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 RAJAN SHINGARI, KAUSHIK SANYAL, DIMAS HARTZ
PINTO, ARNAB CHAKRABORTY, WALLACE SILVA, GARVIT
GUPTA, SHILPA TANEJA, SAURABH MATHUR, LUIZ C. NUNES,
FRANCISCO M. VASCONCELOS, and MARCO T. BAPTISTA

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Appeal 2019-002345[1]
Application 14/481,352
Technology Center 2400

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Before ERIC S. FRAHM, JOHNNY A. KUMAR, and
CATHERINE SHIANG, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Introduction

Appellant[2] appeals under 35 U.S.C. § 134(a) from a final rejection of
claims 1–6, 8–15, 17–20, 22, and 23. Claims 7, 16, and 21 have been

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[1] Throughout this Opinion, we refer to: (1) the Final Office Action mailed
March 22, 2018 ("Final Act."); (2) the Appeal Brief filed August 3, 2018
("Appeal Br."); (3) the Examiner's Answer mailed November 30, 2018
("Ans."); and (4) the Reply Brief filed January 30, 2019 ("Reply Br.").
[2] We use the word "Appellant" to refer to "applicant" as defined in

canceled (*see* Amendment filed May 8, 2018 (pp. 2–6)). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant's Disclosed and Claimed Invention

Appellant's invention, entitled "Network Service Analytics" (Title), relates to network service management processes (e.g., a command center working in conjunction with a field force) used to resolve customer issues associated with network services such as broadband and landline services provided by network service providers (*see* Spec. ¶ 2). By using performance metrics, key questions, root cause analyses, remote resolution protocols, forecast modeling, capacity planning, and identified network service resources in the network service management process, network service resources can be more efficiently dispatched (*see* Spec. ¶¶ 3–5, 15–17; claims 1, 8, 15). With this in mind, Appellant's claimed invention concerns "[a] device, compromising: one or more processors" (claim 1), and methods for operating a device (claims 8, 15), for dispatching network service resources (*see* claims 1, 8, 15).

Exemplary Claim

Independent claim 1 under appeal is exemplary. Claim 1, with bracketed lettering, formatting, and emphases added to key portions of the claim at issue, reads as follows:

1. *A device*, comprising:

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37 C.F.R. § 1.42. "The word 'applicant' when used in this title refers to the inventor or all of the joint inventors, or to the person applying for a patent as provided in §§ 1.43, 1.45, or 1.46." 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Accenture Global Services Limited (Appeal Br. 3).

one or more processors to:

[A] *determine a performance metric* associated with a network service management process for at least one of a broadband service or a landline service,

    [A1] the performance metric being determined based on network service information associated with the network service management process; determine a key question, associated with the performance metric, based on determining the performance metric,

    [A2] the key question identifying a network issue associated with improving the performance metric, and

    [A3] the network issue being associated with increasing remote resolution of customer issues via the broadband service or the landline service; perform a root cause analysis, associated with the key question, that identifies a solution to the key question,

    [A4] the solution identifying a manner in which the network service management process is to be modified in order to improve the performance metric, and

    [A5] the solution including modifying a remote resolution protocol, via the broadband service or the landline service, used to resolve a network issue;

[B] *determine a group of forecast models* associated with forecasting a network service demand for the at least one of the broadband service or the landline service;

[C] *identify*, based on the network service information, *a particular forecast model* of the group of forecast models;

[D] *forecast the network service demand* using the particular forecast model and based on the solution to the key question,

    [D1] the network service demand being forecasted based on historical network service information that identifies a quantity of customer calls received at an earlier time,

    [D2] the forecasted network service demand identifying a quantity of future network service actions expected based on implementing the solution within the network service management process and improving

the remote resolution via the broadband service or the landline service, and

[D3] the quantity of future network service actions identified by the forecasted network service demand including at least one of:

[D3a] a quantity of expected service orders associated with customer issues to be resolved by a field force,

[D3b] a quantity of expected installations,

[D3c] a quantity of expected cancellations,

[D3d] a quantity of expected repairs, or

[D3e] a quantity of calls expected from network service technicians in a field;

[E] *perform capacity planning* based on the forecasted network service demand,

[E1] a result of performing the capacity planning identifying network service resources required to satisfy the forecasted network service demand; and

[F] *dispatch the network service resources*, based on the result of performing the capacity planning, such that the solution is implemented within the network service management process to modify the remote resolution protocol and to accommodate for the forecasted network service demand for the at least one of the broadband service or the landline service.

