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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/167,238	05/27/2016	Michael James Leonard	094926-1010331 (025310US)	1051
110577	7590	03/19/2020	EXAMINER	
Kilpatrick Townsend & Stockton LLP SAS Institute Inc. Mailstop: IP Docketing - 22 1100 Peachtree Street, Suite 2800 Atlanta, GA 30309			PELLETT, DANIEL T	
			ART UNIT	PAPER NUMBER
			2121	
			NOTIFICATION DATE	DELIVERY MODE
			03/19/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL JAMES LEONARD and DAVID BRUCE  
ELSHEIMER

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Appeal 2018-006191  
Application 15/167,238  
Technology Center 2100

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Before ROBERT E. NAPPI, LARRY J. HUME, and  
STEPHEN E. BELISLE, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant,<sup>1</sup> SAS Institute Inc., appeals from the Examiner's decision rejecting claims 1–5 and 7–31 which are all claims pending in the application. Appellant has canceled claim 6. Non-Final Act. 2. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as SAS Institute Inc. Appeal Br. 3.

## STATEMENT OF THE CASE<sup>2</sup>

The claims are directed to systems and methods for time series analysis techniques utilizing count data sets. *See* Spec. (Title). In particular, Appellant’s disclosed embodiments and claimed invention relate to “systems, methods, and computer-program products . . . for adjusting a set of predicted future data points for a time series data set.” Spec. ¶ 5.

Claim 23, reproduced below, is representative of the subject matter on appeal:

### *Exemplary Claim*

23. A computer-implemented method comprising:

instantiating, by a data processing apparatus, an event-stream processing engine, wherein the event-stream processing engine includes layers of windows configured to perform operations on an input event-stream to transform the input event-stream into an output event-stream that is different from the input event-stream, wherein a relationship among the layers of windows is defined by a directed graph, and wherein the layers of windows include:

a source window in a first layer among the layers of windows, wherein the source window is configured to: receive the input event-stream, perform a first operation on the input event-stream to transform the input event-stream into a modified version of the input event-stream, and transmit the modified version of the input event-stream; and

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<sup>2</sup> Our decision relies upon Appellant’s Appeal Brief (“Appeal Br.,” filed Feb. 7, 2018); Reply Brief (“Reply Br.,” filed May 24, 2018); Examiner’s Answer (“Ans.,” mailed Mar. 29, 2018); Non-Final Office Action (“Non-Final Act.,” mailed Sept. 11, 2017); and the original Specification (“Spec.,” filed May 27, 2016).

a derived window in a second layer among the layers of windows, wherein the derived window is configured to: receive the modified version of the input event-stream from the source window in the first layer, perform a second operation on the modified version of the input event-stream to transform the modified version of the input event-stream into a further modified version of the input event-stream, and transmit the further modified version of the input event-stream;

receiving, by the data processing apparatus, the input event-stream using the event-stream processing engine, wherein the input event-stream includes event block objects that are associated with a time series data set;

transforming, by the data processing apparatus, the input event-stream into the output event-stream using the event-stream processing engine, wherein the input event-stream is transformed into the output event-stream by applying the layers of windows to the input event-stream, wherein the layers of windows are configured to perform operations including:

generating a set of counts for the time series data set, wherein a count corresponds to a number of instances of a particular discrete value in the time series data set;

determining a discrete probability distribution for the set of counts;

generating a set of predicted future data points, wherein the set of predicted future data points is generated using a statistical model; and

generating an adjusted set of predicted future data points, wherein generating the adjusted set of predicted future data points includes adjusting the set of predicted future data points using a set of parameters corresponding to the discrete probability distribution, and wherein the adjusted set of predicted future data points is more accurate than the set of predicted future data points; and

transmitting the output event-stream, wherein the output event-stream includes the adjusted set of predicted future data points.

*Rejection on Appeal*

Claims 1–5 and 7–31 stand rejected under 35 U.S.C. § 101 as being directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or abstract idea) without significantly more. Non-Final Act. 2.

CLAIM GROUPING

Based on Appellant’s arguments (Appeal Br. 13–34) and our discretion under 37 C.F.R. § 41.37(c)(1)(iv), we decide the appeal of the patent-ineligible subject matter rejection of claims 1–5 and 7–31 on the basis of representative claim 23.<sup>3</sup>

ISSUE

Under the USPTO’s Revised Guidance, informed by our governing case law concerning 35 U.S.C. § 101, is claim 23 patent-ineligible under § 101?

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<sup>3</sup> “Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.” 37 C.F.R. § 41.37(c)(1)(iv). In addition, when Appellant does not separately argue the patentability of dependent claims, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

## PRINCIPLES OF LAW

### A. 35 U.S.C. § 101

An invention is patent-eligible if it is a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.<sup>4</sup> However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk . . .”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611);

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<sup>4</sup> This threshold analysis of whether a claim is directed to one of the four statutory categories of invention, *i.e.*, a process, machine, manufacture, or composition of matter, is referred to as “*Step 1*” in the USPTO’s patent-eligibility analysis under § 101. MPEP § 2106.

mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diehr*, 450 U.S. at 191); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, and mathematical formulas or relationships. *Alice*, 573 U.S. at 217–21. Under this guidance, we must therefore ensure at step one that we articulate what

the claims are directed to with enough specificity to ensure the step one inquiry is meaningful. *Id.* at 217 (“[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.”).

