7 (citing Parkinson ¶ 10). Parkinson's system compresses the metadata and transmits the metadata to the requesting cloud controller. *Id.* The Examiner finds "the compressed metadata [of Parkinson] can be interpreted as a compression metadata [as claimed]" because "providing the compression metadata to the at least a second node for use by the second node to at least compress subsequent data to be transmitted to the first node," as claimed, "is intended use." Ans. 8. We disagree.

According to the claims, the second node uses the compression metadata to compress subsequently-transmitted data based on patterns present in a "first plurality of data inputs." *See* Claim 1. Thus, and according to the claims, the claimed compression metadata must correspond to patterns present in a "first plurality of data inputs" for which the Examiner has provided no finding that the prior art so teaches. The Examiner does not apply secondary reference, Freundlich, to teach this limitation. *See* Ans. 7–9.

In view of the foregoing, we decline to sustain the rejection of Claims 1–16 under 35 U.S.C. § 103.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–16	101	Eligibility	--	1–16
1–5, 7–16	103	Parkinson, Paparella	--	1–5, 7–16
6	103	Parkinson, Paparella, Freundlich	--	6
Overall Outcome			--	1–16

REVERSED