



[3510-16-P]

## DEPARTMENT OF COMMERCE

### United States Patent and Trademark Office

[Docket No. PTO-P-2018-0053]

#### 2019 Revised Patent Subject Matter Eligibility Guidance

**AGENCY:** United States Patent and Trademark Office, Commerce.

**ACTION:** Examination Guidance; Request for comments.

**SUMMARY:** The United States Patent and Trademark Office (USPTO) has prepared revised guidance (2019 Revised Patent Subject Matter Eligibility Guidance) for use by USPTO personnel in evaluating subject matter eligibility. The 2019 Revised Patent Subject Matter Eligibility Guidance revises the procedures for determining whether a patent claim or patent application claim is directed to a judicial exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the USPTO’s Subject Matter Eligibility Guidance in two ways. First, the 2019 Revised Patent Subject Matter Eligibility Guidance explains that abstract ideas can be grouped as, e.g., mathematical concepts, certain methods of organizing human activity, and mental processes. Second, this guidance explains that a patent claim or patent application claim that recites a judicial exception is not “directed to” the judicial exception if the judicial

exception is integrated into a practical application of the judicial exception. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim. The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance.

**DATES: APPLICABLE DATE:** The 2019 Revised Patent Subject Matter Eligibility Guidance is effective on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]. The 2019 Revised Patent Subject Matter Eligibility Guidance applies to all applications, and to all patents resulting from applications, filed before, on, or after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**COMMENT DEADLINE DATE:** Written comments must be received on or before [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** Comments must be sent by electronic mail message over the Internet addressed to: Eligibility2019@uspto.gov.

Electronic comments submitted in plain text are preferred, but also may be submitted in ADOBE® portable document format or MICROSOFT WORD® format. Comments not submitted electronically should be submitted on paper in a format that facilitates convenient digital scanning into ADOBE® portable document format. The comments will be available for

viewing via the USPTO's Internet Web site (<http://www.uspto.gov>). Because comments will be made available for public inspection, information that the submitter does not desire to make public, such as an address or phone number, should not be included in the comments.

**FOR FURTHER INFORMATION CONTACT:** June E. Cohan, Senior Legal Advisor, at 571-272-7744 or Carolyn Kosowski, Senior Legal Advisor, at 571-272-7688, both with the Office of Patent Legal Administration.

**SUPPLEMENTARY INFORMATION:** Patent subject matter eligibility under 35 U.S.C. 101 has been the subject of much attention over the past decade. Recently, much of that attention has focused on how to apply the U.S. Supreme Court's framework for evaluating eligibility (often called the *Alice/Mayo* test).<sup>1</sup> Properly applying the *Alice/Mayo* test in a consistent manner has proven to be difficult, and has caused uncertainty in this area of the law. Among other things, it has become difficult in some cases for inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent-eligible. The legal uncertainty surrounding Section 101 poses unique challenges for the USPTO, which must ensure that its more than 8500 patent examiners and administrative patent judges apply the *Alice/Mayo* test in a manner that produces reasonably consistent and predictable results across applications, art units and technology fields.

Since the *Alice/Mayo* test was announced and began to be extensively applied, the courts and the USPTO have tried to consistently distinguish between patent-eligible subject matter and subject

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<sup>1</sup> *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217-18 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012)).

matter falling within a judicial exception. Even so, patent stakeholders have expressed a need for more clarity and predictability in its application. In particular, stakeholders have expressed concern with the proper scope and application of the “abstract idea” exception. Some courts share these concerns, for example as demonstrated by several recent concurrences and dissents in the U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) calling for changes in the application of Section 101 jurisprudence.<sup>2</sup> Many stakeholders, judges, inventors, and practitioners across the spectrum have argued that something needs to be done to increase clarity and consistency in how Section 101 is currently applied.

To address these and other concerns, the USPTO is revising its examination procedure with respect to the first step of the *Alice/Mayo* test<sup>3</sup> (Step 2A of the USPTO’s Subject Matter Eligibility Guidance as incorporated into the Manual of Patent Examining Procedure (“MPEP”) 2106)<sup>4</sup> by: (1) providing groupings of subject matter that is considered an abstract idea; and (2) clarifying that a claim is not “directed to” a judicial exception if the judicial exception is integrated into a practical application of that exception.

Section I of this 2019 Revised Patent Subject Matter Eligibility Guidance explains that the judicial exceptions are for subject matter that has been identified as the “basic tools of scientific

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<sup>2</sup> See, e.g., *Interval Licensing LLC, v. AOL, Inc.*, 896 F.3d 1335, 1348 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1377 (Fed. Cir. 2017) (Linn, J., dissenting in part and concurring in part); *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1376 (Fed. Cir. 2018) (Lourie, J., joined by Newman, J., concurring in denial of rehearing en banc).

<sup>3</sup> The first step of the *Alice/Mayo* test is to determine whether the claims are “directed to” a judicial exception. *Alice*, 573 U.S. at 217 (citing *Mayo*, 566 U.S. at 77).

<sup>4</sup> All references to the MPEP in the 2019 Revised Patent Subject Matter Eligibility Guidance are to the Ninth Edition, Revision 08-2017 (rev. Jan. 2018), unless otherwise indicated.

and technological work,”<sup>5</sup> which includes “abstract ideas” such as mathematical concepts, certain methods of organizing human activity, and mental processes; as well as laws of nature and natural phenomena. Only when a claim recites a judicial exception does the claim require further analysis in order to determine its eligibility. The groupings of abstract ideas contained in this guidance enable USPTO personnel to more readily determine whether a claim recites subject matter that is an abstract idea.

Section II explains that the USPTO has set forth a revised procedure, rooted in Supreme Court caselaw, to determine whether a claim is “directed to” a judicial exception under the first step of the *Alice/Mayo* test (USPTO Step 2A).