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

#### B. USPTO Revised Guidance

The PTO published revised guidance in the Federal Register concerning the application of § 101. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) (hereinafter “Revised Guidance”) (<https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf>).

Under the Revised Guidance, we first look to whether the claim recites:

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

of organizing human activity such as a fundamental economic practice, or mental processes);<sup>5</sup> and

(2) additional elements that integrate the judicial exception into a practical application (*see* Manual for Patent Examining Procedure (“MPEP”) §§ 2106.05(a)–(c), (e)–(h)).<sup>6</sup>

*See* Revised Guidance 52–53.

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

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

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.<sup>7</sup>

*See* Revised Guidance 56.

*Step 2A(i) – Abstract Idea*

Informed by our judicial precedent, the Revised Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation:

(a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;

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<sup>5</sup> Referred to as “*Revised Step 2A, Prong 1*” in the Revised Guidance (hereinafter “*Step 2A(i)*”).

<sup>6</sup> Referred to as “*Revised Step 2A, Prong 2*” in the Revised Guidance (hereinafter “*Step 2A(ii)*”).

<sup>7</sup> Items (3) and (4) continue to be collectively referred to as “*Step 2B*” of the Supreme Court’s two-step framework, described in *Mayo* and *Alice*.

(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); and

(c) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion).

Revised Guidance 52 (footnotes omitted).

Under the Revised Guidance, 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 above), then the claim is patent-eligible at *Step 2A(i)*. This determination concludes the eligibility analysis, except in situations identified in the Revised Guidance.<sup>8</sup>

However, if the claim recites a judicial exception (i.e., an abstract idea enumerated above, a law of nature, or a natural phenomenon), the claim requires further analysis for a practical application of the judicial exception in *Step 2A(ii)*.

#### *Step 2A(ii) – Practical Application*

If a claim recites a judicial exception in *Step 2A(i)*, we determine whether the recited judicial exception is integrated into a practical

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<sup>8</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 of the Guidance for analyzing the claim should be followed. *See* Revised Guidance, Section III.C.

application of that exception in *Step 2A(ii)* 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.

The seven identified “practical application” sections of the MPEP,<sup>9</sup> cited in the Revised Guidance under *Step 2A(ii)*, are:

- (1) MPEP § 2106.05(a) Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field
- (2) MPEP § 2106.05(b) Particular Machine
- (3) MPEP § 2106.05(c) Particular Transformation
- (4) MPEP § 2106.05(e) Other Meaningful Limitations
- (5) MPEP § 2106.05(f) Mere Instructions To Apply An Exception
- (6) MPEP § 2106.05(g) Insignificant Extra-Solution Activity
- (7) MPEP § 2106.05(h) Field of Use and Technological Environment

*See* Revised Guidance 55.

If the recited judicial exception is integrated into a practical application as determined under one or more of the MPEP sections cited above, then the claim is not directed to the judicial exception, and the patent-

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<sup>9</sup> *See* MPEP §§ 2106.05(a)–(c), (e)–(h). Citations to the MPEP herein refer to revision [R-08.2017]. Sections 2106.05(a), (b), (c), and (e) are indicative of integration into a practical application, while §§ 2106.05(f), (g), and (h) relate to limitations that are not indicative of integration into a practical application.

eligibility inquiry ends. *See* Revised Guidance 54. If not, then analysis proceeds to *Step 2B*.

*Step 2B – “Inventive Concept” or “Significantly More”*

Under our reviewing courts’ precedent, it is possible that a claim that does not “integrate” a recited judicial exception under *Step 2A(ii)* is nonetheless patent eligible. For example, the claim may recite additional elements that render the claim patent eligible even though one or more claim elements may recite a judicial exception.<sup>10</sup> 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>11</sup> Therefore, if a claim has been determined to be directed to a judicial exception under *Revised Step 2A*, we must also evaluate the additional elements 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).<sup>12</sup>

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<sup>10</sup> *See, e.g., Diehr*, 450 U.S. at 187.

<sup>11</sup> *See, e.g., Amdocs, Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300, 1304 (Fed. Cir. 2016); *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016); *DDR Holdings v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014).

<sup>12</sup> The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

Under the Revised Guidance, we must consider in *Step 2B* whether an additional element or combination of elements: (1) “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 (2) “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.” *See Revised Guidance, Section III.B.*<sup>13</sup>

In the *Step 2B* analysis, an additional element (or combination of elements) is not well-understood, routine or conventional unless the examiner finds an evidentiary basis, and expressly supports a rejection in writing with, one or more of the following:

1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-

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<sup>13</sup> In accordance with existing *Step 2B* guidance, an Examiner’s finding that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with at least one of the four specific types of evidence required by the USPTO *Berkheimer* Memorandum, as shown above. For more information concerning evaluation of well-understood, routine, conventional activity, *see* MPEP § 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum (USPTO Commissioner for Patents Memorandum dated Apr. 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (hereinafter “*Berkheimer Memo*”).

understood, routine, conventional nature of the additional element(s).

