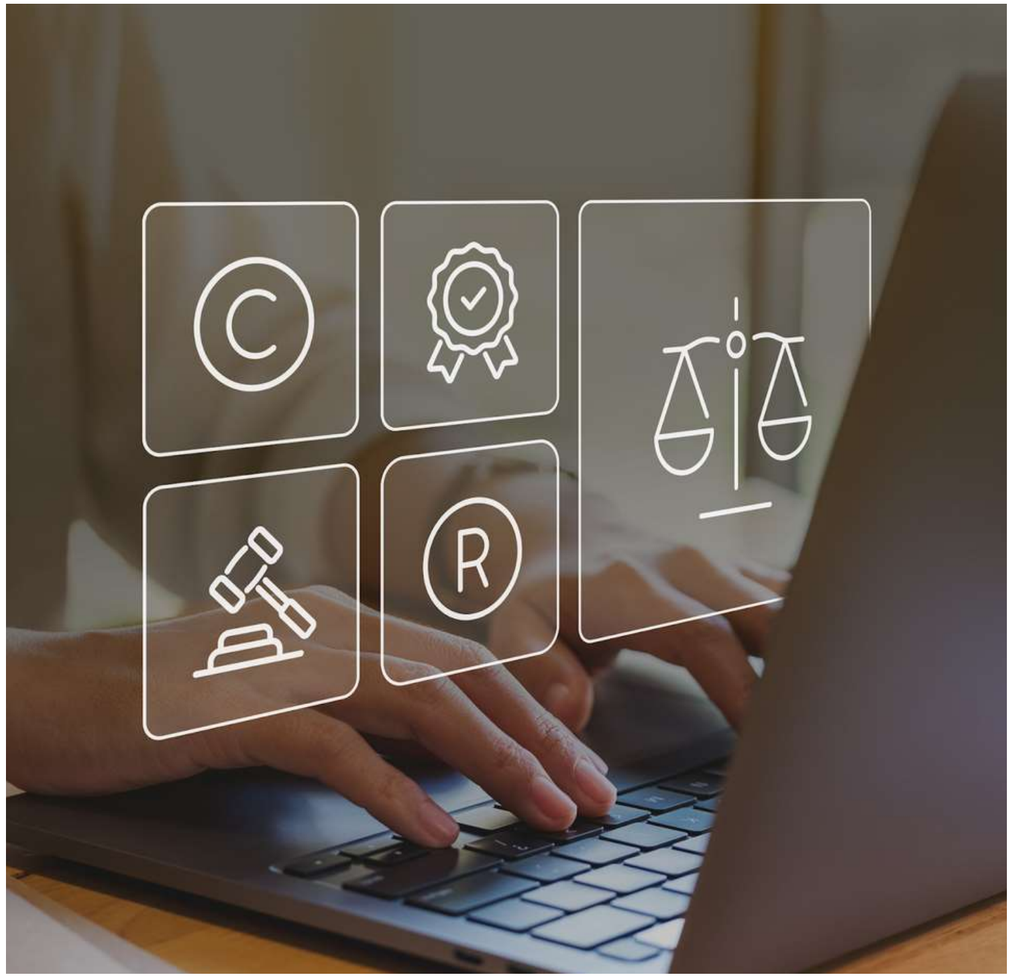
workman nydegger

Current Doctrine, USPTO practice, and Prosecution Strategies after *Alice*

Presented by
Justin Cassell
jcassell@wnlaw.com



Background: 35 U.S.C. § 101

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor ...."

U.S. Patent Act of 1952 (35 U.S.C. § 101)

Although the statutory language is broad, judicially created exceptions and current case law limit patent eligibility in practice, particularly relating to software, AI and other method type inventions relating to abstract ideas.

Judicial Exceptions

- Judicial exceptions - ineligible subject matter - are recognized by the Supreme Court as:

    1. Laws of nature,
    2. Natural phenomena, and
    3. Abstract ideas.

- The Supreme Court reasons that these judicial exceptions are "the basic tools of scientific and technological work." *Alice Corp*. (2014)

- Modern analysis in light of this reasoning proceeds through the *Alice/Mayo* framework.

History: *State Street*

State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998), is a landmark U.S. Court of Appeals for the Federal Circuit (CAFC) case that deemed computer-implemented business methods patentable under 35 U.S.C. § 101. The court held that software producing a "useful, concrete, and tangible result" is eligible for patent protection, effectively legitimizing business method patents.

The *State Street Bank* decision opened the proverbial floodgate – the high-water mark for software patents. While this case remains important historically, its "useful, concrete, and tangible result" formulation *does not* govern modern subject-matter eligibility analysis.

History: “The Push Back”

The Supreme Court pushed back with a gradual shift from broad eligibility to a restrictive framework.

- *Bilski* (2010) – Claims recite steps for hedging to protect against fluctuations in energy market. *Bilski* narrowed business-method eligibility and rejected machine-or-transformation as the sole test.
- *Mayo* (2012) – Claims recite steps to help doctors determine whether a dosage was too low or too high. *Mayo* required more than conventional application of a natural relationship.
- *Alice* (2014) – Claims recite steps of using a third party that monitors accounts to reduce settlement risk. *Alice* applied *Mayo’s* framework to abstract ideas and generic computer implementation.

See: *Bilski v. Kappos*, **561 U.S. 593 (2010) . (“Bilski).**
See: *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, **566 U.S. 66 (2012). (“Mayo”).**

Alice Corp. v. CLS Bank Int'l

- *Alice Corp. v. CLS Bank International ("Alice"),* is a landmark case by the U.S. Supreme Court establishing that under 35 U.S.C. § 101, abstract ideas using generic computer functions are not patentable.
- It created a two-step "*Alice Test*" to decide if a patent claim qualifies as eligible patent subject matter.
- "We have long held that this provision contains an important implicit exception: laws of nature, natural phenomena, and abstract ideas are not patentable."
- *Alice* did not create the framework from whole cloth but extended *Mayo* to abstract ideas.

See: *Alice Corp. v. CLS Bank International*, **573 U.S. 208 (2014).**

Alice Test

Under the Supreme Court analysis:

Step One: The court asks whether the claim is “directed to” a patent ineligible concept, based on judicial exceptions.

If yes:

Step Two: The court asks whether the claim recites additional claim elements that transform the nature of the claim into a patent-eligible application.

Alice Test: Abstract Idea

- **Court's Concern:** The Court's primary concern was that claims covering an abstract idea "would preempt use … in all fields, and would effectively grant a monopoly over [the] abstract idea." While this concern underlies the doctrine, the absence of broad preemption does not itself establish eligibility.
- **Software and Business Methods:** *Alice* significantly increased the difficulty of obtaining and maintaining patents for software, business methods, and financial algorithms.
- **Focus on Abstract Idea:** The Court focused on the abstract idea as the basis for determining whether the claim included *"additional features"* to ensure that the claim did not monopolize the abstract idea.

See also: Rsch. Corp. Techs. v. Microsoft Corp., **627 F.3d 859, 868 (Fe.d. Cir. 2010)**

Impact on Patents

- **"Significantly More" Requirement:** To support eligibility, the claim should reflect a concrete technological improvement or technological application, rather than merely using a computer to implement an idea.
- **Evaluate for Significantly More:** Only after looking at the whole claim, did it then advise to evaluate the claim elements themselves to see if there is something "*significantly more*" to the abstract idea.
- **Uncertainty and Reassessment:** The decision has caused and continues to cause significant uncertainty in software patenting, raising questions about the value of such intellectual property.
- **Rise of Invalidation Defense:** *Alice* provided defendants with an effective way to challenge existing patents early in litigation.

Impact on Patents: Courts and USPTO

- **Differences in approaches:** There is a difference in practical emphasis, rather than a different legal standard, between courts and the USPTO in assessing patentable subject matter and claims; courts focus more on policy; USPTO focuses more on the grant of patents.
- **Federal Courts – "Outside-in" Approach:** *Alice* represents an "*outside-in*" approach by focusing on the claim as a whole first, and then analyzes particular claim limitations, if needed, consistent with the role of § 101 being a "*coarse … filter*" for patent-eligibility.
- **USPTO – "Inside-out" Approach:** Examiners parse claims to identify specific limitations first and then evaluate whether exceptions are integrated into a practical application.

Effects of *Alice* and Its Aftermath

- **After *Alice*:** §101 rejections skyrocketed from under 10,000 to over 100,000 by 2018, as indicated by reported rejection trends, primarily hitting software and business methods.
- **2019 PEG:** The 2019 Revised Patent Subject Matter Eligibility Guidance (hereafter “2019 PEG”) significantly stabilized rejections at the USPTO, reducing §101 rejections to ~20,000 by 2021, though they remain much higher than pre-2014 levels.
- **Targeted Technology Centers:** The impact is largely concentrated. The "business-method" art units (e.g., 3621-29, 3681-97) saw the highest rejection rates, while other computer-related units (e.g., TC 2100) saw less impact.