Section III explains the revised procedure that will be applied by the USPTO. The procedure focuses on two aspects of Revised Step 2A: (1) whether the claim recites a judicial exception; and (2) whether a recited judicial exception is integrated into a practical application. Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim “directed to” a judicial exception, thereby triggering the need for further analysis pursuant to the second step of the *Alice/Mayo* test (USPTO Step 2B). Finally, if further analysis at Step 2B is needed (for example to determine whether the claim merely recites well-understood, routine, conventional activity), this 2019 Revised Patent Subject Matter Eligibility

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<sup>5</sup> *Mayo*, 566 U.S. at 71 (“Phenomena of nature, though just discovered, mental 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))).

Guidance explains that the examiner or administrative patent judge will proceed in accordance with existing USPTO guidance as modified in April 2018.<sup>6</sup>

The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance. The USPTO is determined to continue its mission to provide predictable and reliable patent rights in accordance with this rapidly evolving area of the law. The USPTO's ultimate goal is to draw distinctions between claims to principles in the abstract and claims that integrate those principles into a practical application. To that end, the USPTO may issue further guidance, or modify the current guidance, in the future based on its review of the comments received, further experience of the USPTO and its stakeholders, and additional judicial actions. Implementation of examination guidance on eligibility is an iterative process and may continue with periodic supplements. The USPTO invites the public to submit suggestions on eligibility-related topics to address in future guidance supplements as part of their comments on the USPTO's subject matter eligibility guidance.

***Impact on Examination Procedure and Prior Examination Guidance:*** This 2019 Revised Patent Subject Matter Eligibility Guidance supersedes MPEP 2106.04(II) (Eligibility Step 2A: Whether a Claim Is Directed to a Judicial Exception) to the extent it equates claims “reciting” a judicial exception with claims “directed to” a judicial exception, along with any other portion of the MPEP that conflicts with this guidance. A chart identifying portions of the MPEP that are

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<sup>6</sup> USPTO Memorandum of April 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (Apr. 19, 2018), *available at* <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF> [hereinafter “USPTO *Berkheimer* Memorandum”].

affected by this guidance will be available for viewing via the USPTO's Internet Web site (<http://www.uspto.gov>). This 2019 Revised Patent Subject Matter Eligibility Guidance also supersedes all versions of the USPTO's "Eligibility Quick Reference Sheet Identifying Abstract Ideas" (first issued in July 2015 and updated most recently in July 2018). Eligibility-related guidance issued prior to the Ninth Edition, R-08.2017, of the MPEP (published Jan. 2018) should not be relied upon. However, any claim considered patent eligible under prior guidance should be considered patent eligible under this guidance.

This guidance does not constitute substantive rulemaking and does not have the force and effect of law. The guidance sets out agency policy with respect to the USPTO's interpretation of the subject matter eligibility requirements of 35 U.S.C. 101 in view of decisions by the Supreme Court and the Federal Circuit. The guidance was developed as a tool for internal USPTO management and does not create any right or benefit, substantive or procedural, enforceable by any party against the USPTO. Rejections will continue to be based upon the substantive law, and it is those rejections that are appealable to the Patent Trial and Appeal Board (PTAB) and the courts. All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance. Failure of USPTO personnel to follow the guidance, however, is not, in itself, a proper basis for either an appeal or a petition.

## **I. GROUPINGS OF ABSTRACT IDEAS**

The Supreme Court has held that the patent eligibility statute, Section 101, contains an implicit exception for "[l]aws of nature, natural phenomena, and abstract ideas," which are "the basic

tools of scientific and technological work.”<sup>7</sup> Yet, the Court has explained that “[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,” and has cautioned “to tread carefully in construing this exclusionary principle lest it swallow all of patent law.”<sup>8</sup>

Since the *Alice* case, courts have been “compare[ing] claims at issue to those claims already found to be directed to an abstract idea in previous cases.”<sup>9</sup> Likewise, the USPTO has issued guidance to the patent examining corps about Federal Circuit decisions applying the *Alice/Mayo* test, for instance describing the subject matter claimed in the patent in suit and noting whether or not certain subject matter has been identified as an abstract idea.<sup>10</sup>

While that approach was effective soon after *Alice* was decided, it has since become impractical.

The Federal Circuit has now issued numerous decisions identifying subject matter as abstract or

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<sup>7</sup> *Alice Corp.*, 573 U.S. at 216 (internal citation and quotation marks omitted); *Mayo*, 566 U.S. at 71.

<sup>8</sup> *Id.* (internal citation and quotation marks omitted).

<sup>9</sup> See *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016); see also *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (“[T]he decisional mechanism courts now apply [to identify an abstract idea] is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.”).

<sup>10</sup> See, e.g., 2014 Interim Guidance on Subject Matter Eligibility, 79 Fed. Reg. 74618, 74628-32 (Dec. 16, 2014) (discussing concepts identified as abstract ideas); July 2015 Update: Subject Matter Eligibility (Jul. 30, 2015), at 3-5, available at <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf> (same); USPTO Memorandum of May 19, 2016, “Recent Subject Matter Eligibility Decisions (*Enfish, LLC v. Microsoft Corp.* and *TLI Communications LLC v. A.V. Automotive, LLC*),” at 2 (May 19, 2016), available at [https://www.uspto.gov/sites/default/files/documents/ieg-may-2016\\_enfish\\_memo.pdf](https://www.uspto.gov/sites/default/files/documents/ieg-may-2016_enfish_memo.pdf) [hereinafter, “USPTO *Enfish* Memorandum”] (discussing the abstract idea in *TLI Communications LLC v. A.V. Automotive, LLC*, 823 F.3d 607 (Fed. Cir. 2016)); USPTO Memorandum of November 2, 2016, “Recent Subject Matter Eligibility Decisions,” at 2 (Nov. 2, 2016), available at <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf> [hereinafter, “USPTO *McRo* Memorandum”] (discussing how the claims in *McRo, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), were directed to an improvement instead of an abstract idea); USPTO Memorandum of April 2, 2018, “Recent Subject Matter Eligibility Decisions” (Apr. 2, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-recent-sme-ctdec-20180402.PDF> [hereinafter “USPTO *Finjan* Memorandum”] (discussing how the claims in *Finjan Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299 (Fed. Cir. 2018), and *Core Wireless Licensing, S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018), were directed to improvements instead of abstract ideas); USPTO *Berkheimer* Memorandum at 2 (discussing the abstract idea in *Berkheimer*); MPEP 2106.04(a) (reviewing cases that did and did not identify abstract ideas).