3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .

4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). . . .

*See Berkheimer Memo 3–4.*

If the Examiner or the Board determines under *Step 2B* that the element (or combination of elements) amounts to significantly more than the exception itself, the claim is eligible, thereby concluding the eligibility analysis.

However, if a determination is made that the element and combination of elements do not amount to significantly more than the exception itself, the claim is ineligible under *Step 2B*, and the claim should be rejected for lack of subject matter eligibility.

## ANALYSIS

### *Step 1 – Statutory Category*

Claim 23, as a method (process) claim, recites one of the enumerated categories of eligible subject matter in 35 U.S.C. § 101. Therefore, the issue before us is whether it is directed to a judicial exception without significantly more.

#### *Step 2A(i): Does the Claim Recite a Judicial Exception?*

The Examiner determined that “in this case the claims fall within the judicial exception of an abstract idea. Specifically the abstract idea similar

to ‘collecting information, analyzing it, and displaying certain results of the collection and analysis.’” Non-Final Act. 3 (generally citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)) (hereinafter “EPG”).

We conclude claim 23 does not recite the judicial exceptions of either natural phenomena or laws of nature. We evaluate, *de novo*, whether claim 23 recites an abstract idea based upon the Revised Guidance.

First, we look to the Specification to provide context as to what the claimed invention is directed to. In this case, the Specification discloses that “[t]he present disclosure generally relates to systems and methods for time series analysis techniques utilizing count data sets.” Spec. ¶ 3.

Appellant’s Abstract describes the invention as follows:

Systems and methods are included for adjusting a set of predicted future data points for a time series data set including a receiver for receiving a time series data set. One or more processors and one or more non-transitory computer readable storage mediums containing instructions may be utilized. A count series forecasting engine, utilizing the one or more processors, generates a set of counts corresponding to discrete values of the time series data set. An optimal discrete probability distribution for the set of counts is selected. A set of parameters are generated for the optimal discrete probability distribution. A statistical model is selected to generate a set of predicted future data points. The set of predicted future data points are adjusted using the generated set of parameters for the optimal discrete probability distribution in order to provide greater accuracy with respect to predictions of future data points.

Spec. (Abstract).

Appellant cites Federal Circuit cases and makes various arguments against the Examiner's determination the claims are directed to an abstract idea.

*McRO*

In *McRO*, the claims were not held to be abstract because they recited a “specific . . . improvement in computer animation” using “unconventional rules that relate[d] sub-sequences of phonemes, timings, and morph weight sets.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1302–03, 1307–08, 1314–15 (Fed. Cir. 2016). In *McRO*, “the incorporation of the claimed rules, not the use of the computer,” improved an existing technological process. *Id.* at 1314.

In the Appeal Brief, Appellant argues the claims are similar to those held patent-eligible in *McRO* because “[l]ike the claims upheld in *McRO*, the pending claims recite a specific way (using particular steps/rules) for solving the problem of producing a more accurate predicted future data point, rather than merely claiming the idea of generating and/or improving a predicted future data point.” Appeal Br. 24. Appellant does not, however, identify how claim 23 improves an existing technological process. *See Alice*, 573 U.S. at 223 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing technological process”). Rather, claim 23 concerns a “computer-implemented method,” and Appellant does not direct us to any evidence or specific limitations that reflect using particular steps or rules, or that correspond to unconventional rules.

*Thales Visionix*

Appellant argues:

Like the claims in *Visionix*, the Pending Claims specify a particular event-stream processing engine and a particular technique of using time series data containing discrete values in order to **more accurately** generate predicted future data points. The court in *Visionix* found the claims were patent eligible, being directed to “a new and useful technique for using sensors to more efficiently track an object on a moving platform.” *Id.* p. 10. In close similarity to the claims in *Visionix*, the Pending Claims are directed to a new and useful technique for using an event-stream processing engine to more accurately predict future data points from time series data containing discrete values.

Appeal Br. 25 (footnote omitted).

Appellant’s attempt (Appeal Br. 24–25) to analogize the claims under appeal to the invention claimed in *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017) is misplaced because the *Thales* claims were not directed to a judicial exception to patent eligibility, but to the particular mathematical application of laws of physics. *Thales* at 1348. Although the court in *Thales* held the use of a mathematical equation to achieve the particular application recited in the pending claims “does not doom the claims to abstraction,” the system in *Thales* is very different than the claims on Appeal. *Id.* at 1349. The system in *Thales* used inertial sensors, such as accelerometers and gyroscopes, to measure forces associated with changes in a sensor’s position and orientation relative to a known starting position. *Id.* at 1344. Although the *Thales* Court ultimately determined that the claims were not “directed to” an abstract idea in accordance with an analysis that parallels our analysis below, *Thales* reconfirmed the underlying

principle that collecting and analyzing electronic information using mental processes that could be performed by humans recites an abstract idea. *Id.* at 1346–47.