See: Adjusting to Alice: USPTO patent examination outcomes after Alice Corp. v. CLS Bank International https://www.uspto.gov/sites/default/files/documents/OCE-DH_AdjustingtoAlice.pdf

Effects of *Alice* and its Aftermath

- **2019 Guidance Impact:** The 2019 PEG led to a 25% reduction in the likelihood of a first office action containing a §101 rejection for Alice-affected technologies within the first year, as indicated by reported rejection trends.
- **Allowance Rates:** Allowance rates dropped immediately after *Alice* but saw an upward trend post-2019, with the allowance rate for AI-related applications increasing by roughly 8%.
- **PTAB Appeals:** Appeals from the Patent Trial and Appeal Board ("PTAB") on § 101 rejections have an extremely high affirmance rate. In 2024, the PTAB affirmance rate for 101 rejections was 88.6%, indicating that only about 11% of applicants are successful in overturning these rejections. Notably, PTAB affirmance trends vary by technology and argument quality.

See: https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf

Effects of *Alice* and its Aftermath

- **Machine Learning/AI Trends:** AI and ML claims remain vulnerable unless the claims and specification anchor the invention in a concrete technological improvement, such as training methodology, architecture, resource usage, or system operation.
- **Gap between USPTO Allowance and CAFC Invalidation:** CAFC invalidation of 35 U.S.C. § 101 claims arises from the USPTO's lenient guidance to increase allowances, which CAFC finds inconsistent with binding precedent, especially for software and AI inventions. USPTO seeks predictability; CAFC emphasizes strict "inventive concept" requirements.
- **Judicial Outcomes:** Courts have been strict; a study found that in 6 years after *Alice*, over 82% of challenged patent claims at the CAFC were found ineligible.
- **District Court Appeals:** In 2023, the CAFC fully affirmed in 75% of its district court appeals, with ineligibility decisions holding strong, particularly in the "business method" and software-related TC 3600 and 3700 units.

Guidance by USPTO

The materials provided below provide guidance to examination but do not displace binding precedent.

- **2014 (Post-Alice/Mayo Guidance):** In response to Alice Corp. v. CLS Bank International (June 2014) and Mayo v. Prometheus (2012), the USPTO released the 2014 Interim Guidance on Subject Matter Eligibility, establishing the two-step analysis (Alice/Mayo framework) to identify abstract ideas, laws of nature, and natural phenomena.
- **2018 (Vanda Memorandum):** The USPTO said in June 2018 that method of treatment claims that practically apply natural relationships are usually eligible at Step 2A.
- **2019 Revised Patent Subject Matter Eligibility Guidance (January 2019):** This significant update aimed to improve clarity, predictability, and consistency, especially by revising Step 2A to assist examiners in determining if a claim is "directed to" a judicial exception.

See https://www.uspto.gov/patents/laws/examination-policy/subject-matter-eligibility

Guidance by USPTO

The materials are best understood as examination guidance of differing authority.

- **2024 AI SME Update (July 2024):** The USPTO released updated guidance on Subject Matter Eligibility (SME) for Artificial Intelligence (AI) and other emerging technologies. This update included Examples 47-49 for analyzing AI claims. It clarified that how an invention was developed (i.e., with AI) is not relevant to § 101 eligibility but may influence inventorship.
- **August 2025 Memorandum:** A new memorandum was issued to examiners, specifically addressing Technology Centers 2100 (Software/AI), 2600 (Communications), and 3600 (E-Commerce), providing additional reminders and clarifications on applying 101, aimed at refining the analysis of AI/ML inventions.
- **December 2025 MPEP Update:** The MPEP was revised to emphasize that examiners must evaluate the claimed invention as a whole, including any technological improvements, when determining eligibility.

Current USPTO Subject Matter Eligibility Guidance

- **MPEP citations:** The USPTO SME guidance is found in the Manual of Patent Examining Procedure (MPEP), sections 2103 - 2106.07.
- **Examples:** The USPTO has issued several sets of examples to guide examiners and applicants in applying § 101. The examples are illustrative applications of USPTO guidance and are useful for practice, but they are not binding authority and do not exhaust the Office's approach.
- **Examples 1-18 (2014):** Post *Alice;* focused heavily on distinguishing "product of nature" exceptions and identifying abstract ideas, such as "method of organizing human activity" or "fundamental economic practices."
- **Examples 19-33 (2015):** Focused on "significantly more" and more analyses.
- **Examples 33-36 (May 2016):** Focused on life sciences and other scenarios.

See: https://www.uspto.gov/about-us/events/uspto-hour-updates-subject-matter-eligibility-under-35-usc-101
See: https://www.uspto.gov/web/offices/pac/mpep/s2103.html

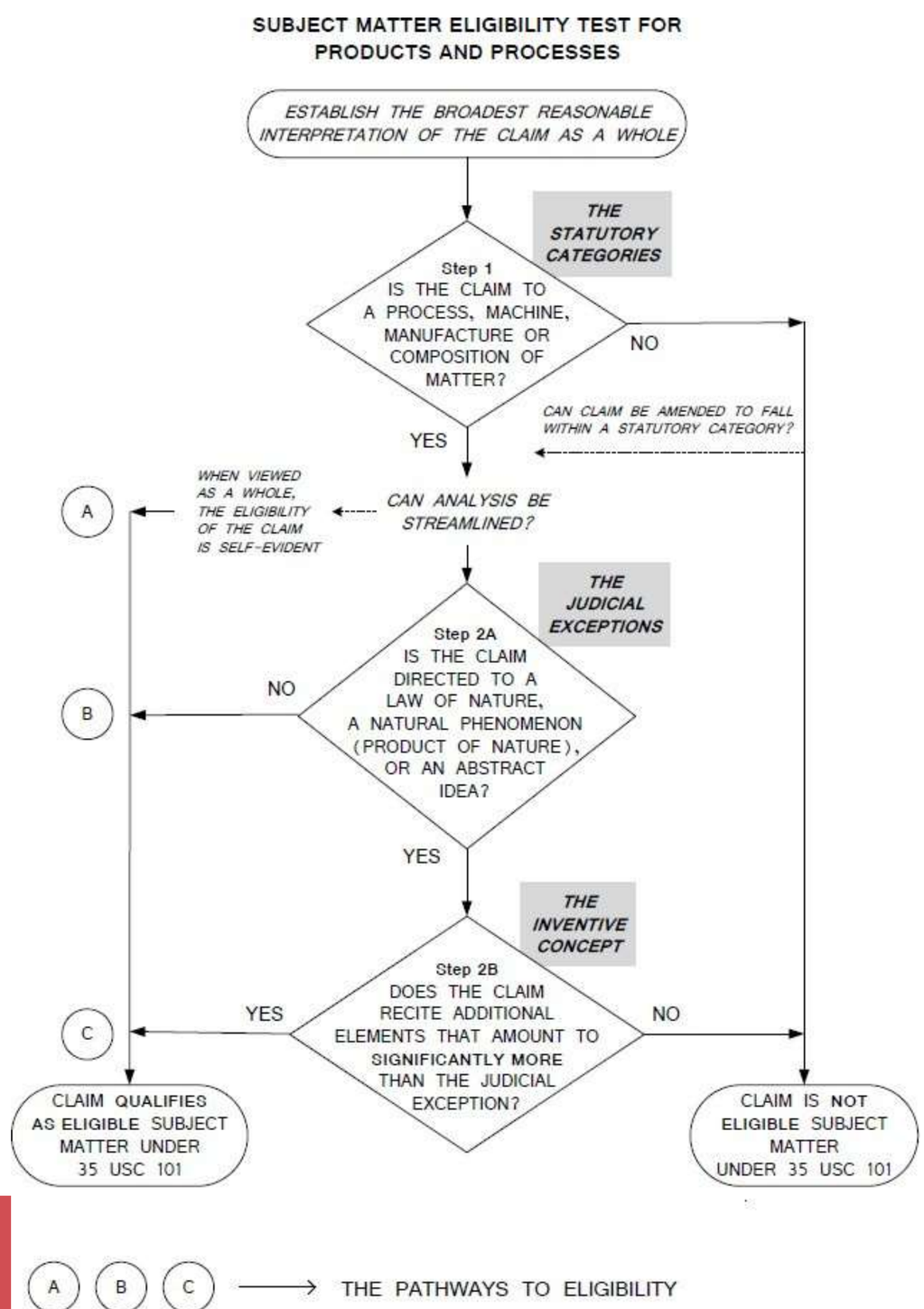
Current USPTO Subject Matter Eligibility Guidance

- **Examples 37-42 (2019 PEG):** Introduced additional ”prongs” to Step 2 analysis to illustrate this new approach, showing how to determine if an abstract idea is "integrated into a practical application.”
- **Examples 43-46 (Oct. 2019):** Continued to aid in applying the 2019 PEG, specifically focusing on "treatment/prophylaxis" and "other meaningful limitations" in medical and data processing scenarios.
- **Examples 47-49 (Jul. 2024):** Addressed Artificial Intelligence (AI) and Machine Learning (ML) inventions including guidance to AI-based anomaly detection and speech separation, focusing on when AI-related claims improve computer functionality.
- **Subject Matter:** Software and AI (Examples 1-8, 21-23, 34-37, 47-49); Life Sciences & Nature-Based Products (Examples 9-18, 28-30, 43-44); Business Methods & Economic Practices (Examples 7, 8, 21, 22, 35, 36).

See: https://www.uspto.gov/about-us/events/uspto-hour-updates-subject-matter-eligibility-under-35-usc-101
See: https://www.uspto.gov/web/offices/pac/mpep/s2103.html

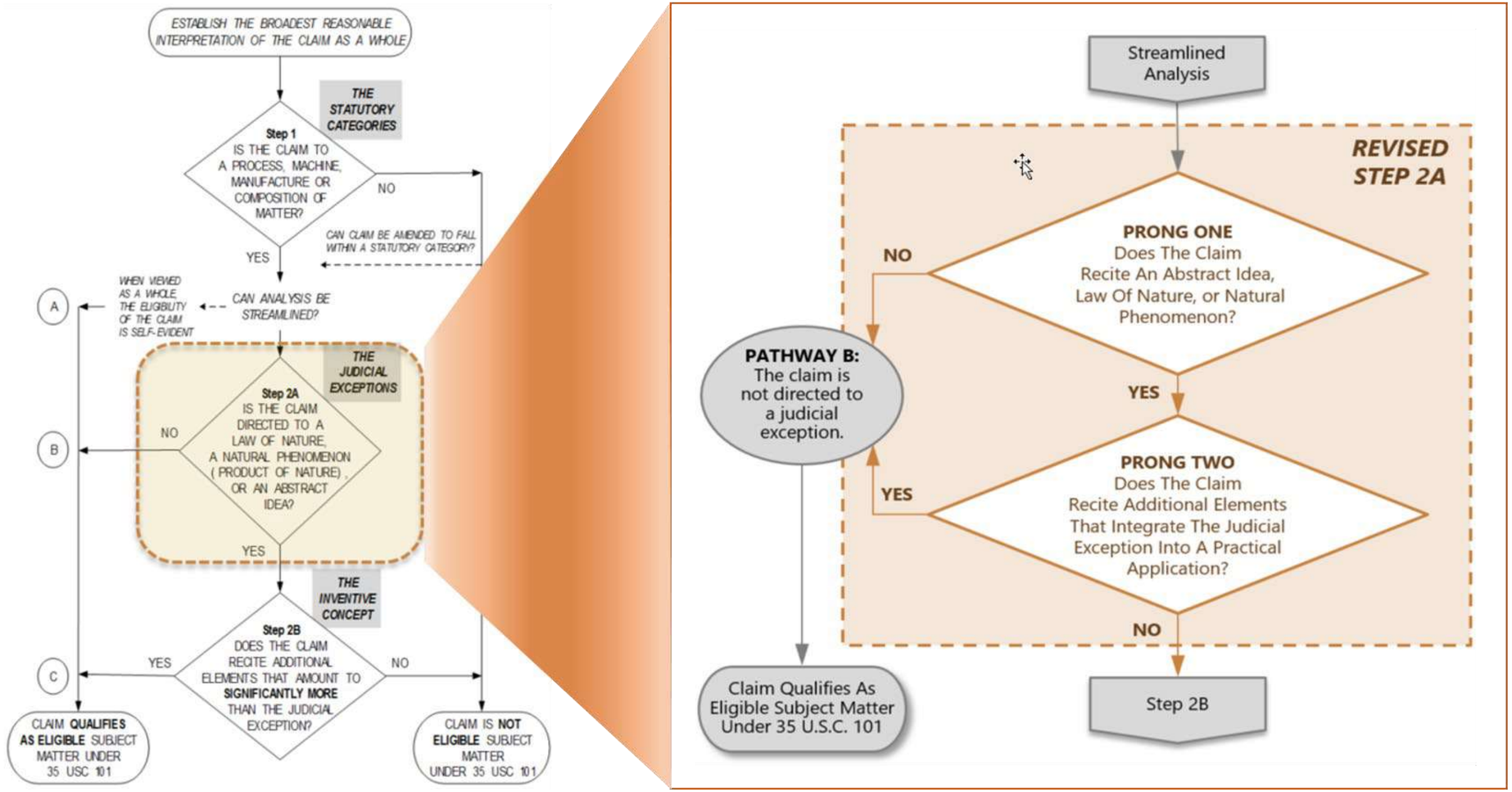
Overview of Analysis

- USPTO analysis addresses the two criteria for subject matter eligibility:
  - **Statutory Categories:** the claimed invention must be to a statutory category (Step 1); and
  - **Eligibility Analysis:** the claimed invention must qualify as patent-eligible subject matter (Steps 2A and 2B, aka the *Alice/Mayo* test).
- The USPTO lowchart at right illustrates the overall analysis.



See: https://www.uspto.gov/web/offices/pac/mpep/s2106.html

Current USPTO Flowchart (2019 PEG)



Notably, this flowchart reflects USPTO examination procedure, which may not always mirror litigation framing in the courts.

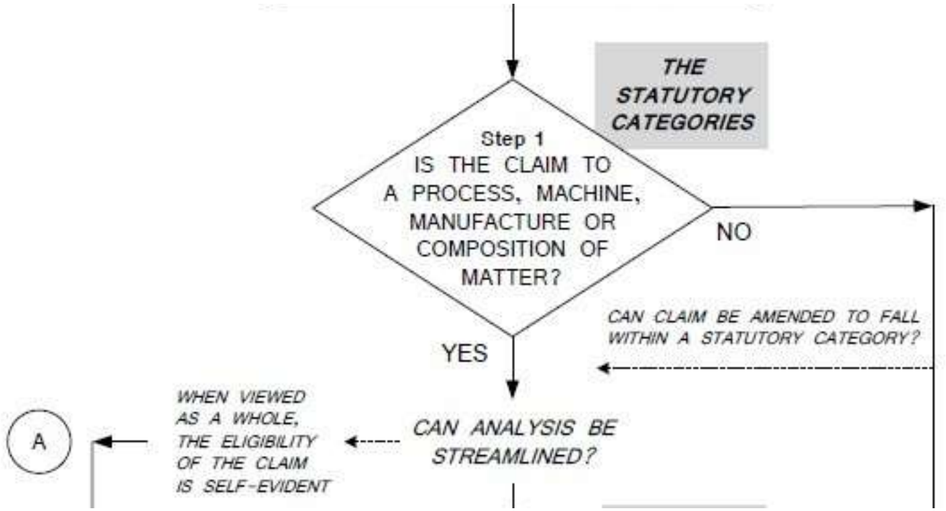
Revised flowchart in 2019 PEG; MPEP 2106.

Alice Framework (35 U.S.C. § 101) per 2019 PEG

- **Step 1 - Statutory Categories:** Is the claim a process, machine, manufacture or composition of matter?
  - When viewed as a whole, the eligibility of the claim is self-evident.
- **Step 2A - The Judicial Exceptions:** Is the claim directed to a law of nature, a natural phenomenon (product of nature), or abstract idea? If an abstract idea:
  - **Prong 1:** (a) Identity specific claim limitation believed to be abstract idea, (b) Identify subject matter grouping: is the abstract idea a math concept, method of organizing human activity, or mental process?
  - **Prong 2:** Does the claim recite additional elements that *integrate* the judicial exception into a *practical application*?
- **Step 2B:** The Inventive Concept: Does the claim recite additional elements that amount to *significantly more* than the judicial exception?

Step 1: Statutory Categories

- **Categories:** Categories of subject matter deemed appropriate for a patent: processes, machines, manufactures, and compositions of matter.
  - If the claim as a whole does not fall within any statutory category (Step 1: NO) and thus is non-statutory, a rejection for failure to claim statutory subject matter is warranted.
  - If the claim as a whole falls within one or more statutory categories (Step 1: YES), it must be further analyzed to determine whether it qualifies as eligible at Pathway A (streamlined – self-evident) or if it requires further analysis at Step 2A to determine if the claim is directed to a judicial exception.
- Notably, most software and computer-implemented claims satisfy Step 1, real disputes usually arise under Step 2A and Step 2B.



See MPEP 2106.03

Transition to Step 2A: the “Directed to” Inquiry

- A claim must be "directed to“ the identified judicial exception or abstract idea. The Federal Circuit has explained that the “directed to” inquiry requires that the "character of the claim" be determined. Once determined, this character is then compared against the abstract idea or natural phenomenon: [T]he "directed to" 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*
- Determine the "character of the claim" by:
  - Examining the claim as a whole
  - Examining the specification
  - Identifying the focus of the claimed advancement over the prior art
    - But prior art is not to be examined at Step 1.

See MPEP 2106.03; 2106.04(a).