Appeal Br. 20–22, Claim Appendix (emphases, formatting, and bracketed lettering added). Remaining independent claims 8 and 15 recite methods of managing network service resources and dispatching (claim 8) or scheduling (claim 15) network service resources commensurate in scope with the device of claim 1.

Examiner's Rejection

Claims 1–6, 8–15, 17–20, 22, and 23 stand rejected under 35 U.S.C.

§ 101 as being directed to patent-ineligible subject matter (an abstract idea), without significantly more. Final Act. 2–5; Ans. 3–5.

Appellant's Contentions

With regard to the patent eligibility rejection, Appellant primarily makes arguments regarding claim 1, relies on those arguments for the eligibility of claims 2–6, 8–15, 17–20, 22, and 23, and generally contends the claims are not directed to an abstract idea (e.g., math concepts, methods of organizing human activity, mental processes), but to improvements in broadband or landline network performance and efficiency (*see* Appeal Br. 10–19; Reply Br. 2–9). Appellant nominates claim 1 as representative of all claims on appeal (*see* Appeal Br. 16; Reply Br. 5, 6).

With regard to claim 1, Appellant generally contends claim 1 is not directed to an abstract idea (*see* Appeal Br. 10–15), but to a technical solution to a technical problem that produces specific improvements to remote resolution protocol determinations used to perform broadband or landline network service repair. Appellant also contends claim 1 requires a physical device to perform the process, and cannot be performed by a person in a person's mind (*see* Reply Br. 2–5). Finally, Appellant argues that even if the claims are directed to a mental process, and thus an abstract idea, the abstract idea is integrated into a practical application because it is limited to a technology-specific solution to a technical problem, such as dispatching network service resources and modifying a remote solution protocol that accommodates for forecasted network service demand to improve broadband or landline service and/or performance (*see* Reply Br. 5–8).

Therefore, based on Appellant's patent eligibility arguments, and because claims 1–6, 8–15, 17–20, 22, and 23 contain commensurate

limitations, we select claim 1 as representative of claims 1–6, 8–15, 17–20, 22, and 23 rejected under 35 U.S.C. § 101 for patent-ineligibility.

Principal Issue on Appeal

Based on Appellant's arguments in the Appeal Brief (Appeal Br. 10–19) and the Reply Brief (Reply Br. 2–9), the following principal issue is presented on appeal:

Has Appellant shown the Examiner erred in rejecting representative claim 1, as well as claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith, under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter (i.e., a judicial exception such as an abstract idea), without significantly more?

ANALYSIS

Patent Eligibility Under 35 U.S.C. § 101

Section 101 of the Patent Act provides "[w]hoever 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. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework,

we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by

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attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (internal quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The PTO published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance").[3] Under the Guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of
> abstract ideas (i.e., mathematical concepts, certain methods of

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[3] In response to received public comments, the Office issued further guidance on October 17, 2019, updating and clarifying the Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update") (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

organizing human activity such as a fundamental economic practice, or mental processes) ("Step 2A, Prong 1"); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE ("MPEP") § 2106.05(a)–(c), (e)–(h)) (9th Ed., Rev. 08.2017, 2018) ("Step 2A, Prong 2").[4]

Only if a claim (1) recites a judicial exception and (2) does not

integrate that exception into a practical application, do we then look to

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 ("Step 2B").

See Guidance, 84 Fed. Reg. at 54–56.

Even if the claim recites an abstract idea, the Federal Circuit explains

the "directed to" inquiry is not simply asking whether the claims involve a

patent-ineligible concept:

The "directed to" inquiry . . . cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S.Ct. at 1293 ("For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.") Rather, the "directed to"

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[4] This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* Guidance — Section III(A)(2), 84 Fed. Reg. 54–55.

> inquiry applies a stage-one filter to claims, considered in light
> of the specification, based on whether "their character as a
> whole is directed to excluded subject matter."

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016); *see also Diehr*, 450 U.S. at 188 ("In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered as a whole."); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) (the question is whether the claims as a whole "focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery").

Step 1

Under Step 1 of the patent-eligibility inquiry under § 101, we determine whether a claim is directed to one of the four statutory categories of invention, i.e., a process, machine, manufacture, or composition of matter.