Here, the rejected claims are dissimilar to *Thales*'s force measuring system, and the Specification does not provide any support to the view that the computer-related claim elements are unconventional. The *Thales* court's conclusion of patent eligibility rested on claims that specified "a particular configuration of inertial sensors and a particular method of using the raw data from the sensors in order to more accurately calculate the position and orientation of an object on a moving platform . . . . [T]he claims [sought] to protect only the application of physics to the unconventional configuration of sensors as disclosed." *Thales Visionix*, 850 F.3d at 1347. In contrast, no such unconventional configuration of sensors, or unconventional method of using raw sensor data, is disclosed or claimed herein. We determine the claims under appeal recite conventional computer-related components.

#### *Novelty*

Appellant argues, "the present claims include many of the features found to be lacking in *Electric Power Group* ("EPG") and that would have otherwise resulted in the claims of that case being patent eligible . . . . In contrast, the present claims do have a new technique for analyzing data that is novel and inventive, as admitted by the Office and further supported by the lack of any current part rejections." Appeal Br. 17–18.

In response, we note the Supreme Court emphasizes, "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of **no relevance** in determining whether the subject matter of a claim falls within

the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added). Our reviewing court further guides that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017); see also *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) (holding that “[e]ven assuming” that a particular claimed feature was novel does not “avoid the problem of abstractness”).

### *Preemption*

Appellant contends the claims on Appeal are distinguishable from *EPG* due to lack of preemption concerns. Appeal Br. 18–19.

Regarding preemption, “[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility. . . . Where a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); see also *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (“that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract”).

We further agree with the Examiner’s response, which we incorporate herein by reference. Ans. 16; and see *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (collecting cases); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013); *Ariosa*, 788 F.3d at 1379 (“While preemption may signal patent

ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility”).

*Representative Claim 23*

In TABLE 1 below, we identify in *italics* the specific claim limitations in claim 23 that we conclude recite an abstract idea. We additionally identify in **bold** the additional (non-abstract) claim limitations that are generic computer components and techniques, and underline limitations that represent extra or post-solution activity:

TABLE 1

Independent Claim 23	Revised Guidance
A computer-implemented method comprising:	A process (method) is a statutory subject matter class. <i>See</i> 35 U.S.C. § 101.
<p>[L1a] instantiating, by a <b>data processing apparatus,</b></p> <p>an <b>event-stream processing engine,</b></p> <p>[L1b] wherein the event-stream processing engine includes <b>layers of windows configured to perform operations on an input event-stream</b> to</p>	<p>As claimed and described, a data processing apparatus is a generic computer component. <i>See, e.g.,</i> Spec. ¶¶ 7, 51.</p> <p>An “event stream processing engine” is described in terms of a generic processor, i.e., “[t]he computing device includes, but is not limited to, a processor and a computer-readable medium operably coupled to the processor. The processor is configured to execute an ESP engine (ESPE).” Spec. ¶ 140.</p> <p>“[L]ayers of windows configured to perform operations on an input event stream” represents generic computer functionality,</p>

Independent Claim 23	Revised Guidance
<p>[L1c] <u>transform the input event-stream into an output event-stream that is different from the input event-stream,</u></p> <p>[L1d] <i>wherein a relationship among the layers of windows is defined by a directed graph, and wherein the layers of windows include:</i></p>	<p>The input event-stream transformation is merely extra-solution activity because it is described as being performed by “one or more derived windows 808 [that] may perform computations or transformations on the incoming event streams.” Spec. ¶ 121. <i>See In re Bilski</i>, 545 F.3d 943, 962 (Fed. Cir. 2008) (<i>en banc</i>), <i>aff’d on other grounds</i>, 561 U.S. 593 (2010) (“[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity”).</p> <p>Defining a relationship by a directed graph is an abstract idea as described by the Specification: “A continuous query may be described as a directed graph of source, relational, pattern matching, and procedural windows. . . . <i>A directed graph, for example, is a set of nodes connected by edges, where the edges have a direction associated with them.</i>” Spec. ¶ 118 (emphasis added).</p>
<p>[L2a] <b>a source window in a first layer among the layers of windows,</b> wherein the source window is configured to:</p> <p>[L2b] <u>receive the input event-stream, perform a first operation on the input event-stream to transform the input event-stream into a modified version of the input event-stream, and</u></p>	<p>According to the Specification, “[t]he one or more source windows 806 and the one or more derived windows 808 represent continuously executing queries that generate updates to a query result.” Spec. ¶ 118. We determine the recited source window represents generic computer functionality.</p> <p>Receiving and transforming the input event-stream, i.e., receiving and processing information to provide a modified version of the input event-stream, is merely insignificant extra-solution activity that does not add significantly more to the abstract idea to render the claimed invention patent-eligible. Revised Guidance 55 n.31; <i>see also In re Bilski</i>, 545 F.3d 943, 962 (Fed. Cir.</p>