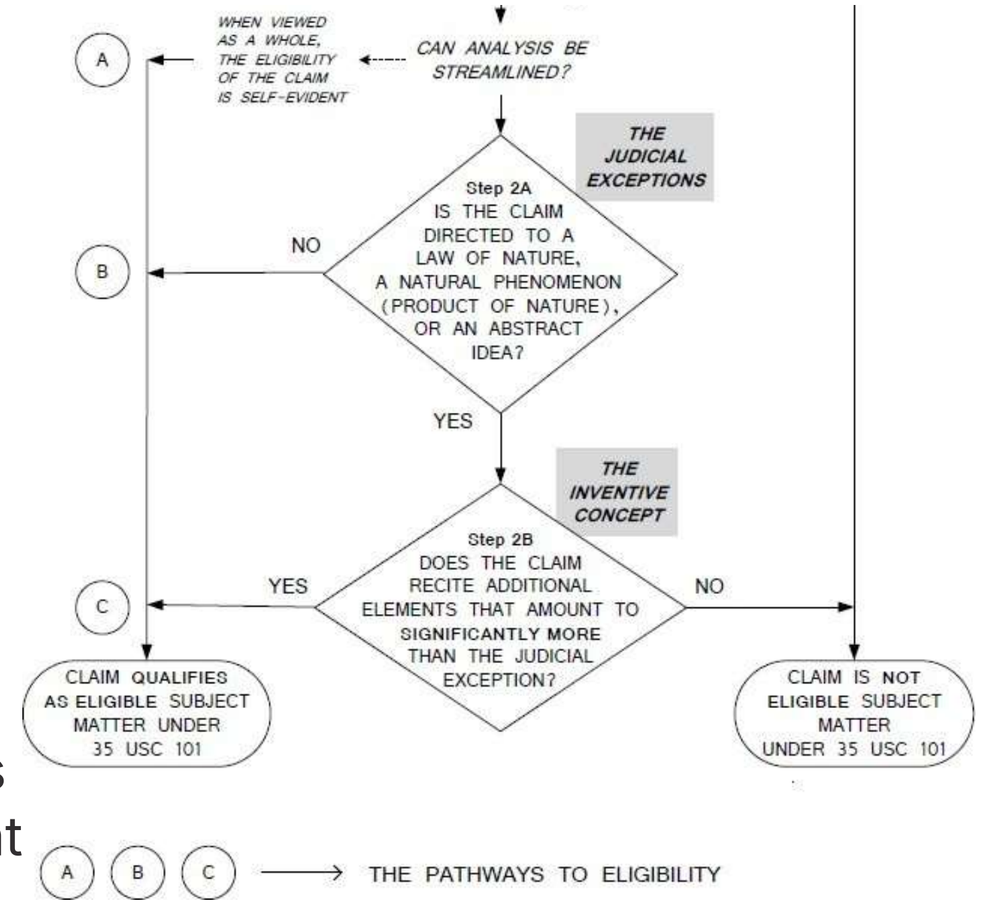
Transition to Step 2A: the “Directed to” Inquiry Examples

- The CAFC in *Enfish* was persuaded by the specification's teaching of technical improvements like increased flexibility, faster search, and smaller memory, leading to the finding that the claims were directed to a technical improvement and not an abstract idea. As a result, the claims were patent-eligible under step one.
- The CAFC in *Core Wireless* found that claims about a mobile device user interface are technical because previous interfaces "required users to drill down through many layers" and "seem slow, complex, and difficult to learn, especially for beginners." The technical benefits show the claim's nature is technical rather than abstract.
- **Summary:** After identification, analyze the character of the claim to determine if the advance is directed to the ineligible concept (the abstract idea or natural phenomenon) or a technical improvement or solution to a technical problem.
  - **Eligible:** Improve technology; solution to problem; more than collect, analyze, report data.
  - **Ineligible:** Computer as tool; claims describe outcome; data collection and algorithm.

See: Enfish, LLC v. Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016).
See: *Core Wireless Licensing S.à.r.l. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018).

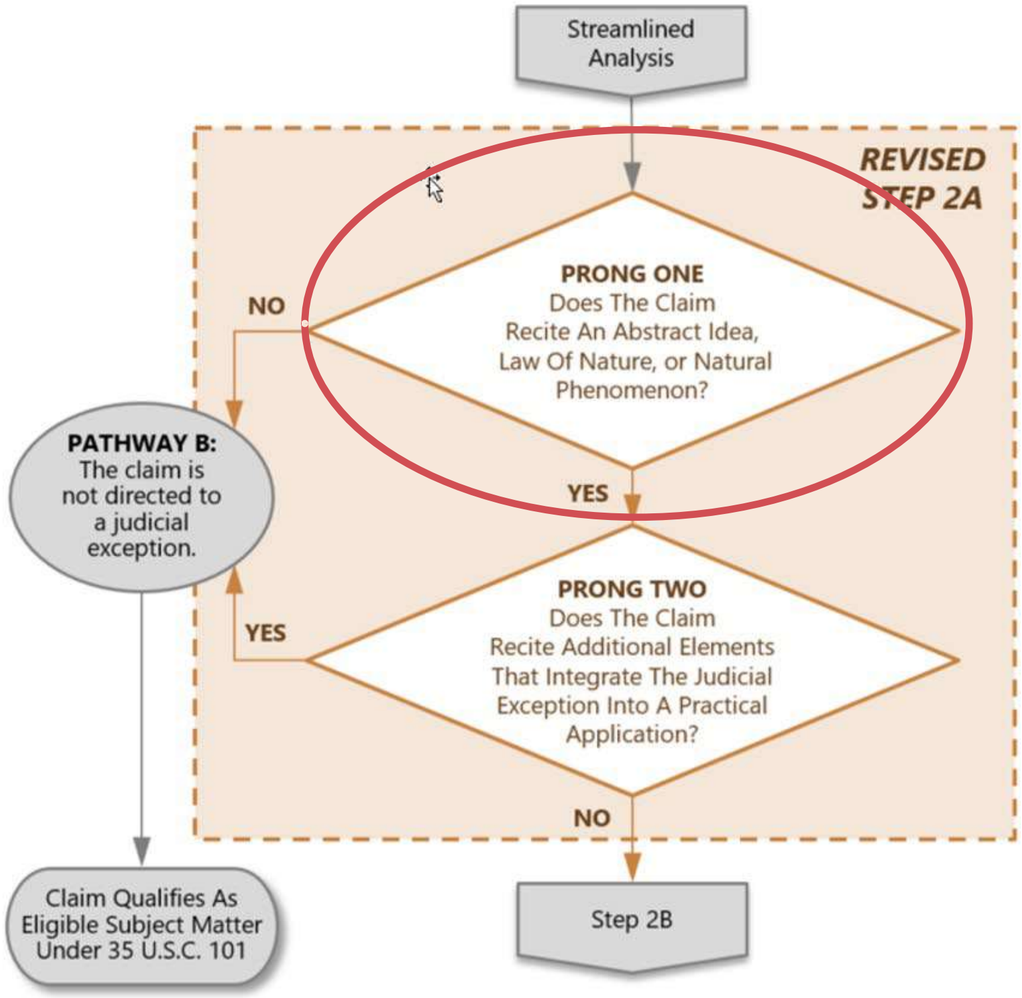
Step 2: The Judicial Exceptions

- **Step 2A – Judicial Exceptions:** entails assessing whether the claim is "directed to" a law of nature, a natural phenomenon, or an abstract idea (i.e., the judicial exceptions to the four categories of Step 1). Step 2A is divided into two prongs:
  - **Prong 1 – Subject Matter Grouping:** evaluates whether the claim recites one of the judicial exceptions.
  - **Prong 2 – Integration of Practical Application:** evaluates whether the judicial exception is "integrated into a practical application."
- **Step 2B – Inventive Concept:** evaluates whether additional elements in the claim, either individually or as an ordered combination, comprise an inventive step that transforms the claim into patent-eligible subject matter – amounting to significantly more.



Step 2A, Prong 1: Does the Claim Recite a Judicial Exception?

- Examiners analyze whether the claim limitations fall into one of the three recognized groupings of judicial exceptions:
  - **Abstract Ideas:** Including mathematical concepts, certain methods of organizing human activity (e.g., economic practices), and mental processes.
  - **Laws of Nature/Natural Phenomena:** Including natural correlations, physical phenomena, or products of nature.
- If the claim does not recite one of these, it is eligible (no further analysis needed). If it does, the analysis moves to Prong 2.
- This presentation focuses primarily on abstract ideas, even though laws of nature and physical phenomena remain separate doctrinal categories.



For Examples, see: https://www.uspto.gov/patents/laws/examination-policy/subject-matter-eligibility

Step 2A, Prong 1: Abstract Ideas

- Prong One for determining whether a claim “recites” an abstract idea is:
  - Identify the specific limitation(s) in the claim under examination that the examiner believes recites an abstract idea, and
  - Determine whether the identified limitation(s) falls within at least one of the groupings of abstract ideas enumerated in the 2019 PEG.
- If the identified limitation(s) falls within any of the groupings of abstract ideas enumerated in the 2019 PEG, the analysis should proceed to Prong Two.
- Claim limitations that do not fall within the enumerated groupings should not be treated as abstract ideas, except in rare circumstances.
- There are limits on the mental process grouping of abstract ideas.
- During prosecution, the Examiner should identify the specific limitation alleged to recite the abstract idea, rather than characterizing the invention only at a high level.

See: https://www.uspto.gov/patents/laws/examination-policy/training-materials-subject-matter-eligibility
training module: 2019peg_intro_module_05mar2019

Step 2A, Prong 1: Groupings of Abstract Ideas

- **Mathematical Concepts:** Mathematical relationships, mathematical formulas or equations, or mathematical calculations
- **Mental Processes:** Concepts performed in the human mind (including an observation, evaluation, judgment, opinion) - limitations encompassing AI that cannot be performed by human mind do not fall in mental process grouping.
  - "Idea of Itself": Concepts that can be done in the human mind, on pen and paper, or that lack a concrete physical, technical improvement.
- **Certain Methods of Organizing Human Activity:**
  - Fundamental economic principles or practices (including hedging, insurance, mitigating risk)
  - Commercial or legal interactions (including 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)
    - Note: The recitation of generic computer components in a claim does not necessarily preclude that claim from reciting an abstract idea.

Notably, the USPTO administrative groupings do not always map perfectly onto judicial phrasing.

See MPEP 2106.04(a)

Step 2A, Prong 1: Laws of Nature, Phenomena & Nature Products

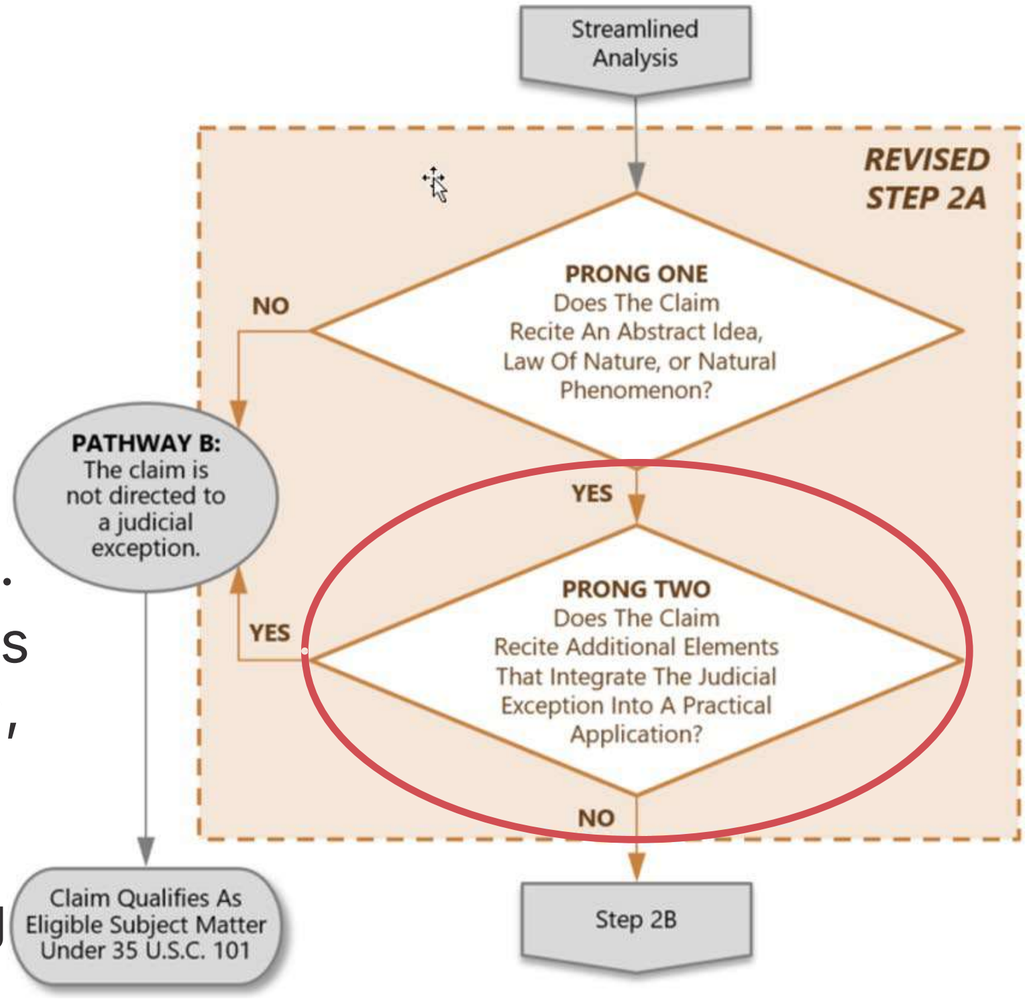
- The “markedly different” analysis checks if a nature-based product qualifies as a “product of nature” exception by comparing its features—structure, function, or physical properties—to its natural counterpart.
- To demonstrate a marked difference, the characteristic(s) must be changed as compared to nature.
- Inherent or innate characteristics of the naturally occurring counterpart cannot demonstrate a marked difference.
- Differences that arise independently of any effort or influence by the applicant cannot be shown to be marked differences. If a claim includes a markedly different nature-based product, it does not recite a product of nature exception. The claim is eligible (Step 2A, Prong 1: NO), unless it recites another exception.
- If the claim includes a similar nature-based product, it qualifies as a “product of nature” exception, making the claim an exception (Step 2A, Prong 1: YES). Then, evaluate in Step 2A, Prong 2, if the claim adds elements that incorporate the judicial exception into a practical application.

See MPEP 2106.04(b); 2106.04(c)

Step 2A, Prong 2: Does the Claim Have Practical Use?

If a claim recites a judicial exception, the examiner determines whether the claim as a whole integrates the exception into a practical use or application.

- **Key Question:** Does the claim integrate the exception into a specific, practical use?
- **Improvement:** An invention is typically considered integrated if it improves the functioning of a computer or another technology.
- **Evaluation:** Examiners must consider all elements of the claim, both individually and in combination, regardless of whether they are "conventional".
- **Outcome:** If the exception is integrated into a practical application, it is eligible (Step 2A, Prong 2: YES). If not, the claim moves to Step 2B (Significantly More).



See MPEP 2106.04

Step 2A, Prong 2: Considerations

- **Technological Solution to Problem:** Evaluate if the claims provide a specific solution to a technological problem or improve the functioning of a computer, network, or other technology.
- **"Improvement" vs. "Apply It":** Distinguishes between genuinely improving a technical field and merely "applying" an abstract idea using a generic computer. Claims that only automate a known, manual, or mental process are generally considered ineligible – as “applying the method.”
- **Evidence in Specification:** The improvement does not need to be explicitly labeled as such in the patent application, but the specification must provide sufficient technical detail for a skilled person to recognize the improvement – applicants should create a compelling narrative of the improvement with a connection to the novelty.
    - For example, the specification should frame the technical problem and explain how the invention provides a technical solution.

See: *USPTO Hour*

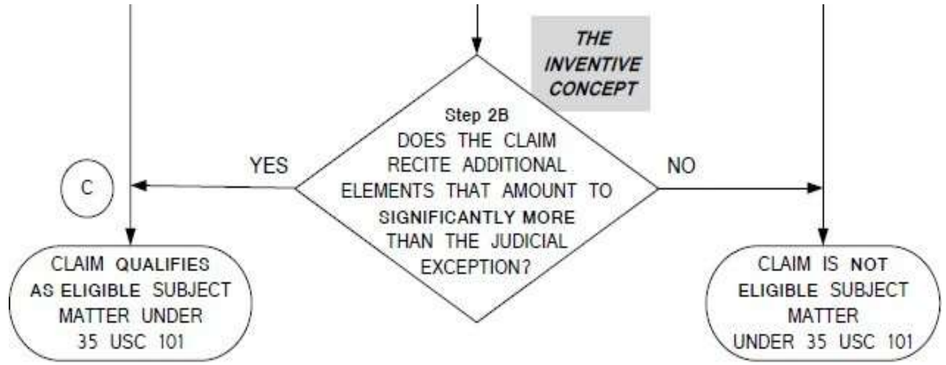
Step 2A, Prong 2: Considerations

- **Claims as a Whole:** Examiners must consider the claimed invention as a whole, rather than isolating individual elements, to determine if the combination integrates a judicial exception into a practical application.
    - An important consideration is whether the claim covers a particular solution to a problem or a particular way to achieve a desired outcome, as opposed to merely claiming the idea of a solution or outcome.
- **Specific Improvements:** Claims that detail specific algorithms, data structures, or system architectures—particularly in AI/ML training methodologies—are more likely to pass § 101 scrutiny.
- **Overcoming Abstract Idea Rejections:** The 2025 guidance, as supported by *Ex Parte Desjardins*, indicates that software can affect non-abstract improvements to computer technology.
- **Not a §§ 102/103/112 Issue:** The "improvement" analysis under § 101 is distinct from novelty (§ 102) or non-obviousness (§ 103). Even if an improvement is not novel, it can still pass the § 101 eligibility test if it is not "directed to" an abstract idea.

Step 2B: Do the Claims Recite Elements Amounting to Significantly More?

Step 2B is the final determination of patent eligibility under 35 U.S.C. § 101, evaluating whether claim limitations, beyond a judicial exception, amount to "significantly more". It requires an "inventive concept" to transform an abstract idea, natural phenomenon, or law of nature into a patentable application.