In the instant case on appeal, representative claim 1 recites "[a] device, comprising: one or more processors" (claim 1). Therefore, claim 1, as an apparatus claim, recites at least one of the enumerated categories (e.g., machine or manufacture) of eligible subject matter in 35 U.S.C. § 101.

As a result, as to claim 1, as well as claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith, we continue our analysis under Step 2A, Prong 1 of the Guidance to determine whether claim 1 recites a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas above).

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Step 2A, Prong 1

The Guidance states that the abstract idea exception includes mental processes, which include "concepts performed in the human mind (including an observation, evaluation, judgment, opinion)." Guidance, 84 Fed. Reg. at 52. Such concepts must be capable of being practically performed in the human mind, although the use of a physical aid, such as a pen and paper, or a computer does not negate the mental nature of such a concept. October 2019 Update: Subject Matter Eligibility Guidance (hereinafter, 2019 Update) 8–9 (October 2019), *available at* https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf.

We agree with the Examiner's determination (*see* Final Act. 2–4; Ans. 3–5) that claim 1 recites limitations falling within the mental process category of abstract ideas, including the step of "determining performance metrics in a network" (Final Act. 2). Although claim 1 nominally recites a "device" including "one or more processors" (*see* claim 1), the focus of claim 1 is on performing the steps of a mental process (*see Gottschalk v. Benson*, 409 U.S. 63, 67 (1972), i.e., using a network services management process (*see* claim 1, limitations A–E) to dispatch network service resources (*see* claim 1, limitation F). Here, we conclude representative claim 1 recites a mental process (i.e., a concept performed in the human mind, such as, an observation, evaluation, judgment, and opinion), which is an abstract idea. *See* Guidance, 84 Fed. Reg. at 52. In particular, claim 1 generally is directed to determining a performance metric and forecast model (claim 1, limitations A–C) to forecast network service demand (claim 1, limitation D) used for

capacity planning (claim 1, limitation E) in order to dispatch network service resources (claim 1, limitation F).

As such, the claimed invention recites a mental process, which is an abstract idea. *See, e.g.*, *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) ("analyzing information by steps people [can] go through in their minds, or by mathematical algorithms, without more [are] mental processes within the abstract-idea category."); *Clarilogic v. Formfree Holdings*, 681 F. App'x. 950, 954–55 (Fed. Cir. 2017) (gathering, analyzing, and outputting financial data/assessment is an abstract idea that is patent ineligible).

The limitations that make up the concept recited in representative claim 1 are simply a series of observations, evaluations, and judgements for determining data to generate a demand forecast model and apply that model to plan for meeting network service demand. Limitations A–F recite the types of observation, evaluation, and judgment that are characteristic of mental processes that may be practically performed in the human mind, or with the aid of pen and paper. *See Synopsys*, 839 F.3d at 1146 ("While the Supreme Court has altered the § 101 analysis since *CyberSource* in cases like *Mayo* and *Alice*, we continue to 'treat[] analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.'") (quoting *Elec. Power Group, LLC v. Alstrom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016)); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("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*."); *Benson*, 409 U.S. at 67.

Appellant's contentions that claim 1 requires a physical device to perform the process, and cannot be performed by a person in a person's mind (*see* Reply Br. 2–5), are unpersuasive. Because the claimed "device" is made up only of "one or more processors" (*see* claim 1), claim 1 merely requires one single processor to perform the entire process set forth in limitations A through F. With this in mind, and the lack of any further description, or requirements as to the composition, of the "processor" (*see* claim 1), the broadest reasonable interpretation of "processor" in claim 1 could include the human mind. And, even if claim 1 were limited to the computer devices described in the Specification (*see e.g.*, the generic computer components show in Fig. 3; Spec. ¶¶ 31–38, 121), any computer device is simply used as a tool to perform the recited process. Thus, claim 1 is "not directed to an improvement in the way computers operate" and "the focus of the claims is not on . . . an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools." *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016).