non-abstract in the context of specific cases, and that number is continuously growing. In addition, similar subject matter has been described both as abstract and not abstract in different cases.<sup>11</sup> The growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner, and concerns have been raised that different examiners within and between technology centers may reach inconsistent results.

The USPTO, therefore, aims to clarify the analysis. In accordance with judicial precedent and in an effort to improve consistency and predictability, the 2019 Revised Patent Subject Matter Eligibility 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** – mathematical relationships, mathematical formulas or equations, mathematical calculations,<sup>12</sup>

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<sup>11</sup> E.g., compare *TLI Commc'ns*, 823 F.3d at 611, with *Enfish*, 822 F.3d at 1335, and *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1258 (Fed. Cir. 2017). While computer operations such as “output of data analysis . . . can be abstract,” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1056 (Fed. Cir. 2017), “software-based innovations can [also] make ‘non-abstract improvements to computer technology’ and be deemed patent-eligible subject matter at step 1 [of the *Mayo/Alice* test],” *Finjan*, 879 F.3d at 1304 (*quoting Enfish*, 822 F.3d at 1335). Indeed, the Federal Circuit has held that “improvements in computer-related technology” and “claims directed to software” are not “inherently abstract.” *Enfish*, 822 F.3d at 1335; *see also Visual Memory*, 867 F.3d at 1258. These developments in the caselaw can create complications for the patent-examination process. For example, claims in one application could be deemed to be abstract, whereas slightly different claims directed to the same or similar subject matter could be determined to reflect a patent eligible “improvement.” Alternatively, claims in one application could be found to be abstract, whereas claims to the same or similar subject matter in another application, containing additional or different embodiments in the specification, could be deemed eligible as not directed to an abstract idea. In other words, the finding that the subject matter claimed in a prior patent was “abstract” as claimed may not determine whether similar subject matter in another application, claimed somewhat differently or supported by a different disclosure, is directed to an abstract idea and therefore patent ineligible.

<sup>12</sup> *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“The concept of hedging . . . reduced to a mathematical formula . . . is an unpatentable abstract idea[.]”); *Diamond v. Diehr*, 450 U.S. 175, 191 (1981) (“A mathematical formula as such is not accorded the protection of our patent laws”) (citing *Benson*, 409 U.S. 63); *Parkerv. 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.”); *Benson*, 409 U.S. at 71-72 (concluding that permitting a patent on the claimed

b) **Certain methods of organizing human activity** – fundamental economic principles or practices (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);<sup>13</sup> and

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invention “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself”); *Mackay Radio & Telegraph Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939) (“[A] scientific truth, or the mathematical expression of it, is not patentable invention[.]”); *SAP America, 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); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (holding that claims to a “process of organizing information through mathematical correlations” are directed to an abstract idea); *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1280 (Fed. Cir. 2012) (identifying the concept of “managing a stable value protected life insurance policy by performing calculations and manipulating the results” as an abstract idea).

<sup>13</sup> *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); *id.* (describing the concept of risk hedging identified as an abstract idea in *Bilski* as “a method of organizing human activity”); *Bilski*, 561 U.S. at 611-612 (concluding that hedging is a “fundamental economic practice” and therefore an abstract idea); *Bancorp*, 687 F.3d at 1280 (concluding that “managing a stable value protected life insurance policy by performing calculations and manipulating the results” is an abstract idea); *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378-79 (Fed. Cir. 2017) (holding that concept of “local processing of payments for remotely purchased goods” is a “fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362-63 (Fed. Cir. 2015) (concluding that claimed concept of “offer-based price optimization” is an abstract idea “similar to other ‘fundamental economic concepts’ found to be abstract ideas by the Supreme Court and this court”); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (holding that concept of “creating a contractual relationship—a ‘transaction performance guaranty’” is an abstract idea); *In re Comiskey*, 554 F.3d 967, 981 (Fed. Cir. 2009) (claims directed to “resolving a legal dispute between two parties by the decision of a human arbitrator” are ineligible); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (holding that claim “describe[ing] only the abstract idea of showing an advertisement before delivering free content” is patent ineligible); *In re Ferguson*, 558 F.3d 1359, 1364 (Fed. Cir. 2009) (holding methods “directed to organizing business or legal relationships in the structuring of a sales force (or marketing company)” to be ineligible); *Credit Acceptance*, 859 F.3d 1044 at 1054 (“The Board determined that the claims are directed to the abstract idea of ‘processing an application for financing a purchase.’ . . . We agree.”); *Interval Licensing*, 896 F.3d at 1344–45 (concluding that “[s]tanding alone, the act of providing someone an additional set of information without disrupting the ongoing provision of an initial set of information is an abstract idea,” observing that the district court “pointed to the nontechnical human activity of passing a note to a person who is in the middle of a meeting or conversation as further illustrating the basic, longstanding practice that is the focus of the [ patent ineligible] claimed invention.”); *Voter Verified, Inc. v. Election Systems & Software, LLC*, 887 F.3d 1376, 1385 (Fed. Cir. 2018) (finding the concept of “voting, verifying the vote, and submitting the vote for tabulation,” a “fundamental activity” that humans have performed for hundreds of years, to be an abstract idea); *In re Smith*, 815 F.3d 816, 818 (Fed. Cir. 2016) (concluding that “[a]pplicants’ claims, directed to rules for conducting a wagering game” are abstract).