Independent Claim 23	Revised Guidance
<p>[L2c] <u>transmit the modified version of the input event-stream</u>; and</p>	<p>2008) (<i>en banc</i>), <i>aff'd on other grounds</i>, 561 U.S. 593 (2010) (“[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity”).</p> <p>Communicating or transmitting information is insignificant post-solution activity. Revised Guidance 55 n.31; <i>see also</i> MPEP § 2106.05(g); <i>and see buySAFE, Inc. v. Google, Inc.</i>, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network).</p>
<p>[L3a] <b>a derived window in a second layer among the layers of windows</b>, wherein the derived window is configured to:</p> <p>[L3b] <u>receive the modified version of the input event-stream from the source window in the first layer, perform a second operation on the modified version of the input event-stream to transform the modified version of the input event-stream into a further modified version of the input event-stream</u>, and</p>	<p>According to the Specification, “[t]he one or more source windows 806 and the one or more derived windows 808 represent continuously executing queries that generate updates to a query result.” Spec. ¶ 118. We determine the recited derived window represents generic computer functionality.</p> <p>Receiving and transforming the modified version of the input event-stream into a “further modified version of the input event-stream,” i.e., receiving and processing information, is merely insignificant extra-solution activity that does not add significantly more to the abstract idea to render the claimed invention patent-eligible. Revised Guidance, 55 n.31; <i>see In re Bilski</i>, 545 F.3d 943, 962 (Fed. Cir. 2008) (<i>en banc</i>), <i>aff'd on other grounds</i>, 561 U.S. 593 (2010) (“[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity”).</p>

Independent Claim 23	Revised Guidance
<p>[L3c] <u>transmit the further modified version of the input event-stream;</u></p>	<p>Communicating or transmitting information is insignificant post-solution activity. Revised Guidance 55 n.31; <i>see also</i> MPEP § 2106.05(g); <i>and see buySAFE, Inc. v. Google, Inc.</i>, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network).</p>
<p>[L4a] <u>receiving, by the data processing apparatus, the input event-stream using the event-stream processing engine,</u></p> <p>[L4b] <i>wherein the input event-stream includes event block objects that are associated with a time series data set;</i></p>	<p>Receiving the input event-stream, i.e., receiving information, is merely insignificant extra-solution activity that does not add significantly more to the abstract idea to render the claimed invention patent-eligible. Revised Guidance 55 n.31.</p> <p>Associating event block objects in an event-stream with a time series data set is an abstract idea, i.e., an observation, evaluation, judgment, opinion” which, aside from any computer-related aspects, could be performed as a mental process. <i>See</i> Revised Guidance 52.</p>
<p>[L5a] <u>transforming, by the data processing apparatus, the input event-stream into the output event-stream using the event-stream processing engine,</u></p> <p>[L5b] <i>wherein the input event-stream is transformed into the output event-stream by applying the layers of windows to the input event-stream, wherein</i></p>	<p>“[T]ransforming . . . the input event-stream into the output event-stream” is extra-solution activity. <i>See In re Bilski</i>, 545 F.3d 943, 962 (Fed. Cir. 2008) (<i>en banc</i>), <i>aff’d on other grounds</i>, 561 U.S. 593 (2010) (“[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity”).</p> <p>Applying layers of windows to effect transformation constitutes abstract ideas in the form of a mental processes and/or mathematical processes because the layers of windows are merely configured to carry out various abstract ideas as reflected in limitations [L6]–[L9], below.</p>

Independent Claim 23	Revised Guidance
the layers of windows are configured to perform operations including:	
[L6] <i>generating a set of counts for the time series data set, wherein a count corresponds to a number of instances of a particular discrete value in the time series data set;</i>	A mathematical calculation such as counting or generating a set of counts corresponding to a number of occurrences of a discrete value is an abstract idea. Revised Guidance 52 and n.12 citing <i>SAP America, Inc. v. InvestPic, LLC</i> , 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).
[L7] <i>determining a discrete probability distribution for the set of counts;</i>	“[D]etermining” is an abstract idea, i.e., an observation, evaluation, judgment, opinion” which could be performed as a mental process. <i>See</i> Revised Guidance 52.
[L8] <i>generating a set of predicted future data points, wherein the set of predicted future data points is generated using a statistical model; and</i>	“[G]enerating a set of predicted . . . data points . . . using a statistical model” may be characterized as a mathematical calculation, and thus, is an abstract idea. Revised Guidance 52 and n.12 citing <i>SAP America, Inc. v. InvestPic, LLC</i> , 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).
[L9a] <i>generating an adjusted set of predicted future data points,</i> [L9b] <i>wherein generating the adjusted set of predicted future data points includes adjusting the set of predicted future data</i>	“[G]enerating an adjusted set of predicted future data points . . . using a set of parameters . . . corresponding to the discrete probability distribution” and determining whether “the adjusted set of predicted future data points is more accurate than the set of predicted future data points” are abstract ideas i.e., an observation, evaluation, judgment, opinion” which could be

Independent Claim 23	Revised Guidance
<p><i>points using a set of parameters corresponding to the discrete probability distribution, and wherein the adjusted set of predicted future data points is more accurate than the set of predicted future data points; and</i></p>	<p>performed as a mental process. <i>See</i> Revised Guidance 52.</p>
<p><u>[L10] transmitting the output event-stream, wherein the output event-stream includes the adjusted set of predicted future data points.</u></p>	<p>Transmitting information, e.g., for display, is insignificant extra-solution activity. Revised Guidance 55, n.31; <i>see also</i> MPEP § 2106.05(g); <i>and see buySAFE, Inc. v. Google, Inc.</i>, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network).</p>

*See* Spec. 40–41 (Claims App.).