Thus, consistent with the Guidance and case law, we conclude representative claim 1 recites mental processes (i.e., concepts performed in the human mind, such as, an observation, evaluation, judgment, and opinion), which are abstract ideas. *See* Guidance, 84 Fed. Reg. at 52; Guidance Update, 7–9; *Digitech Image Techs., LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (2014) (concluding claims reciting receiving two data sets, and combining those data sets into a single data set is "an

ineligible abstract process of gathering and combining data"); *CyberSource* 654 F.3d at 1372–73 (concluding claims reciting obtaining a data transaction set affiliated with a particular Internet address, generating a map based on those transaction, and using the map to determine whether a transaction is valid were abstract because they were directed to steps a person could perform mentally); *Elec. Power Group*, 830 F.3d at 1353–54 (concluding claims directed to "collecting information, analyzing it, and displaying certain results of the collection and analysis" were abstract); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (concluding claims were directed to the abstract idea of "selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis"); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1361–62 (Fed. Cir. 2015) (determining claims reciting obtaining statistics, analyzing those statistics to determine another piece of information—i.e., a price at which to sell a product—was directed to the abstract idea of offer-based price optimization).

Our reviewing court has also concluded that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014); *see also Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (concluding "claims directed to the collection, storage, and recognition of data are directed to an abstract idea"). Moreover, our reviewing court has concluded that acts of parsing, comparing, storing, and editing data are abstract ideas. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1366 (Fed. Cir. 2018). In addition, the collection of

information and analysis of information (e.g., recognizing certain data
within the dataset) are also abstract ideas. *Elec. Power Grp.*, 830 F.3d at
1353. Similarly, "collecting, displaying, and manipulating data" is an
abstract idea. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850
F.3d 1332, 1340 (Fed. Cir. 2017); *see also SAP Am., Inc. v. InvestPic, LLC*,
898 F.3d 1161, 1167 (Fed. Cir. 2018) ("merely presenting the results of
abstract processes of collecting and analyzing information . . . is abstract as
an ancillary part of such collection and analysis") (quotations omitted). In
this light, reconciling data with the use of processor, is similar to the
concepts of collecting, parsing, comparing, storing, and analyzing data
recognized by our reviewing court to be abstract ideas. The network service
management process set forth in claim 1 also collects information (e.g.,
performance metrics and forecast models) for analysis and analyzes that data
(e.g., forecasting network service demand to perform capacity planning in
order to dispatch network service resources).

Because we conclude claim 1 *recites* mental processes which are an
abstract idea, we proceed to Step 2A, Prong 2 of the Guidance to determine
whether claim 1 is "directed to" the judicial exception, by determining
whether additional elements of the claim integrate the abstract idea into a
practical application. Such additional elements *may* reflect an improvement
to a technology or technical field. *See* Guidance, 84 Fed. Reg. at 55.

Step 2A, Prong 2 – Practical Application

Having determined that claim 1 recites an abstract idea, we next
determine, under Step 2A, Prong 2 of the Guidance, whether claim 1 is
directed to that abstract idea, or whether the claims have additional elements

that integrate the abstract idea into a practical application of that abstract idea. Guidance, 84 Fed. Reg. at 54.

Here, claim 1 recites the additional elements of "[a] device" and "one or more processors" (claim 1). Although Appellant contends that claim 1 is not directed to an abstract idea, but to a technical solution to a technical problem such as improving network performance or efficiency (*see* Reply Br. 4), we do not agree that claim 1 recites any improvement in speed or efficiency to the processor(s) or device. Instead, the focus of claim 1 is on an improvement in managing network service resources.

As noted in our discussion of Step 2A, Prong 1 above, the device and processor(s) for implementing a network management process using performance metrics to model and forecast network service resources/demand, perform capacity planning, and dispatch network service resources set forth in claim 1 is only used as a *tool* for performing certain activities of the recited process (to collect and analyze necessary information). Appellant's claim 1 recites "determining a performance metric" (claim 1, limitation A) and "a group of forecast models" (claim 1, limitation B), forecasting network service demand (claim 1, limitation D) using an identified or selected forecast model (claim 1, limitations C, D), performing capacity planning (claim 1, limitation E), and dispatching network service resources based on the results of the steps of limitations A–E (claim 1, limitation F). However, claim 1 fails to require any physical result, such as actually performing network services, repair, or improvement, or improving the efficiency or performance of the device or its processor(s). The network service management process recited in claim 1 only serves to gather metrics and forecast models needed for analysis (*see* claim 1,

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limitations A, B, C), perform capacity planning based on forecasted network service demand (claim 1, limitations D, E), and use the results to dispatch network service resources (*see* claim 1, limitation F).

The mere recitation of determining a performance metric and a group of forecast models, selecting data, and modifying data to perform forecast modeling in claim 1 (*see* claim 1, limitations A–E) does not embody an improvement in computer capabilities as in *Enfish*. *See* 822 F.3d at 1336 ("[T]he plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.").