c) **Mental processes** – concepts performed in the human mind<sup>14</sup> (including an observation, evaluation, judgment, opinion).<sup>15</sup>

Claims that do not recite matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas, except as follows: In the rare circumstance in which a USPTO employee believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

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<sup>14</sup> 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) (“[W]ith 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.”); *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (holding that computer-implemented method for “anonymous loan shopping” was an abstract idea because it could be “performed by humans without a computer”); *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (“Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person’s mind.”); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375, 1372 (Fed. Cir. 2011) (holding that the incidental use of “computer” or “computer readable medium” does not make a claim otherwise directed to process that “can be performed in the human mind, or by a human using a pen and paper” patent eligible); *id.* at 1376 (distinguishing *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010), and *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319 (Fed. Cir. 2010), as directed to inventions that “could not, as a practical matter, be performed entirely in a human’s mind”). Likewise, performance of a claim limitation using generic computer components does not necessarily preclude the claim limitation from being in the mathematical concepts grouping, *Benson*, 409 U.S. at 67, or the certain methods of organizing human activity grouping, *Alice*, 573 U.S. at 219-20.

<sup>15</sup> *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 *Benson*, 409 U.S. at 67)); *Flook*, 437 U.S. at 589 (same); *Benson*, 409 U.S. at 67, 65 (noting that the claimed “conversion of [binary-coded decimal] numerals to pure binary numerals can be done mentally,” i.e., “as a person would do it by head and hand.”); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1139, (Fed. Cir. 2016) (holding that claims to the mental process of “translating a functional description of a logic circuit into a hardware component description of the logic circuit” are directed to an abstract idea, because the claims “read on an individual performing the claimed steps mentally or with pencil and paper”); *Mortg. Grader*, 811 F.3d. at 1324 (concluding that concept of “anonymous loan shopping” is an abstract idea because it could be “performed by humans without a computer”); *In re BRCA1 & BRCA2-Based Hereditary Cancer Test Patent Litig.*, 774 F.3d 755, 763 (Fed. Cir. 2014) (concluding that concept of “comparing BRCA sequences and determining the existence of alterations” is an “abstract mental process”); *In re Brown*, 645 F. App’x 1014, 1017 (Fed. Cir. 2016) (non-precedential) (claim limitations “encompass the mere idea of applying different known hair styles to balance one’s head. Identifying head shape and applying hair designs accordingly is an abstract idea capable, as the Board notes, of being performed entirely in one’s mind”).

## II. “DIRECTED TO” A JUDICIAL EXCEPTION

The Supreme Court has long distinguished between principles themselves (which are not patent eligible) and the integration of those principles into practical applications (which are patent eligible).<sup>16</sup> Similarly, in a growing body of decisions, the Federal Circuit has distinguished between claims that are “directed to” a judicial exception (which require further analysis to determine their eligibility) and those that are not (which are therefore patent eligible).<sup>17</sup> For example, an improvement in the functioning of a computer or other technology or technological field may render a claim patent eligible at step one of the *Alice/Mayo* test even if it recites an abstract idea, law of nature, or natural phenomenon.<sup>18</sup> Moreover, recent Federal Circuit jurisprudence has indicated that eligible subject matter can often be identified either at the first or

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<sup>16</sup> See, e.g., *Alice*, 573 U.S. at 217 (explaining that “in applying the §101 exception, we must distinguish between patents that claim the ‘buildin[g] block[s]’ of human ingenuity and those that integrate the building blocks into something more” (quoting *Mayo*, 566 U.S. at 89) and stating that *Mayo* “set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts”); *Mayo*, 566 U.S. at 80, 84 (noting that the Court in *Diehr* found “the overall process patent eligible because of the way the additional steps of the process integrated the equation into the process as a whole,” but the Court in *Benson* “held that simply implementing a mathematical principle on a physical machine, namely a computer, was not a patentable application of that principle”); *Bilski*, 561 U.S. at 611 (“*Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, ‘an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.’” (quoting *Diehr*, 450 U.S. at 187) (emphasis in original)); *Diehr*, 450 U.S. at 187, 192 n.14 (explaining that the process in *Flook* was ineligible not because it contained a mathematical formula, but because it did not provide an application of the formula); *Mackay Radio*, 306 U.S. at 94 (“While a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.”); *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1852) (“The elements of the [natural phenomena] exist; the invention is not in discovering them, but in applying them to useful objects.”).

<sup>17</sup> See, e.g., MPEP 2106.06(b) (summarizing *Enfish*, *McRO*, and other cases that were eligible as improvements to technology or computer functionality instead of abstract ideas); USPTO *Finjan* Memorandum (discussing *Finjan*, and *Core Wireless*); USPTO Memorandum of June 7, 2018, “Recent Subject Matter Eligibility Decision: *Vanda Pharmaceuticals Inc. v. West-Ward Pharmaceuticals*,” available at <https://www.uspto.gov/sites/default/files/documents/memo-vanda-20180607.PDF> [hereinafter “USPTO *Vanda* Memorandum”]; *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016) (concluding that claims could be eligible if ordered combination of limitations “transform the abstract idea . . . into a particular, practical application of that abstract idea.”); *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056–57 (Fed. Cir. 1992) (“As the jurisprudence developed, inventions that were implemented by the mathematically-directed performance of computers were viewed in the context of the practical application to which the computer-generated data were put.”); *CLS Bank Int’l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1315 (Fed. Cir. 2013) (Moore, J., joined by Rader, C.J., and Linn and O’Malley, JJ., dissenting in part) (“The key question is thus whether a claim recites a sufficiently concrete and practical application of an abstract idea to qualify as patent-eligible.”), *aff’d*, 573 U.S. 208(2014).