Under the broadest reasonable interpretation standard,<sup>14</sup> we conclude limitations L1 through L10 recite steps that, but for any computer-related aspects, would ordinarily occur when predicting future data points in an input event-stream using a discrete probability distribution. *See generally*

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<sup>14</sup> During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Non-Final Act. 2–10. For example, “generating a set of predicted future data points, wherein the set of predicted future data points is generated using a statistical model” (claim 23, limitation L8) is an operation that generally occurs when statistically predicting more accurate data points.

Further, for the reasons provided in TABLE 1, above, we identify limitations [L1d] (“wherein a relationship among the layers of windows is defined by a directed graph”); [L4b] (“wherein the input event-stream includes event block objects that are associated with a time series data set”); [L5b] (“wherein the input event-stream is transformed into the output event-stream by applying the layers of windows to the input event-stream”); [L6] (“generating a set of counts for the time series data set, wherein a count corresponds to a number of instances of a particular discrete value in the time series data set”); [L7] (“determining a discrete probability distribution for the set of counts”); [L8] (“generating a set of predicted future data points, wherein the set of predicted future data points is generated using a statistical model”); [L9a] (“generating an adjusted set of predicted future data points”); and [L9b] (“wherein generating the adjusted set of predicted future data points includes adjusting the set of predicted future data points using a set of parameters corresponding to the discrete probability distribution, and wherein the adjusted set of predicted future data points is more accurate than the set of predicted future data points”) as representing various abstract ideas, whether initiated in the mind, on paper, or by using a computer.

We determine that claim 23, overall, recites a mental process that may also be performed practically by pen and paper. This type of activity, i.e., predicting future data points in an input event-stream using a discrete

probability distribution, as recited in limitations L1 through L10, for example, and aside from any computer-related aspects, includes longstanding conduct that existed well before the advent of computers and the Internet, and could be carried out by a human with pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson.*”).<sup>15</sup>

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 23’s computer-implemented method is a judicial exception. We conclude claim 23, under our Revised Guidance, recites a judicial exception of predicting future data points in an input event-stream using a discrete probability distribution, i.e., a mental process, and thus is an abstract idea.

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

If the claims are directed to a judicial exception, as we conclude above, we proceed to the “practical application” *Step 2A(ii)* in which we

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<sup>15</sup> Our reviewing court recognizes that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). That need not and, in this case does not, “impact the patentability analysis.” *Id.* at 1241. Further, “[t]he Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* Moreover, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

In addition to the abstract limitations identified above, we conclude limitations [L2b] (“receive the input event-stream”); [L3b] (“receive the modified version of the input event-stream”); and [L4a] (“receiving . . . the input event-stream”) recite insignificant data gathering. *See* MPEP § 2106.05(g). Data gathering, as performed by the steps or function in Appellant’s claims, is a classic example of insignificant extra-solution activity. *See, e.g., In re Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008) (en banc), *aff’d sub nom, Bilski v. Kappos*, 561 U.S. 593 (2010).

We also find limitations [L1c] (“transform the input event-stream into an output event-stream”); [L2c] (“transmit the modified version of the input event-stream”); [L3c] (“transmit the further modified version of the input event-stream”); [L5a] (“transforming, by the data processing apparatus, the input event-stream into the output event-stream using the event-stream processing engine”); and [L10] (“transmitting the output event-stream”) recite insignificant post-solution activity. The Supreme Court guides that the “prohibition against patenting abstract ideas ‘cannot be circumvented by’ . . . adding ‘insignificant postsolution activity.’” *Bilski*, 561 U.S. at 610–11 (quoting *Diehr*, 450 U.S. at 191–92). On this record, we are of the view that Appellant’s claims do not operate the recited generic computer components in an unconventional manner to achieve an improvement in computer functionality. *See* MPEP § 2106.05(a).

We find each of the limitations [L1d], [L4b], [L5b], [L6], [L7], [L8], [L9a], and [L9b] of claim 23 recite abstract ideas as identified in *Step 2A(i)*, *supra*, and none of the limitations integrate the judicial exception of predicting future data points in an input event-stream using a discrete probability distribution into a practical application as determined under one or more of the MPEP sections cited above. The claim as a whole merely uses instructions to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea.

Under analogous circumstances, the Federal Circuit has held that “[t]his is a quintessential ‘do it on a computer’ patent: it acknowledges that [such] data . . . was previously collected, analyzed, manipulated, and displayed manually, and it simply proposes doing so with a computer. We have held such claims are directed to abstract ideas.” *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1367 (Fed. Cir. 2019); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016) (“Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology.”).

To the extent that Appellant argues that the method claims 23–31 on appeal provide a patentable *transformation of data* (*see* Appeal Br. 26–27), we disagree. The “[t]ransformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” *Gottschalk v. Benson*, 409 U.S. at 70. “The

mere manipulation or reorganization of data, however, does not satisfy the transformation prong.” *CyberSource*, 654 F.3d at 1375.

Therefore, we conclude method claim 23 fails to satisfy the transformation prong of the machine-or-transformation test because the data types recited in the claim are merely manipulated or reorganized. Thus, without more, we conclude method claims 23–31 do not use a “particular machine” to apply the judicial exception (*see* MPEP § 2106.05(b)), or perform a transformation of an article to a different state or thing (*see* MPEP § 2106.05(c)).