In the instant case, the additional limitations recited beyond the judicial exception itself fail to integrate the exception into a practical application. More particularly, representative claim 1 does not recite: (i) an improvement to the functionality of a computer or other technology or technical field (*see* MPEP § 2106.05(a)); (ii) a "particular machine" to apply or use the judicial exception (*see* MPEP § 2106.05(b)); (iii) a particular transformation of an article to a different thing or state (*see* MPEP § 2106.05(c)); or (iv) any other meaningful limitation (*see* MPEP § 2106.05(e)). *See also* Guidance, 84 Fed. Reg. at 55.

Rather, the additional element of a processor in claim 1 simply recites insignificant extra-solution activity, i.e., determining a performance metric and a forecast model to use in dispatch network service resources based on demand and capacity, which is merely conventional data gathering (*see* MPEP § 2106.05(g); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015); *Elec. Power*, 830 F.3d at 1354); and/or insignificant

extra-solution activity that does not meaningfully limit the claim (*see* MPEP
§ 2106.05(g)).

Specifically, limitations A, B, and C add only insignificant extra-
solution activity because these steps in the network service management
process merely determine operational data to enable executing the mental
steps making up the abstract idea. Guidance, 84 Fed. Reg. at 55; *see Bilski
v. Kappos*, 561 U.S. 593, 612 (2010) (holding the use of well-known
techniques to establish inputs to the abstract idea as extra-solution activity
that fails to make the underlying concept patent eligible); *CyberSource*, 654
F.3d at 1372 (finding that, even to the extent certain "physical steps are
required to obtain information from the database . . . such data-gathering
steps cannot alone confer patentability"); *Elec. Power*, 830 F.3d at 1355
(explaining that "selecting information, by content or source, for collection,
analysis, and display does nothing significant to differentiate a process from
ordinary mental processes"). In other words, the data-gathering steps merely
obtain information needed to perform the recited abstract idea. Further, the
resultant output and use of the results, dispatching network service resources
as set forth in limitation F, is also insignificant extra-solution activity that
does not meaningfully limit the claim (*see* MPEP § 2106.05(g)).

Therefore, we consider the steps set forth in limitations A, B, C, and F
to be steps *in addition* to the abstract idea that, considered in light of the
claim as a whole, that fail to integrate the abstract idea into a practical
application.

To the extent that the claimed device having one or more processors
may perform network service demand forecasting (claim 1, limitation D) and
capacity planning (claim 1, limitation E) faster than other computerized

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dispatching methods, that would not provide an improvement to the device or processor itself. *See, e.g.*, *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (explaining that in order for a machine to add significantly more, it must "play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more **quickly**") (emphasis added); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (2016) ("While the claimed system and method certainly purport to accelerate the process of analyzing audit log data, the speed increase comes from the capabilities of a general-purpose computer, rather than the patented method itself"); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter").

Merely adding a programmed computer to perform generic computer functions does not automatically overcome an eligibility rejection. *Alice*, 573 U.S. at 223–24. Furthermore, the use of a general purpose computer to apply an otherwise ineligible algorithm does not qualify as a particular machine. *See Ultramercial*, 772 F.3d at 716–17; *In re TLI Commc'ns LLC v. AV Automotive, LLC,* 823 F.3d 607, 613 (Fed. Cir. 2016) (mere recitation of concrete or tangible components is not an inventive concept); *Eon Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 623 (Fed. Cir. 2015) (noting that *Alappat*'s rationale that an otherwise ineligible algorithm or software could be made patent-eligible by merely adding a generic computer to the claim was superseded by the Supreme Court's *Bilski* and *Alice* decisions). In the instant case, using a computer421 to more quickly

facilitate or reconcile power plant modeling data is nothing more than the abstract idea itself (i.e., a mental process).

And while Appellant acknowledges that the claimed solution is useful to improve the performance of landline or broadband networks (*see* Appeal Br. 10, 13, 17) by improving remote solution of network issues (*see* Appeal Br. 16), and optimizing the network service management process (*see* Spec. ¶¶ 16, 17), these types of improvements to the abstract idea result from the routine application of computers as tools, not from any technical innovation. *See Intellectual Ventures I LLC v. Capital One Bank* (*USA*), 792 F.3d 1363, 1367 (Fed. Cir. 2015) ("claiming the improved speed or efficiency inherent with applying the abstract idea on a computer [does not] provide a sufficient inventive concept"); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can.* (*U.S.*), 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter."). "[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible." *OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (citing *Alice Corp.*, 134 S. Ct. at 2359). We do not consider representative claim 1 to recite any element(s), or ordered combination of elements, which transforms the abstract idea to patent eligible subject matter.