<sup>18</sup> See, e.g., *McRO*, 837 F.3d at 1316; *Enfish*, 822 F.3d at 1336; *Core Wireless*, 880 F.3d at 1362.

the second step of the *Alice/Mayo* test.<sup>19</sup> These revised patent examination procedures are designed to more accurately and consistently identify claims that recite a practical application of a judicial exception (and thus are not “directed to” a judicial exception), thereby increasing predictability and consistency in the patent eligibility analysis. This analysis is performed at USPTO Step 2A, and incorporates certain considerations that have been applied by the courts at step one and at step two of the *Alice/Mayo* framework, given the recognized overlap in the steps depending on the facts of any given case.

In accordance with judicial precedent, and to increase consistency in examination practice, the 2019 Revised Patent Subject Matter Eligibility Guidance sets forth a procedure to determine whether a claim is “directed to” a judicial exception under USPTO Step 2A. Under the procedure, if a claim recites a judicial exception (a law of nature, a natural phenomenon, or an abstract idea as grouped in Section I, above), it must then be analyzed to determine whether the recited judicial exception is integrated into a practical application of that exception. A claim is not “directed to” a judicial exception, and thus is patent eligible, if the claim as a whole integrates the recited judicial exception into a practical application of that exception. A claim

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<sup>19</sup> See, e.g., *Vanda Pharm. Inc. v. West-Ward Pharm. Int'l Ltd.*, 887 F.3d 1117, 1134 (Fed. Cir. 2018) (“If the claims are not directed to a patent ineligible concept at step one, we need not address step two of the inquiry.”); *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016) (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two); *Enfish*, 822 F.3d at 1339 (noting that eligibility determination can be reached either because claims not directed to an abstract idea under step one or recite a concrete improvement under step two); *McRO*, 837 F.3d at 1313 (recognizing that the “court must look to the claims as an ordered combination” in determining patentability “[w]hether at step one or step two of the *Alice* test”); *Amdocs*, 841 F.3d at 1294 (observing that recent cases “suggest that there is considerable overlap between step one and step two, and in some situations [the inventive concept] analysis could be accomplished without going beyond step one”). See also *Ancora Techs. v. HTC Am.*, 908 F.3d 1343, 1349 (Fed. Cir. 2018) (noting, in accord with the “recognition of overlaps between some step one and step two considerations,” that its conclusion of eligibility at step one is “indirectly reinforced by some of [its] prior holdings under step two”).

that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.

### **III. INSTRUCTIONS FOR APPLYING REVISED STEP 2A DURING EXAMINATION**

Examiners should determine whether a claim satisfies the criteria for subject matter eligibility by evaluating the claim in accordance with the criteria discussed in MPEP 2106, i.e., whether the claim is to a statutory category (Step 1) and the *Alice/Mayo* test for judicial exceptions (Steps 2A and 2B). The procedure set forth herein (referred to as “revised Step 2A”) changes how examiners should apply the first step of the *Alice/Mayo* test, which determines whether a claim is “directed to” a judicial exception.

As before, Step 1 of the USPTO’s eligibility analysis entails considering whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. 101: process, machine, manufacture, or composition of matter. The 2019 Revised Patent Subject Matter Eligibility Guidance does not change Step 1 or the streamlined analysis, which are discussed in MPEP 2106.03 and 2106.06, respectively. Examiners may continue to use a streamlined analysis (Pathway A) when the patent eligibility of a claim is self-evident.

Step 2A of the 2019 Revised Patent Subject Matter Eligibility Guidance is a two-prong inquiry. In Prong One, examiners evaluate whether the claim recites a judicial exception.<sup>20</sup> This prong is similar to procedures in prior guidance except that when determining if a claim recites an abstract idea, examiners now refer to the subject matter groupings of abstract ideas in Section I instead of comparing the claimed concept to the USPTO’s prior “Eligibility Quick Reference Sheet Identifying Abstract Ideas.”

- If the claim recites a judicial exception (i.e., an abstract idea enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance, a law of nature, or a natural phenomenon), the claim requires further analysis in Prong Two.
- If the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas in Section I), then the claim is eligible at Prong One of revised Step 2A. This concludes the eligibility analysis, except in the rare circumstance described below.<sup>21</sup>
- In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

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<sup>20</sup> This notice does not change the type of claim limitations that are considered to recite a law of nature or natural phenomenon. For more information about laws of nature and natural phenomena, including products of nature, see MPEP 2106.04(b) and (c).

<sup>21</sup> Even if a claim is determined to be patent eligible under section 101, this or any other step of the eligibility analysis does not end the inquiry. The claims must also satisfy the other conditions and requirements for patentability, for example, under section 102 (novelty), 103 (nonobviousness), or 112 (enablement, written description, definiteness). *Bilski*, 561 U.S. at 602. Examiners should take care not to confuse or intermingle patentability requirements of these separate sections with patent eligibility analysis under section 101.

In Prong Two, examiners evaluate whether the claim recites additional elements that integrate the exception into a practical application of that exception. This prong adds a more detailed eligibility analysis to step one of the *Alice/Mayo* test (USPTO Step 2A) than was required under prior guidance.

- If the recited exception is integrated into a practical application of the exception, then the claim is eligible at Prong Two of revised Step 2A. This concludes the eligibility analysis.
- If, however, the additional elements do not integrate the exception into a practical application, then the claim is directed to the recited judicial exception, and requires further analysis under Step 2B (where it may still be eligible if it amounts to an “inventive concept”).<sup>22</sup>

The following discussion provides additional detail on this revised procedure.