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus the claim is directed to the judicial exception.

*Step 2B – “Inventive Concept” or “Significantly More”*

If the claims are directed to a judicial exception, and not integrated into a practical application, as we conclude above, we proceed to the “inventive concept” step. For *Step 2B* we must “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Affinity Labs*, 838 F.3d at 1258.

In applying step two of the *Alice* analysis, our reviewing court guides we must “determine whether the claims do significantly more than simply describe [the] abstract method” and thus transform the abstract idea into patentable subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any “additional features” in the claims that constitute an “inventive concept,” thereby rendering the claims eligible for patenting even if they are directed to an

abstract idea. *Alice*, 573 U.S. at 221. Those “additional features” must be more than “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 79.

Limitations referenced in *Alice* that are not enough to qualify as “significantly more” when recited in a claim with an abstract idea include, as non-limiting or non-exclusive examples: adding the words “apply it” (or an equivalent) with an abstract idea<sup>16</sup>; mere instructions to implement an abstract idea on a computer<sup>17</sup>; or requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.<sup>18</sup>

Regarding this step of the analysis, Appellant cites to *Amdocs* and *Bascom*, as discussed below.

#### *Amdocs*

Appellant relies upon *Amdocs* to rebut the Examiner’s citation to *EPG*. Appeal Br. 19–20. In *Amdocs*, the Federal Circuit held that claim 1 of the patent at issue

is also like the claims in *Bascom* because even though the system in the ‘065 patent relies upon some arguably generic limitations, when all limitations are considered individually and as an ordered combination, they provide an inventive concept through the use of distributed architecture. This is similar to the design in *Bascom* which permitted the invention to have a filtering tool with the benefits of a filter on a local computer

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<sup>16</sup> *Alice*, 573 U.S. at 221–23.

<sup>17</sup> *Alice*, 573 U.S. at 222–23, *e.g.*, simply implementing a mathematical principle on a physical machine, namely a computer.

<sup>18</sup> *Alice*, 573 U.S. at 225 (explaining using a computer to obtain data, adjust account balances, and issue automated instructions involves computer functions that are well-understood, routine, conventional activities).

and the benefits of a filter on an ISP server. The benefits in *Bascom* were possible because of customizable filtering features at specific locations remote from the user. Similarly, the benefits of the '065 patent's claim 1 are possible because of the distributed, remote enhancement that produced an unconventional result—reduced data flows and the possibility of smaller databases. This arrangement is not so broadly described to cause preemption concerns. Instead, it is narrowly circumscribed to the particular system outlined. As in *Bascom* this is a technical improvement over prior art technologies and served to improve the performance of the system itself.

*Amdocs*, 841 F.3d at 1302.

Again, we determine Appellant's reliance upon *Amdocs* is unavailing because there is no indication that claim 23 on appeal provides unconventional results produced by a distributed, remote enhancement that reduces data flows and allows for the possibility of smaller databases.

#### *Bascom*

Appellant alleges:

Here, the claimed techniques make use of a set of counts wherein a count corresponds to a number of instances of a particular discrete value in a time series data set to determine a discrete probability distribution, the set of parameters of which are used to adjust a generated set of predicted future data points such that the adjusted set of predicted future data points is more accurate. Although any one of these aspects may arguably have been known or present in the prior art, which Appellants do not concede, Appellant submits that the specific order, arrangement, use, and combination of these aspects is non-conventional, non-generic, and otherwise not well-known - these aspects have not been applied in prior forecasting techniques in the combination specified in the claims and are unconventional, novel, and nonobvious, as described above.

Like in *BASCOM*, the instant claims, through their non-generic ordering and combination provide an inventive use of the alleged abstract ideas. As such, the claims amount to significantly more than the alleged abstract idea.

Appeal Br. 33–34.

In *Bascom*, the claims were directed to the inventive concept of providing customizable Internet-content filtering which, under Step 2 of the Alice analysis, was found to transform the abstract idea of filtering content into a patent-eligible invention. Although the underlying idea of filtering Internet content was deemed to be abstract, under step 2 of the *Alice* analysis, the claims carved out a specific location for the filtering system, namely a remote Internet service provider (ISP) server, and required the filtering system to give users the ability to customize filtering for their individual network accounts. *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016).

In response to Appellant’s reliance upon *Bascom*, *supra*, there is no evidence of record to substantiate the assertion that the claims recite non-conventional and non-generic arrangement of known, conventional elements, as in *Bascom*. Moreover, we find no analogy between Appellant’s claimed computer-implemented method and the Internet content filtering claims in *Bacom*.

*“Significantly More” Analysis*

Evaluating representative claim 23 under step 2 of the *Alice* analysis, we conclude it lacks an inventive concept that transforms the abstract idea of predicting future data points in an input event-stream using a discrete probability distribution into a patent-eligible application of that abstract idea.

The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader*, 811 F.3d at 1325. In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer*, 881 F.3d at 1368.