Merely adding a programmed computer to perform generic computer functions does not automatically overcome an eligibility rejection. *Alice*, 573 U.S. at 223–24. Furthermore, the use of a general purpose computer to apply an otherwise ineligible algorithm does not qualify as a particular

machine. *See Ultramercial*, 772 F.3d at 716–17; *In re TLI Commc'ns LLC v. AV Automotive, LLC*, 823 F.3d 607, 613 (Fed. Cir. 2016) (mere recitation of concrete or tangible components is not an inventive concept); *Eon Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 623 (Fed. Cir. 2015) (noting that *Alappat*'s rationale that an otherwise ineligible algorithm or software could be made patent-eligible by merely adding a generic computer to the claim was superseded by the Supreme Court's *Bilski* and *Alice* decisions). In the instant case, using a computer to more accurately or efficiently dispatch network service resources is nothing more than the abstract idea itself.

For the reasons discussed above, we conclude Appellant's claim 1 (and claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith) invokes generic computer components (one or more processors) merely as tools in which the computer instructions apply the judicial exception and, thus, the abstract idea is not integrated into a practical application. Because Appellant has not persuaded us the Examiner's determination that claim 1 recites an abstract idea under Step 2A is in error, and claim 1 recites a judicial exception (i.e., the abstract idea of a method of organizing human activity and/or mental process) that is not integrated into a practical application, in accordance with the Guidance, we conclude claim 1 and claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith, are directed to an abstract idea under Step 2A, and the eligibility analysis with regard to claims 1–6, 8–15, 17–20, 22, and 23 proceeds to Step 2B.

Step 2B — Inventive Concept

Having determined claim 1 and claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith are directed to an abstract idea that is not integrated into a

practical application, we now evaluate whether the additional elements, whether examined alone or as an ordered combination, add a specific limitation that is not well-understood, routine, or conventional activity in the field, or simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the abstract idea. *See generally* Guidance.

Here, claim 1 recites the additional elements of "[a] device, comprising: one or more processors" (claim 1). Considering claim 1 as a whole, none of the additional elements applies or uses the abstract idea in a meaningful way such that the claim as a whole is more than a drafting effort designed to monopolize the exception.

The processor(s) recited in claim 1 serve merely to gather and analyze network service management data. And, the dispatching of network service resources based on the results recited in limitation F is a post-solution activity.

Appellant contends claim 1 is "directed to an inventive algorithm that address[es] a technology-specific need and improves performance of landline and/or broadband networks" (*see* Appeal Br. 10) by using a "unique algorithm" in a "novel and unconventional manner" to "modify[] a remote resolution protocol" (Appeal Br. 13; *see also* Appeal Br. 16).

Although Appellant contends claim 1 recites significantly more than determining performance metrics in a network (*see* Appeal Br. 10–18), and recites features that are (i) not well-understood, routine, and conventional, and (ii) have not been shown to be otherwise with the proper evidence required by *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1370 (Fed. Cir. 2018*)* (*see* Appeal Br. 17), we agree with the Examiner (Ans. 3) that at least

paragraph 37 supports the Examiner's finding in this regard. In addition, the
Examiner determines, and we agree, that the only elements beyond the
abstract idea are *generic* computer components or combinations of generic
components used to perform *generic* computer functions (Final Act. 3–4;
Ans. 3–4) — a determination that is supported by Appellant's Figures 2 and
3 and the accompanying descriptions found in the Specification (*see* Spec.
¶¶ 24–38, 121). Appellant's Specification only shows (*see* Figs. 2, 3) and
describes (*see e.g.*, Spec. ¶¶ 24–38, 121) well-understood, routine,
conventional computer components used for network service resource
management (e.g., devices connected through a communications network)
that are in a general purpose computing environment in a manner that
indicates the components and the functions they perform were well-known
in the art. *See Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367,
1384 (Fed. Cir. 1986) (explaining that "a patent need not teach, and
preferably omits, what is well known in the art"); *see also* USPTO,
Memorandum on Changes in Examination Procedure Pertaining to Subject
Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v.
HP, Inc.*) at 3 (Apr. 19, 2018), available at
https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-
20180419.PDF (explaining that a specification that describes additional
elements "in a manner that indicates that the additional elements are
sufficiently well-known that the specification does not need to describe the
particulars of such additional elements to satisfy 35 U.S.C. § 112(a)" can
show that the elements are well understood, routine, and conventional);
Intellectual Ventures I LLC v. Erie Indem. Co., 850 F.3d 1315, 1331 (Fed.
Cir. 2017) ("The claimed mobile interface is so lacking in implementation

details that it amounts to merely a generic component (software, hardware, or firmware) that permits the performance of the abstract idea, i.e., to retrieve the user-specific resources.").