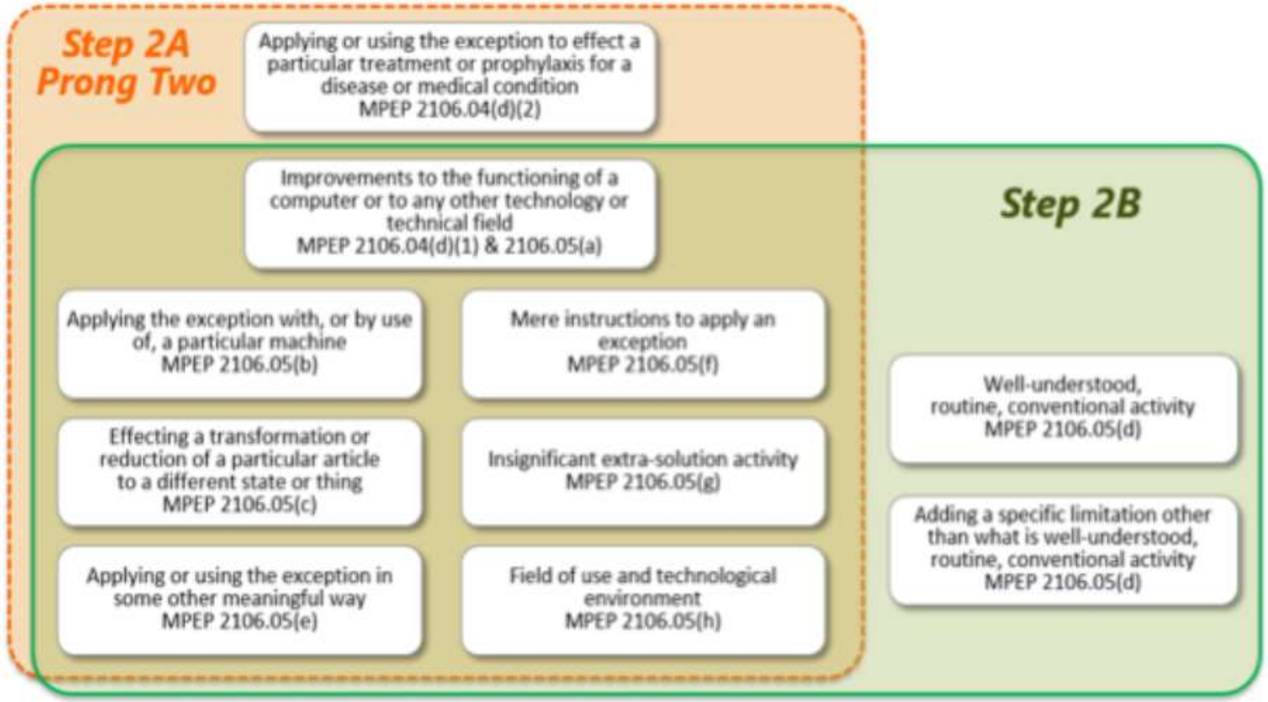
- **Significantly More Requirement:** The analysis looks for additional elements—individually or in combination—that are not just "well-understood, routine, conventional activity" in the field (see *Berkheimer*). Assertions regarding the additional elements require factual support.
- **Assessment of Elements:** The examiner evaluates if the claim adds a specific limitation that ensures the patent is not merely monopolizing the exception itself.
- **Application:** If the additional elements are just instructions to perform the abstract idea on a computer, they generally do not satisfy Step 2B.



See: *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018).

Distinction of Step 2A, Prong 2 to Step 2B

- While Step 2A, Prong 2 focuses on whether the invention integrates the exception into a *practical application* (e.g., improving computer technology), Step 2B acts as a safety net to identify an *inventive concept* even if a practical application wasn't found.
- “Insignificant extra-solution activity” and “well-understood, routine, conventional activity” do not rise to “significantly more.”
- The same technical facts may support both steps, but the legal questions remain different.



See https://www.uspto.gov/sites/default/files/documents/MWRO_101_Eligibility_OPLA.pdf

Step 2B Considerations

- **“Significantly more” than the exception:** The main question is whether the claim adds enough to the exception (an abstract idea, law of nature, or natural phenomenon) to transition it from a monopoly on a concept to a practical application.
- **“Well Understood” Analysis:** Step 2B specifically assesses whether additional elements are considered "well-understood, routine, conventional activity” – question of fact. If these extra elements are part of standard, routine activity, the claim is probably ineligible (see *Berkheimer*). Conventionality assertions should be supported, not merely labeled, but factual disputes do not automatically defeat every rejection.
- **Combination of Elements:** Even if individual elements are conventional, their *specific combination* might form an inventive concept.
- **Improvements in Technology:** Evidence that a claim enhances computer functioning, technologies, or fields strongly indicates an inventive concept *(see: Enfish; McRo).*
- **What is NOT Enough:** Simply applying an abstract idea on a computer, adding insignificant extra-solution activity (e.g., "apply it," "detecting"), or limiting the field of use is usually insufficient.

See: *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018).

Subject Matter Eligibility Trends

- After the 2019 PEG was issued, the patent-eligible subject matter rejection rates *significantly decreased* throughout the USPTO.
- Patent-eligible subject matter rejection rates in most examination groups have been *relatively stable* since the issuance of the 2019 PEG.
- However, in these last few years, the patent-eligible subject matter rejection rates have increased in certain examination groups (possibly due to new technologies like AI related applications).
- To address this, in August 2025, the USPTO issued a memo “Reminders on evaluating subject matter eligibility of claims” to examiners August 2025.
- The memo focuses on Step 2A of the USPTO’s SME guidance - indicating that software can affect non-abstract improvements to computer technology.

See: https://www.uspto.gov/about-us/events/uspto-hour

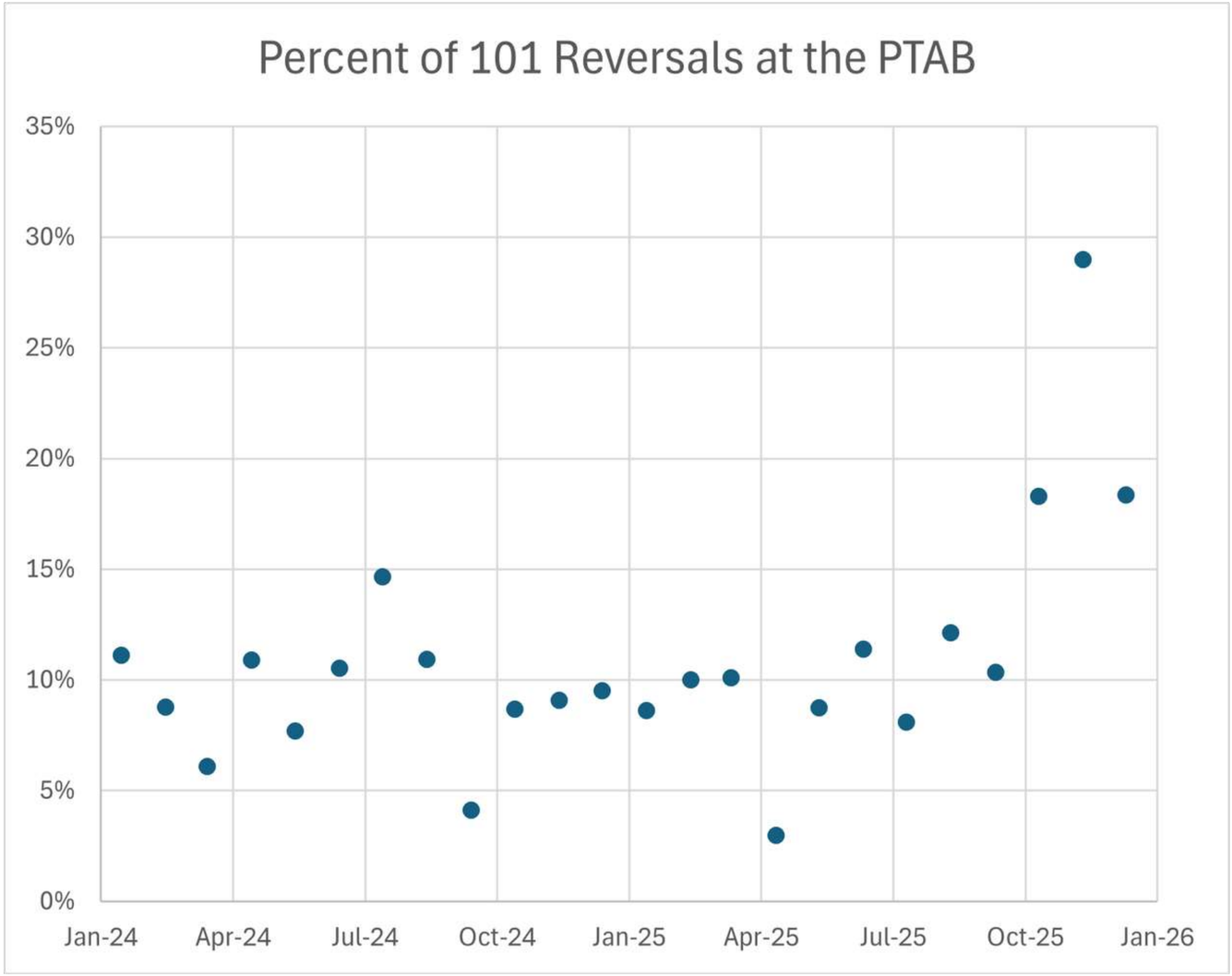
Subject Matter Eligibility Trends

August 2025 Reminders - Step 2A, Prong One – particularly for AI and software-related inventions.

- **Mental Process ("human mind"):** Examiners should not classify limitations as "mental processes" if they *cannot be practically performed in the human mind*, such as complex AI, machine learning computations, or high-dimensional mathematical operations.
- **"Recites" vs. "Involves":** A crucial distinction is made between claims that explicitly *recite* a judicial exception and those that merely *involve* one, the latter of which are generally eligible without further analysis.
- **Technical Focus:** Training AI/neural networks does not automatically constitute reciting an abstract idea, provided it is not a method of organizing human activity or mental process.
- **Limit on Mental Processes:** Explains that claim limitations that encompass AI in a way that cannot be practically performed in the human mind do not fall in the mental process grouping.
- **Rejection Standard:** Rejections under 35 U.S.C. § 101 require a greater than 50% probability of ineligibility (preponderance standard) in an examination framework.
- **Evaluate the Claim as a Whole:** Examiners to identify technical improvements, rather than oversimplifying the invention as merely applying an abstract idea to a computer.