## **A. Revised Step 2A**

### **1. Prong One: Evaluate Whether The Claim Recites A Judicial Exception**

In Prong One, examiners should evaluate whether the claim recites a judicial exception, i.e., an abstract idea, a law of nature, or a natural phenomenon. If the claim does not recite a judicial exception, it is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the claim does recite a judicial exception, then it requires further analysis in Prong Two of Revised Step 2A to determine whether it is directed to the recited

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<sup>22</sup> See, e.g., *Amdocs*, 841 F.3d at 1300, 1303; *BASCOM*, 827 F.3d at 1349-52; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257-59 (Fed. Cir. 2014); USPTO *Berkheimer* Memorandum; see also *Rapid Litig.*, 827 F.3d at 1050 (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two).



exception, as explained in Section III.A.2 of the 2019 Revised Patent Subject Matter Eligibility Guidance.

For abstract ideas, Prong One represents a change as compared to prior guidance. To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea; and (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance. If the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I, analysis should proceed to Prong Two in order to evaluate whether the claim integrates the abstract idea into a practical application. When evaluating Prong One, examiners are no longer to use the USPTO's "Eligibility Quick Reference Sheet Identifying Abstract Ideas," which has been superseded by this document.

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

For laws of nature and natural phenomena, Prong One does not represent a change. Examiners should continue to follow existing guidance to identify whether a claim recites one of these

exceptions,<sup>23</sup> and if it does, proceed to Prong Two of the 2019 Revised Patent Subject Matter Eligibility Guidance in order to evaluate whether the claim integrates the law of nature or natural phenomenon into a practical application.

## **2. Prong Two: If The Claim Recites A Judicial Exception, Evaluate Whether The Judicial Exception Is Integrated Into A Practical Application**

In Prong Two, examiners should evaluate whether the claim as a whole integrates the recited judicial exception into a practical application of the exception. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. When the exception is so integrated, then the claim is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the additional elements do not integrate the exception into a practical application, then the claim is directed to the judicial exception (Step 2A: YES), and requires further analysis under Step 2B (where it may still be eligible if it amounts to an inventive concept), as explained in Section III.B of the 2019 Revised Patent Subject Matter Eligibility Guidance.

Prong Two represents a change from prior guidance. The analysis under Prong Two is the same for all claims reciting a judicial exception, whether the exception is an abstract idea, a law of nature, or a natural phenomenon.

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<sup>23</sup> See MPEP 2106.04(b)-(c).

Examiners evaluate integration into a practical application 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, using one or more of the considerations laid out by the Supreme Court and the Federal Circuit, for example those listed below. While some of the considerations listed below were discussed in prior guidance in the context of Step 2B, evaluating them in revised Step 2A promotes early and efficient resolution of patent eligibility, and increases certainty and reliability. Examiners should note, however, that revised Step 2A specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. Instead, analysis of well-understood, routine, conventional activity is done in Step 2B. Accordingly, in revised Step 2A examiners should ensure that they give weight to all additional elements, whether or not they are conventional, when evaluating whether a judicial exception has been integrated into a practical application.

In the context of revised Step 2A, the following exemplary considerations are indicative that an additional element (or combination of elements)<sup>24</sup> may have integrated the exception into a practical application:

- an additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field;<sup>25</sup>

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<sup>24</sup> USPTO guidance uses the term “additional elements” to refer to claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception. Again, whether an additional element or combination of elements integrate the exception into a practical application should be evaluated on the claim as a whole.

<sup>25</sup> For example, a modification of Internet hyperlink protocol to dynamically produce a dual-source hybrid webpage. See MPEP 2106.05(a) for more information concerning improvements in the functioning of a computer or to any other technology or technical field, including a discussion of the exemplar provided herein, which is based on *DDR Holdings*, 773 F.3d at 1258-59. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

- an additional element that applies or uses a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition;<sup>26</sup>
- an additional element implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim;<sup>27</sup>
- an additional element effects a transformation or reduction of a particular article to a different state or thing;<sup>28</sup> and
- an additional element applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception.<sup>29</sup>

This is not an exclusive list, and there may be other examples of integrating the exception into a practical application.

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<sup>26</sup> For example, an immunization step that integrates an abstract idea into a specific process of immunizing that lowers the risk that immunized patients will later develop chronic immune-mediated diseases. *See, e.g., Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1066-68 (Fed. Cir. 2011). *See also Vanda Pharm. Inc. v. West-Ward Pharm. Int'l Ltd.*, 887 F.3d 1117, 1135 (Fed. Cir. 2018) (holding claims to the practical application of the natural relationships between iloperidone, CYP2D6 metabolism, and QTc prolongation to treat schizophrenia, not merely the recognition of those relationships, to be patent eligible at *Mayo/Alice* step 1 (USPTO Step 2A)), and USPTO *Vanda* Memorandum (discussing *Vanda*).

<sup>27</sup> For example, a Fourdrinier machine (which is understood in the art to have a specific structure comprising a headbox, a paper-making wire, and a series of rolls) that is arranged in a particular way that uses gravity to optimize the speed of the machine while maintaining quality of the formed paper web. See MPEP 2106.05(b) for more information concerning use of a judicial exception with, or in conjunction with, a particular machine or manufacture, including a discussion of the exemplar provided herein, which is based on *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 64-65 (1923).

<sup>28</sup> For example, a process that transforms raw, uncured synthetic rubber into precision-molded synthetic rubber products by using a mathematical formula to control operation of the mold. See MPEP 2106.05(c) for more information concerning transformation or reduction of a particular article to a different state or thing, including a discussion of the exemplar provided herein, which is based on *Diehr*, 450 U.S. at 184.

<sup>29</sup> For example, a combination of steps including installing rubber in a press, closing the mold, constantly measuring the temperature in the mold, and automatically opening the press at the proper time, all of which together meaningfully limited the use of a mathematical equation to a practical application of molding rubber products. See MPEP 2106.05(e) for more information on this consideration, including a discussion of the exemplar provided herein, which is based on *Diehr*, 450 U.S. at 184, 187. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

The courts have also identified examples in which a judicial exception has not been integrated into a practical application:

- an additional element merely recites the words “apply it” (or an equivalent) with the judicial exception, or merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea;<sup>30</sup>
- an additional element adds insignificant extra-solution activity to the judicial exception;<sup>31</sup> and
- an additional element does no more than generally link the use of a judicial exception to a particular technological environment or field of use.<sup>32</sup>

It is critical that examiners consider the claim as a whole when evaluating whether the judicial exception is meaningfully limited by integration into a practical application of the exception.