As a result, we are not persuaded that the network service resource determinations recited in claim 1 are anything beyond generic computer functions as opposed to an improvement to a mental process. Considering the elements of claim 1 individually and as an ordered combination, claim 1 does no more than simply instruct the practitioner to implement the abstract idea on a generic computer, processor, and/or user interface. *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333–34 (Fed. Cir. 2012) ("Simply adding a 'computer aided' limitation to a claim covering an abstract concept, without more, is insufficient to render [a] claim patent eligible.").

Furthermore, generically claimed elements of processor and controllers/computers have been found to be no more than well-understood, routine, and conventional activity in the context of gathering and assembling data. *See, e.g.*, *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1370 (Fed. Cir. 2018*)* ("The conventional limitations of claim 1, combined with limitations of analyzing and comparing data and *reconciling differences between the data* . . . amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components) (emphasis added); *Ultramercial, Inc. v. Hulu, LLC,* 772 F.3d 709, 716 (updating an activity log by computer is well-understood, routine, conventional activity). As explained by the Supreme Court, the presence of a generic computer performing generic computer functions, such as calculation and transmission of data, is not enough to transform an abstract idea into a patent-eligible invention. *Alice Corp. v. CLS Bank*, 573 U.S. 208, 225–226 (2014).

Additionally, as noted in MPEP § 2106.05(d)(II), the courts have previously recognized that using computer processors and memories to collect data and keep records, perform repetitive calculations, and/or receive/send data are well-understood, routine, and conventional functions when they are claimed in a merely generic manner (e.g., at a high level of generality), or as insignificant extra-solution activity (*see* MPEP § 2106.05(d)(II)(i)–(iv)). *See also Berkheimer*, 881 F.3d at 1366 (acts of parsing, comparing, storing, and editing data are abstract ideas); *SAP Am., Inc. v. InvestPic, LLC*, 898 1161, 1167 (Fed. Cir. 2018) ("[M]erely presenting the results of abstract processes of collecting and analyzing information . . . is abstract as an ancillary part of such collection and analysis"); *Intellectual Ventures I*, 850 F.3d at 1340 ("collecting, displaying, and manipulating data" is an abstract idea); *Smart Sys.*, 873 F.3d at 1372 (concluding "claims directed to the collection, storage, and recognition of data are directed to an abstract idea.").

As a result, Appellant has not persuaded us the Examiner erred with respect to the Guidance's Step 2B analysis. *See* Guidance, 84 Fed. Reg. at Step 2B.

Summary

As explained above, under the USPTO's Revised Patent Eligibility Guidance, based on the record before us, and informed by our governing case law concerning 35 U.S.C. § 101, Appellant has not sufficiently shown the Examiner erred in rejecting representative claim 1, as well as claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith, as being directed to patent-ineligible subject matter without significantly more, and we sustain the rejection of claims 1–6, 8–15, 17–20, 22, and 23 under 35 U.S.C. § 101.

CONCLUSION

As explained above, under the USPTO's Revised Patent Eligibility Guidance, based on the record before us, and informed by our governing case law concerning 35 U.S.C. § 101, Appellant has not shown the Examiner erred in rejecting representative claim 1, as well as claims 2–6, 8–15, 17–20, 22, and 23 grouped therewith, as being directed to patent-ineligible subject matter without significantly more, and we sustain the rejection of claims 1–6, 8–15, 17–20, 22, and 23 under 35 U.S.C. § 101.

In summary, for all of the reasons above, we affirm the Examiner's decision to reject claims 1–6, 8–15, 17–20, 22, and 23, and we hold as follows:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–6, 8–15, 17–20, 22, 23	101	Eligibility	1–6, 8–15, 17–20, 22, 23	

TIME PERIOD FOR RESPONSE

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). *See* 37 C.F.R. §§ 41.50(f), 41.52(b) (2013).

AFFIRMED