Current Reversal Trends

- The PTAB has doubled its rate of reversing Section § 101 rejections involving eligibility challenges from 2024 and 2025.
- The reversal rate, which hovered between 8% and 12% for most of 2024 and early 2025, jumped to 18% in October 2025 and spiked to 29% in November 2025.
- *Ex parte Mercer*, Appeal 2024-002371 (PTAB Oct. 31, 2025), illustrates one aspect of a different approach by the Board: demanding evidentiary support for findings that claimed elements are "well-understood, routine, conventional activity" under *Alice* Step 2B.



See: https://patentlyo.com/patent/2026/01/doubles-reversal-director.html

Example: *In re Desjardins*

- Referred to by USPTO as an example of software/AI improvement satisfying Step 2A, Prong 2.
- Application No.: 16/319,040
- Technology: A method of training machine learning models on multiple tasks, such that once the model has been trained, the model can be used for each of the multiple tasks with an acceptable level of performance.
- Specification explains that machine learning models trained on multiple tasks may lose knowledge of a previous task when a new task is learned, a phenomenon referred to as "catastrophic forgetting."
- Decision in September 2025
- Procedure:
  - Original PTAB panel: Affirmed examiner rejections on obviousness (35 U.S.C. § 103)
  - Entered new ground of rejection for subject matter eligibility (35 U.S.C. § 101)
  - Claims ineligible because "directed to a patent-ineligible abstract concept of training a machine learning model (algorithm) on multiple machine learning tasks sequentially."
  - Denied request for panel rehearing
- Significance: The claims and specification together framed a concrete improvement in machine-learning operation, not that AI receive special treatment.

See *USPTO Hour*
In re Desjardins, 2024-00567 (PTAB Sept. 26, 2025)(**precedential**).

Example: *In re Desjardins*, Claim 1

In reviewing the claim, focus on the parameter-importance determination, the penalty term, and the claimed preservation of performance across tasks.

A computer-implemented method of training a machine learning model,

wherein the machine learning model has at least a plurality of parameters and has been trained on a first machine learning task using first training data to determine first values of the plurality of parameters of the machine learning model, and

wherein the method comprises:

determining, for each of the plurality of parameters, a respective measure of an importance of the parameter to the first machine learning task, comprising:

computing, based on the first values of the plurality of parameters determined by training the machine learning model on the first machine learning task, an approximation of a posterior distribution over possible values of the plurality of parameters,

assigning, using the approximation, a value to each of the plurality of parameters, the value being the respective measure of the importance of the parameter to the first machine learning task and approximating a probability that the first value of the parameter after the training on the first machine learning task is a correct value of the parameter given the first training data used to train the machine learning model on the first machine learning task;

obtaining second training data for training the machine learning model on a second, different machine learning task; and

training the machine learning model on the second machine learning task by training the machine learning model on the second training data to adjust the first values of the plurality of parameters to optimize performance of the machine learning model on the second machine learning task while protecting performance of the machine learning model on the first machine learning task,

wherein adjusting the first values of the plurality of parameters comprises adjusting the first values of the plurality of parameters *to optimize an objective function that depends in part on a penalty term that is based on the determined measures of importance of the plurality of parameters to the first machine learning task.*

Example: *In re Desjardins*

- **Appeals Rehearing Panel (ARP)**
  - Granted *sua sponte* review of § 101 rejection.
  - Decision vacated the § 101 rejection.
  - “At the same time, the claims at issue stand rejected under § 103. This case demonstrates that §§ 102, 103, and 112 are the traditional and appropriate tools to limit patent protection to its proper scope,” and those statutory provisions “should be the focus of examination.”
- **Decision**
  - Although the claims recite an abstract idea (i.e., a mathematical concept), they additionally reflect an improvement in how the machine learning model operates.
  - The Decision states the Specification identifies improvements in training the machine learning model.
  - Such an assertion alone doesn't determine patent eligibility; it must reflect an actual claimed improvement.
  - Here, the claims show such an improvement, with the Specification noting that the claimed enhancement allows AI systems to ‘use less storage capacity’ and ‘reduce system complexity.’

See: *Enfish.*

Example: *In re Desjardins*

- **Decision (continued):**
  - Evaluating the claim overall, at least one limitation in independent claim 1 reflects the improvement: ‘adjust the first values of parameters to optimize the model's performance on a second task while maintaining performance on the first.’
  - The ARP highlighted *Enfish* as a leading case on technological improvements' eligibility.
  - *Enfish* recognized that software advancements can make non-abstract improvements to computer tech analogous to hardware.
  - The ARP criticized the PTAB for a superficial claim analysis and ignoring established precedent like *Enfish*, ultimately ruling the claims patent-eligible at *Alice* Step 2A, Prong 2, as they improved machine learning models.
  - It also urged examiners and PTAB to more thoroughly analyze whether claims incorporate abstract ideas into practical applications, referencing *Enfish*.
- **Important Takeaway:** A specification assertion of improvement is not enough; the claim must also reflect its operative limitations. Claims citing a specific mechanism for model training or constraints are more likely to be seen as improving computer technology rather than just applying mathematics.

Example: *Crusoe Energy System, LLC v. UpStream Data Inc.*

- Referred by USPTO as an example of software/AI improvement satisfying Step 2A, Prong 2.
- Patent Involved: U.S. Patent No. 11,574,372 ("the '372 patent").
- Technology: Mobile, modular data centers designed for integration with oil and gas production facilities to convert stranded or flared natural gas into electricity for bitcoin mining.
- Claimed system: Comprises (1) a combustible gas source, (2) a generator, and (3) blockchain mining devices connected to a network interface and including a processor adapted to mine transactions associated with a distributed blockchain database accessible over or stored on a peer-to-peer network.
- Initial ruling:
  - Determined that independent claims were ineligible under Section 101 as they broadly relate to the abstract idea of 'using natural gas to power a blockchain mine,' which is considered a 'fundamental economic practice,' finding low-cost resources to increase profit. Such long-standing practices are regarded as abstract ideas.
  - The Final Written Decision further found that the collection and manipulation of data recited in the independent claims “is similar to the data collection and management concepts that were held to be patent ineligible in previous cases.”

See: *Crusoe Energy System, LLC v. UpStream Data Inc.* (PGR2023-0039); Initial Ruling (Jan 21, 2025); Director Review (Apr 11, 2025); USPTO Hour

Example: *Crusoe Energy System, LLC v. UpStream Data Inc.*

- **Designated Review Panel (DRP):**
  - Vacated Final Written Decision's eligibility determination and concluded that the petitioner had not met its burden of showing that the claims were ineligible.
  - The DRP reasoned that the independent claims do not describe a result or effect that is itself an abstract idea but instead "describe[] a machine defined by its constituent parts."
- **Important Takeaways:**
  - The concrete machine character of the independent claims helped to refute ineligibility, but an apparatus format alone is not enough.
  - Claiming a configured system with concrete components and relationships may resist abstraction better than claiming the same concept at a high level of functional result.

See: *Crusoe Energy System, LLC v. UpStream Data Inc.* (PGR2023-0039); Initial Ruling (Jan 21, 2025); Director Review (Apr 11, 2025); USPTO Hour

Summary of Key Developments

Key CAFC Decisions (2025–2026)

- ***Recentive Analytics, Inc. v. Fox Corp*. (Fed. Cir. April 2025):** The CAFC affirmed the invalidation of machine learning patents, reinforcing that applying known machine learning methods on conventional computers, even if improving accuracy, does not automatically transform an abstract idea into a patent-eligible invention.
  - **Takeaway:** An improvement in accuracy, standing alone, is insufficient.
- ***Contour IP v. GoPro, Inc*. (Fed. Cir. 2024-2025):** The court found that technical improvements within a specification (specifically for POV cameras) can save claims from being categorized as "abstract," distinguishing it from mere functional, goal-oriented claims.
  - **Takeaway:** Detailed technical improvements described in the specification, particularly improvements to specific hardware or systems operation, can support eligibility.
- ***U.S. Patent No. 7,679,637 LLC v. Google LLC* (Fed. Cir. Jan 2026):** Confirmed that patent claims "need not explicitly recite" a technological improvement if it is otherwise "embodied in the claims."
  - **Takeaway:** While claims need not expressly label an advance as a "technological improvement," they must recite concrete structures, steps, or relationships from which the improvement is necessarily present and discernible.

Summary of Key Developments

Important USPTO Guidance and Regulatory Shifts (2025–2026)

- **The *Desjardins* Framework (2025-2026):** A PTAB rehearing decision (*Ex parte Desjardins*) has become a focal point for AI patent eligibility, with the USPTO implementing a recalibration for AI-related claims to favor eligibility, especially when dealing with specific machine-learning techniques.
- **New AI Patent Guidance (Aug/Sep 2025):** The USPTO instructed examiners to raise the bar for § 101 rejections in AI cases, emphasizing that if it's a "close call," examiners should not reject, and reinforcing that a "mental process" is only an exception if a human can realistically perform it in their head.
- **PTAB Discretionary Denials:** The USPTO has proposed changes to limit repetitive challenges to patents at the PTAB if they have already been reviewed by a court or during examination.

Summary of Practice Developments

Important Considerations

- **The "Abstract" Test Continues:** Courts still heavily apply the two-part *Alice/Mayo* test based on claim characterization and the articulation of technological improvement, often knocking out diagnostic and simple data-processing claims.
- **Technical Improvements Matter:** To be eligible, claims must clearly demonstrate a specific, technical improvement over previous technology rather than just automating a human process.
- **Rise of AI-Specific Standards:** The USPTO is actively refining its approach to recognize that machine learning can constitute a technological improvement, setting a higher bar for examiners to reject AI claims.

Summary of Practice Developments

- Judge William Bryson of CAFC offered a specific 6-part practical synthesis of 35 U.S.C. § 101 jurisprudence:
  - **Methods of Organizing Human Activity:** Economic and business practices are often abstract ideas.
  - **"Do It on a Computer" Claims:** Simply performing human mental activities on a computer doesn't create patentability.
  - **Improvements to Computer Technology:** Actual technological improvements can be patent-eligible.
  - **Collecting and Analyzing Information:** Collection, analysis, and display of information using generic computers is typically abstract.
  - **Functional Claims:** Claims focused on results without specifying how those results are achieved may be abstract.
  - **Preemption Concerns:** Claims with broad preemptive effects on future innovation are more likely abstract.

See: *British Telecommunications PLC v. IAC/Interactive Corp.*, 2025 WL 2240699 (D. Del. 2025).

Federal Courts Approach

- Remember approaches: Federal Courts: “outside-in” approach; USPTO (2019 PEG): “inside-out.”
- The last decade has seen the CAFC dramatically narrow the scope of patent-eligible software, decision by decision.
- In 2024, for example, the CAFC decided 22 patent cases on substantive grounds of § 101 and found the claims eligible in only one.
- As reflected by a 95.5% effective invalidity rate of patents on appeal, the CAFC has made it challenging for software patents, with only the rarest of claims surviving.
- As noted, the reversal rate, which hovered between 8% and 12% for most of 2024 and early 2025, jumped to 18% in October 2025 and spiked to 29% in November 2025.
- The Supreme Court has refused to rehear many cases from the CAFC.
- The current litigation environment reinforces the need to build a technical-improvement narrative in the application itself, not only in prosecution argument.

See https://patentdocs.org/2025/06/09/dancing-with-abstract-ideas-patent-eligibility-in-2025/

Federal Circuit: *GoTV v. Netflix*

- This decision focuses on patents for methods that customize content display based on wireless device capabilities.
- The court stated it is not required to defer to the Patent Office's eligibility determinations.
- **Step One (Abstract Idea):** *GoTv* used generic terms like "wireless device generic template" and "rendering commands," which the court found referred only to data structures exchanged between the server and device - these terms fall under the abstract-idea category.
    - The court assessed the claim's character "as a whole" and noted that claims using "result-focused functional language" without explaining the method are considered abstract ideas.
- **Step Two (Inventive Concept):** No inventive concept found sufficient to transform abstract idea into a patentable invention. Claims relied on standard servers and wireless devices performing “ordinary, well-understood” functions to collect and combine information.
- The term "non-transitory" was deemed irrelevant to patent eligibility when the claim is still directed to an abstract idea because the claims lacked an "inventive concept" in that they simply used standard computer functions (receiving, storing, and transmitting data).
- **Takeaway:** Avoid functional or placeholder technical labels that describes results without explaining the operative mechanism.

See: GoTV Streaming, LLC v. Netflix, Inc., No. 2024-1669 (Fed. Cir. Feb. 9, 2026)

Federal Circuit: *Innovaport LLC v. Target Corporation*

- The *Innovaport* patents, claiming priority to a 1999 provisional application, cover a more familiar subject: *helping customers find products in a store*.
- **Step One (Abstract Idea):** The court found the patents focused on the general process of helping customers find products in a store by managing information. This was categorized as a "mental process" or "abstract concept" that did not improve the underlying computer technology itself.
- **Step Two (Inventive Concept):** The court concluded the claims lacked an "inventive concept" because they merely used conventional computer components to perform these abstract tasks.
- Court applied a “store clerk test” where a human employee could receive a question about a product’s location, consult a catalog, tell the client where the product is, and suggest a related term.
- The court clarified that simply applying a known human activity (locating products) to a computer system does not constitute a "technological solution.“
- **Takeaway:** The “store clerk test” provides a valuable caution against claims that merely computerize what a human could do mentally or manually.

See: *Innovaport LLC v. Target Corporation*, No. 2024-1545 (Fed. Cir. Feb. 6, 2026)

Federal Circuit: *Q Technologies, Inc. v. Walmart*

- Claims directed to location-based content sharing.
- **Step One (Abstract Idea):** The court concluded that the claims were directed to the abstract idea of sharing content using a unique identifier.
  - Q Technologies argued that limitations requiring location determination and proximity-based notifications made the claims technical.
  - Court's Reasoning: The court rejected this, stating that using location or proximity information "merely limits when or with whom content is shared," which does not make the underlying idea any less abstract. It simply narrowed the abstract idea to a specific environment.
- **Step Two (Inventive Concept):** The court found no inventive concept sufficient to transform the abstract idea into a patent-eligible invention.
- Court found that the claims only recited “well understood, routine and conventional activities, identifiers and components, such as servers and clients.”
- **Takeaway:** The addition of contextual limits such as location, timing, or environment often do not rescue a claim if the core concept remains abstract.

See: *Q Technologies, Inc. v. Walmart, Inc.*, No. 2024-1667 (Fed. Cir. Feb. 5, 2026)

Practical Tips: Application Drafting

- **Focus on the technical improvement:** The claims should be directed to a technical improvement that improves performance, rather than merely automating a human task, thereby identifying how the claim amounts to “significantly more.”
- **Detailed overview in the specification of the improvement:** Explain technical deficiencies in the prior art, how the invention solves such deficiencies, and what are the advantages – *in other words tell the story – create a narrative of the improvement*. The specification should be written with later Step 2A and 2B arguments in mind.
- **Effects:** Recite effects on hardware and how the steps explicitly achieve the effect.
- **Explain how the invention achieves the result:** Explain in both claims and specification how the result is obtained. For example, explain how the data is processed in a new way with a technical result.
- **Specificity:** Provide specific steps rather than generalizing steps.
- **Highlight any unconventional steps:** Explain how the steps operate in an unconventional manner; examiners have been advised to provide evidence when they indicate something is conventional.

Practical Tips: Application Drafting

- **Repeat and rephrase:** Repeat and rephrase the improvements regarding each limitation described in the specification.
- **Explain impact and interaction:** At every step, explain how the hardware may be impacted and interacts with the improvements. Include these descriptions in both the specification and the claims.
- **Dependent claims:** Include a series of claims with increasing detail and hardware to create effective fallback options.
- **Offer rigorous showing that invention solves problem in non-generic way:** Show the technical significance of the mechanism and why it matters operationally – often merely showing improvement in the performance may be insufficient despite earlier cases at the CAFC suggesting otherwise *(see Enfish; McRo). Use a problem-solution approach.*
- **Non-transitory medium:** Transitory signals are not eligible for patents. Using a non-transitory medium to store instructions (for execution of method) is preferred language by examiners for formal reasons, but it does not automatically ensure that a claim is patent eligible. This is because it only satisfies the basic statutory requirement.

See McRO, Inc. v. Bandai Namco Games America Inc., 837 F.3d 1299 (Fed. Cir. 2016).
In re Nuijten, 500 F.3d 1346 (Fed. Cir. 2007)

Practical Tips: Examination

- **Prioritize interviews:** Because treatment of 35 U.S.C. § 101 rejections may vary by examiner, interviews can help expedite prosecution by identifying effective ways to address the rejections and by understanding the examiner's history and viewpoint to reach a settlement on appropriate language.
- **Identify the Step 1, Step 2A, and Step 2B errors:** An appropriate analysis requires analysis of the *claim as a whole* and its *actual technical focus*. Challenge oversimplified or high-level characterizations.
- **Clean up threshold issues if needed:** Ensure claims clearly fall within a statutory category and avoid non-statutory scope.
- **Emphasize technical improvement:** Emphasize how the claims solve a *specific technological problem,* and tie improvements directly to the specification and claim language.
- **Argue practical application of any abstract idea:** Show the claims apply the idea in a *meaningful, limited way*—not just broadly claiming it. If no close prior art exists, argue this demonstrates a *real, constrained application*, not preemption.

Practical Tips: Examination

- **Show it's not just "using a computer as a tool":** Argue the claims *improve computer or system functionality*, not just automate an abstract concept.
- **Avoid "data in, data out" framing:** Focus on *how* the system operates, not just that it processes data and produces an outcome.
- **Strengthen Step 2 (inventive concept):** Identify claim elements (or combinations) that are *not routine or conventional*. Emphasize unconventional arrangements, even of known components.
- **Reuse technical improvement arguments at Step 2:** Improvements can support eligibility even if Step 1 is disputed.
- **Challenge common examiner shortcuts:** Refute "generic computer," "apply it," or "extra-solution activity" labels with specifics.
- **Clean up threshold issues if needed:** Relates to "non-transitory medium"; ensure claims clearly fall within a statutory category and avoid non-statutory scope.
- **Require specificity in rejections:** Force the rejection to identify the specific abstract idea and the specific allegedly conventional elements with adequate support, rather than allowing the analysis to proceed at a high level of generality.