Some elements may be enough on their own to meaningfully limit an exception, but other times

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<sup>30</sup> For example, a limitation indicating that a particular function such as creating and maintaining electronic records is performed by a computer, without specifying how. See MPEP 2106.05(f) for more information concerning mere instructions to apply a judicial exception, including a discussion of the exemplar provided herein, which is based on *Alice*, 573 U.S. at 222-26. See also *Benson*, 409 U.S. 63 (holding that merely implementing a mathematical principle on a general purpose computer is a patent ineligible abstract idea); *Credit Acceptance Corp. v. Westlake Services*, 859 F.3d 1044 (Fed. Cir. 2017) (using a computer as a tool to process an application for financing a purchase).

<sup>31</sup> For example, a mere data gathering such as a step of obtaining information about credit card transactions so that the information can be analyzed in order to detect whether the transactions were fraudulent. See MPEP 2106.05(g) for more information concerning insignificant extra-solution activity, including a discussion of the exemplar provided herein, which is based on *CyberSource*, 654 F.3d at 1375. See also *Mayo*, 566 U.S. at 79 (concluding that additional element of measuring metabolites of a drug administered to a patient was insignificant extra-solution activity, which was insufficient to confer patent eligibility); *Flook*, 437 U.S. at 590 (step of adjusting an alarm limit based on the output of a mathematical formula was “post-solution activity” and did not render method patent eligible).

<sup>32</sup> For example, a claim describing how the abstract idea of hedging could be used in the commodities and energy markets, or a claim limiting the use of a mathematical formula to the petrochemical and oil-refining fields. See MPEP 2106.05(h) concerning generally linking use of a judicial exception to a particular technological environment or field of use, including a discussion of the exemplars provided herein, which are based on *Bilski*, 561 U.S. at 612, and *Flook*, 437 U.S. at 588-90. Thus, the mere application of an abstract method of organizing human activity in a particular field is not sufficient to integrate the judicial exception into a practical application.

it is the combination of elements that provide the practical application. When evaluating whether an element (or combination of elements) integrates an exception into a practical application, examiners should give careful consideration to both the element and how it is used or arranged in the claim as a whole. Because revised Step 2A does not evaluate whether an additional element is well-understood, routine, conventional activity, examiners are reminded that a claim that includes conventional elements may still integrate an exception into a practical application, thereby satisfying the subject matter eligibility requirement of Section 101.<sup>33</sup>

**B. Step 2B: If The Claim Is Directed To A Judicial Exception, Evaluate Whether The Claim Provides An Inventive Concept**

It is possible that a claim that does not “integrate” a recited judicial exception is nonetheless patent eligible. For example the claim may recite additional elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.<sup>34</sup> Along these lines, the Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO Step 2B) because the additional elements recited in the claims provided “significantly more” than the recited judicial exception (e.g., because the additional elements were unconventional in combination).<sup>35</sup> Therefore, if a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements

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<sup>33</sup> Of course, such claims must also satisfy the other conditions and requirements of patentability, for example, under section 102 (novelty), 103 (nonobviousness), and 112 (enablement, written description, definiteness). *Bilski*, 561 U.S. at 602.

<sup>34</sup> See, e.g., *Diehr*, 450 U.S. at 187 (“Our earlier opinions lend support to our present conclusion that a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer.”); *id.* at 185 (“Our conclusion regarding respondents' claims is not altered by the fact that in several steps of the process a mathematical equation and a programmed digital computer are used.”).

<sup>35</sup> See, e.g., *Amdocs*, 841 F.3d at 1300, 1303; *BASCOCOM*, 827 F.3d at 1349-52; *DDR Holdings*, 773 F.3d at 1257-59.

individually and in combination under Step 2B to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself). If the examiner determines that the element (or combination of elements) amounts to significantly more than the exception itself (Step 2B: YES), the claim is eligible, thereby concluding the eligibility analysis. If the examiner determines that the element and combination of elements does not amount to significantly more than the exception itself, the claim is ineligible (Step 2B: NO) and the examiner should reject the claim for lack of subject matter eligibility.

While many considerations in Step 2A need not be reevaluated in Step 2B, examiners should continue to consider in Step 2B whether an additional element or combination of elements:

- adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present; or
- simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.<sup>36</sup>

For this reason, if an examiner had previously concluded under revised Step 2A that, e.g., an additional element was insignificant extra-solution activity, they should reevaluate that conclusion in Step 2B. If such reevaluation indicates that the element is unconventional or

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<sup>36</sup> In accordance with existing guidance, an examiner's conclusion that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with a factual determination. For more information concerning evaluation of well-understood, routine, conventional activity, see MPEP 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum.

otherwise more than what is well-understood, routine, conventional activity in the field, this finding may indicate that an inventive concept is present and that the claim is thus eligible.<sup>37</sup> For example, when evaluating a claim reciting an abstract idea such as a mathematical equation and a series of data gathering steps that collect a necessary input for the equation, an examiner might consider the data gathering steps to be insignificant extra-solution activity in revised Step 2A, and therefore find that the judicial exception is not integrated into a practical application.<sup>38</sup> However, when the examiner reconsiders the data gathering steps in Step 2B, the examiner could determine that the combination of steps gather data in an unconventional way and therefore include an “inventive concept,” rendering the claim eligible at Step 2B.<sup>39</sup> Likewise, a claim that does not meaningfully integrate a judicial exception into a practical application of the exception sufficient to pass muster at Step 2A, may nonetheless include additional subject matter that is unconventional and thus an “inventive concept” at Step 2B.<sup>40</sup>

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<sup>37</sup> *Mayo*, 566 U.S. at 82 (“[S]imply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable.”); *but see id.* at 85 (“[T]he claimed process included not only a law of nature but also several unconventional steps (such as inserting the receptacle, applying heat to the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.” (discussing the old English case, *Neilson v. Harford*, Webster’s Patent Cases 295 (1841))).

<sup>38</sup> *See supra* note 34; *see also OIP Techs.*, 788 F.3d at 1363 (finding that gathering statistics generated based on customer testing for input to a pricing calculation “fail[s] to ‘transform’ the claimed abstract idea into a patent-eligible invention”).

<sup>39</sup> *Compare Flook*, 437 U.S. at 585–86 (holding claimed method of updating alarm limits to be ineligible because: “In essence, the method consists of three steps: an initial step which merely measures the present value of the process variable (e.g., the temperature); an intermediate step which uses an algorithm to calculate an updated alarm-limit value; and a final step in which the actual alarm limit is adjusted to the updated value. The only difference between the conventional methods of changing alarm limits and that described in respondent’s application rests in the second step—the mathematical algorithm or formula.”); *with Exergen Corp. v. Kaz USA, Inc.*, 725 F. App’x 959, 966 (Fed. Cir. 2018) (holding claimed body temperature detector to be eligible because: “Here, the patent is directed to the measurement of a natural phenomenon (core body temperature). Even if the concept of such measurement is directed to a natural phenomenon and is abstract at step one, the measurement method here was not conventional, routine, and well-understood. Following years and millions of dollars of testing and development, the inventor determined for the first time the coefficient representing the relationship between temporal-arterial temperature and core body temperature and incorporated that discovery into an unconventional method of temperature measurement.”).

<sup>40</sup> *Compare Berkheimer*, 881 F.3d at 1370 (holding independent claim 1 to be ineligible at *Alice* step 2: “The[] conventional limitations of claim 1, combined with limitations of analyzing and comparing data and reconciling



### C. Treating a Claim Limitation That Does Not Fall Within the Enumerated Groupings of Abstract Ideas as Reciting an Abstract Idea

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea (“tentative abstract idea”), the examiner should evaluate whether the claim as a whole integrates the recited tentative abstract idea into a practical application as explained in Section III.A.2. If the claim as a whole integrates the recited tentative abstract idea into a practical application, the claim is not directed to a judicial exception (Step 2A: NO) and is eligible (thus concluding the eligibility analysis). If the claim as a whole does not integrate the recited tentative abstract idea into a practical application, then the examiner should evaluate the additional elements individually and in combination to determine whether they provide an inventive concept as explained in Section III.B. If an additional element or combination of additional elements provides an inventive concept as explained in Section III.B (Step 2B: YES), the claim is eligible (thus concluding the eligibility analysis). If the additional element or

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differences between the data, fail to transform the abstract idea into a patent-eligible invention. The limitations amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components”)(internal quotation marks and citation omitted); *with id.* (concluding that dependent claims 4-7 may be eligible: “Claims 4-7, in contrast, contain limitations directed to the arguably unconventional inventive concept described in the specification. Claim 4 recites ‘storing a reconciled object structure in the archive without substantial redundancy.’ The specification states that storing object structures in the archive without substantial redundancy improves system operating efficiency and reduces storage costs. It also states that known asset management systems did not archive documents in this manner. Claim 5 depends on claim 4 and further recites ‘selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items.’ The specification states one-to-many editing substantially reduces effort needed to update files because a single edit can update every document in the archive linked to that object structure. This one-to-many functionality is more than ‘editing data in a straightforward copy-and-paste fashion,’ as characterized by the district court. According to the specification, conventional digital asset management systems cannot perform one-to-many editing because they store documents with numerous instances of redundant elements, rather than eliminate redundancies through the storage of linked object structures. Claims 6-7 depend from claim 5 and accordingly contain the same limitations. These claims recite a specific method of archiving that, according to the specification, provides benefits that improve computer functionality. . . . [T]here is at least a genuine issue of material fact in light of the specification regarding whether claims 4-7 archive documents in an inventive manner that improves these aspects of the disclosed archival system.”)(internal quotation marks and citations omitted).

combination of additional elements does not provide an inventive concept as explained in Section III.B (Step 2B: NO), the examiner should bring the application to the attention of the Technology Center Director. Any rejection in which a claim limitation, which does not fall within the enumerated abstract ideas (tentative abstract idea), is nonetheless treated as reciting an abstract idea must be approved by the Technology Center Director (which approval will be indicated in the file record of the application), and must provide a justification<sup>41</sup> for why such claim limitation is being treated as reciting an abstract idea.<sup>42</sup>

#### **D. Compact Prosecution**

Regardless of whether a rejection under 35 U.S.C. 101 is made, a complete examination should be made for every claim under each of the other patentability requirements: 35 U.S.C. 102, 103, 112, and 101 (utility, inventorship and double patenting) and non-statutory double patenting.<sup>43</sup> Compact prosecution, however, does not mandate that the patentability requirements be analyzed in any particular order.

Dated: December 20, 2018.

Andrei Iancu,  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office.

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<sup>41</sup> Such justification may include, for example, an explanation of why the element contains subject matter that, per se, invokes eligibility concerns similar to those expressed by the Supreme Court with regard to the judicial exceptions. *See supra* note 5.

<sup>42</sup> Similarly, in the rare circumstance in which a panel of administrative patent judges (or panel majority) believes that a claim reciting a tentative abstract idea should be treated as reciting an abstract idea, the matter should be brought to the attention of the PTAB leadership by a written request for clearance.

<sup>43</sup> *See* MPEP 2103 et seq. and 2106(III).

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