We provide evidence of the conventional nature, i.e., WURC<sup>19</sup> nature of various elements and limitations recited in method claim 23 in TABLE 2, below:

TABLE 2

<b>Elements Recited</b>	<b>Support for a finding of WURC</b>
data processing apparatus	As claimed and described, a data processing apparatus is a generic computer component. <i>See, e.g.</i> , Spec. ¶¶ 7, 51.
event-stream processing engine,	An “event stream processing engine” is described in terms of a generic processor, i.e., “[t]he computing device includes, but is not limited to, a processor and a computer-readable medium operably coupled to the processor. The processor is configured to execute an ESP engine (ESPE).” Spec. ¶ 140.
a source window in a first layer among the layers of windows	According to the Specification, “[t]he one or more source windows 806 and the one or more derived windows 808 represent continuously executing queries that generate updates to a query result.” Spec. ¶ 118. We determine the recited source window represents generic computer functionality.

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<sup>19</sup> “Well-understood, routine, and conventional” (“WURC”).

Elements Recited	Support for a finding of WURC
a derived window in a second layer among the layers of windows	According to the Specification, “[t]he one or more source windows 806 and the one or more derived windows 808 represent continuously executing queries that generate updates to a query result.” Spec. ¶ 118. We determine the recited derived window represents generic computer functionality.

*See generally*, claim 23.

Thus, because the Specification describes the additional elements in general terms, without describing the particulars, we conclude the claim limitations may be broadly but reasonably construed as reciting conventional computer components and techniques, particularly in light of Appellants’ Specification, as quoted above.<sup>20</sup>

The MPEP, based upon our precedential guidance, provides additional considerations with respect to analysis of the well-understood, routine, and conventional nature of the recited computer-related components.

Another consideration when determining whether a claim recites significantly more than a judicial exception is whether the additional elements amount to more than a recitation of the words “apply it” (or an equivalent) or are more than mere instructions to implement an abstract idea or other exception on a computer. As explained by the Supreme Court, in order to transform a judicial exception into a patent-eligible application, the additional element or combination of elements must do “more than simply stat[e] the [judicial exception] while adding the words ‘apply it’”. *Alice Corp. v. CLS Bank*, 573 U.S. \_\_\_,

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<sup>20</sup> Claim terms are to be given their broadest reasonable interpretation, as understood by those of ordinary skill in the art and taking into account whatever enlightenment may be had from the Specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

134 S. Ct. 2347, 2357, 110 USPQ2d 1976, 1982-83 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72, 101 USPQ2d 1961, 1965). Thus, for example, claims that amount to nothing more than an instruction to apply the abstract idea using a generic computer do not render an abstract idea eligible. *Alice Corp.*, 134 S. Ct. at 2358, 110 USPQ2d at 1983. *See also* 134 S. Ct. at 2389, 110 USPQ2d at 1984 (warning against a § 101 analysis that turns on “the draftsman’s art”) . . . .

In *Alice Corp.*, the claim recited the concept of intermediated settlement as performed by a generic computer. The Court found that the recitation of the computer in the claim amounted to mere instructions to apply the abstract idea on a generic computer. 134 S. Ct. at 2359-60, 110 USPQ2d at 1984. The Supreme Court also discussed this concept in an earlier case, *Gottschalk v. Benson*, 409 U.S. 63, 70, 175 USPQ 673, 676 (1972), where the claim recited a process for converting binary-coded decimal (BCD) numerals into pure binary numbers. The Court found that the claimed process had no substantial practical application except in connection with a computer. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676. The claim simply stated a judicial exception (e.g., law of nature or abstract idea) while effectively adding words that “apply it” in a computer. *Id.*

MPEP § 2106.05(f) (“Mere Instructions To Apply An Exception”).

With respect to the *Step 2B* analysis, we conclude, similar to *Alice*, the recitation of a method that includes well-understood, routine, and conventional computer components and functionality, is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention under *Step 2B*. *See Alice*, 573 U.S. at 221 (“[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.”).

Therefore, in light of the foregoing, we conclude, under the Revised Guidance, that each of Appellant’s claims 1–5 and 7–31, considered as a whole, is directed to a patent-ineligible abstract idea that is not integrated into a practical application and does not include an inventive concept. Accordingly, we sustain the Examiner’s § 101 rejection of independent claim 23, and grouped claims 1–5, 7–22, and 24–31 which fall therewith. *See Claim Grouping, supra.*

### REPLY BRIEF

To the extent Appellant *may* advance new arguments in the Reply Brief (Reply Br. 2–19) not in response to a shift in the Examiner’s position in the Answer, arguments raised in a Reply Brief that were not raised in the Appeal Brief or are not responsive to arguments raised in the Examiner’s Answer will not be considered except for good cause (*see* 37 C.F.R. § 41.41(b)(2)), which Appellant has not shown.

### CONCLUSION

Under our Revised Guidance, governed by relevant case law, claims 1–5 and 7–31 are patent-ineligible under 35 U.S.C. § 101, and we sustain the rejection.

### DECISION SUMMARY

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Basis / References</b>	<b>Affirmed</b>	<b>Reversed</b>
1–5, 7–31	101	Subject Matter Eligibility	1–5, 7–31	

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FINALITY AND RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED