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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 ANDREW D. BAPTIST, GREG R. DHUSE,
WESLEY B. LEGGETTE, and JASON K. RESCH

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Appeal 2018-006441
Application 15/281,317
Technology Center 2100

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Before JOHNNY A. KUMAR, LARRY J. HUME, and STEVEN M.
AMUNDSON, *Administrative Patent Judges*.

KUMAR, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1–18, which constitute all the claims pending in
this application. We have jurisdiction over the pending claims under
35 U.S.C. § 6(b).

We affirm.

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[1] According to Appellants, the real party in interest is International Business
Machines Corporation. App. Br. 2.

STATEMENT OF THE CASE

Embodiments of Appellants' invention relate to: "computer networks and more particularly to dispersing error encoded data." Spec. ¶ 5.

Exemplary Claim

1.   A method for execution by one or more processing modules of one or more computing devices, the method comprises:

receiving at least a decode threshold number of encoded data slices of a set of encoded data slices;

decoding the at least a decode threshold number of encoded data slices to reproduce a secure data segment;

de-combining the secure data segment to reproduce encrypted data and a masked key;

performing a deterministic function on the encrypted data to produce transformed data;

de-masking the masked key based on the transformed data to produce a master key;

de-aggregating the encrypted data to reproduce a decode threshold number of encrypted data sub-segments;

for each of at least a decode threshold number of encrypted data sub-segments, generating a sub-key based on the master key;

outputting a decode threshold number of sub-keys to a corresponding decode threshold number of distributed storage and task execution units;

for each encrypted data sub-segment, decrypting the encrypted data sub-segment utilizing a corresponding sub-key; and

de-partitioning the decode threshold number of data sub-segments to reproduce a data segment.

App. Br. 20 (Claims Appendix).

REJECTION AT ISSUE

Claims 1–18 are rejected under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more. Final Act. 11–13. Independent claims 1 and 10 recite analogous limitations. Appellants present a unitary argument directed to all claims together. App. Br. 13. Accordingly, we select claim 1 for discussion as representative of the rejected claims. We refer to the rejected independent claims collectively herein as "claim 1." *See*, 37 C.F.R. § 41.37(c)(1)(iv); *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

ANALYSIS

We have considered all of Appellants' arguments and any evidence presented. We highlight and address specific findings and arguments for emphasis in our analysis below.

Principles of Law

An invention is patent eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *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); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding of rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 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.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

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

Patent Subject Matter Eligibility 2019 Revised Guidance

The United States Patent and Trademark Office recently published revised policy guidance on the application of § 101. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter "2019 Revised Guidance") (https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf). *This new guidance is applied in this opinion.* Under the 2019 Revised Guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings
> of abstract ideas (i.e., mathematical concepts, mental processes,
> or certain methods of organizing human activity, such as a

fundamental economic practice or managing personal behavior
or relationships or interactions between people); and

(2) additional elements that integrate the judicial
exception into a practical application (*see* Manual of Patent
Examining Procedure ("MPEP") §§ 2106.05(a)–(c), (e)–(h)).[2]
2019 Revised Guidance, 84 Fed. Reg. at 51–52, 55.

A claim that integrates a judicial exception into a practical application applies, relies on, or uses the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. 2019 Revised Guidance. 84 Fed. Reg. at 54. When the judicial exception is so integrated, then the claim is not directed to a judicial exception and is patent eligible under § 101. *Id.*

Only if a claim: (1) recites a judicial exception, and (2) does not integrate that exception into a practical application, do we then evaluate whether the claim provides an inventive concept. 2019 Revised Guidance, 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 217–18. For example, we 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, and
conventional activities previously known to the industry,
specified at a high level of generality, to the judicial exception.

2019 Revised Guidance, 84 Fed. Reg. at 56.

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[2] All references to the MPEP are to the 9th ed., rev. 08–2017 (Jan. 2018).

Because there is no single definition of an "abstract idea" under *Alice* step 1, the PTO has recently synthesized, for purposes of clarity, predictability, and consistency, key concepts identified by the courts as abstract ideas to explain that the "abstract idea" exception includes the following three groupings:

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

> (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).

According to the 2019 Revised Guidance, "claims that do not recite [subject] matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas," except in rare circumstances. Even if the claims recite any one of these three groupings of abstract ideas, the claims are still not "directed to" a judicial exception (abstract idea), and thus are patent eligible if "the claim as a whole integrates the recited judicial exception into a practical application of that exception." 2019 Revised Guidance, 84 Fed. Reg. at 53.

For example, additional limitations that **are** indicative of "integration into a practical application" include:

1. Improvements to the functioning of a computer, or to any other technology or technical field – *see* MPEP § 2106.05(a);

2. Applying the judicial exception with, or by use of, a particular machine — *see* MPEP § 2106.05(b);
3. Effecting a transformation or reduction of a particular article to a different state or thing — *see* MPEP § 2106.05(c); and
4. Applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception — *see* MPEP § 2106.05(e).

In contrast, additional limitations that are **not** indicative of "integration into a practical application" include:

1. Adding the words "apply it" (or an equivalent) with the judicial exception, or merely include instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea — *see* MPEP § 2106.05(f);
2. Adding insignificant extra-solution activity to the judicial exception — *see* MPEP § 2106.05(g); and
3. Generally linking the use of the judicial exception to a particular technological environment or field of use — *see* MPEP § 2106.05(h).

See 2019 Revised Guidance, 84 Fed. Reg. at 54–55 ("Prong Two").

The Examiner's Rejection Under 35 U.S.C. § 101

The Examiner concludes claims 1–18 recite the abstract ideas of mathematical relationships, mathematical equations and mathematical calculations which are mathematical concepts, i.e., "a mathematical algorithm" for "encoding and decoding . . . data" and "manipulating information through mathematical correlations." Final Act. 12; Ans. 2–3.

The Examiner determines the claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the "processing modules" and "computing devices" are "merely generic computer elements performing generic computer functions." Final Act. 12; Ans. 2–3.

The Examiner notes that Appellants' Specification fails to recite that the claimed invention solves a technical problem. Ans. 8. The Examiner explains because the additional elements are merely generic computer elements performing generic computer functions, "the claimed invention does not amount to significantly more than the abstract idea." Final Act. 12.

For the aforementioned reasons, the Examiner concludes that claims 1–18 are not patent eligible under 35 U.S.C. § 101.

The Judicial Exception

Under the 2019 Revised Guidance, we consider whether the claims are directed to any judicial exceptions, including certain groupings of abstract ideas, in particular: (a) mathematical concepts, (b) mental steps, and (c) certain methods of organizing human activities.

Claim 1 recites the following limitations: (1) "receiving at least a decode threshold number of encoded data slices of a set of encoded data slices"; (2) "decoding the at least a decode threshold number of encoded data slices to reproduce a secure data segment"; (3) "de-combining the secure data segment to reproduce encrypted data and a masked key"; (4) "performing a deterministic function on the encrypted data to produce transformed data"; (5) "de-masking the masked key based on the transformed data to produce a master key"; (6) "de-aggregating the

encrypted data to reproduce a decode threshold number of encrypted data sub-segments"; (7) "for each of at least a decode threshold number of encrypted data sub-segments, generating a sub-key based on the master key"; (8) "outputting a decode threshold number of sub-keys to a corresponding decode threshold number of distributed storage and task execution units"; (9) "for each encrypted data sub-segment, decrypting the encrypted data subsegment utilizing a corresponding sub-key"; and (10) "de-partitioning the decode threshold number of data sub-segments to reproduce a data segment."

We conclude each of limitations (2)–(7) and (9)–10), under its broadest reasonable interpretation, recite mathematical relationships, mathematical equations, and mathematical calculations which are mathematical concepts – a specific subject matter group that is identified as an abstract idea under the 2019 Revised Guidance.

Limitations (2)–(7) and (9)–(10) provide interrelated mathematical relationships to convert received data ("a number of encoded data slices") into another form of data, namely, a "data segment." In considering Appellants' independent claim 1 as a whole, we note Appellants' invention decodes received data by converting input data to output data using an interrelated set of mathematical relationships.

The appropriate authority for this case is *Gottschalk v. Benson*, 409 U.S. 63, 72 (1972) where the Supreme Court held Benson's process claim of converting signals from binary coded decimal "BCD" form into binary, via a series of mathematical calculations to be an "abstract idea" under 35 U.S.C. § 101. MPEP § 2106.04(a)(2), IV "Mathematical relationships/Formulas," specifically identifies the conversion of "binary-coded decimal numerals

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into pure binary form" through a series of steps recited in the claims at issue

in *Benson* as an algorithm, further categorized as a type of mathematical

relationship. *Id.* ("The phrase 'mathematical relationships/ formulas' is

used to describe mathematical concepts such as mathematical algorithms,

mathematical relationships, mathematical formulas, and calculations").

For example, Benson's claim recited a "method of converting signals

from binary coded decimal form into binary which comprises the steps of":

> (1) storing the binary coded decimal signals in a reentrant shift register,
> (2) shifting the signals to the right by at least three places, until there is a binary "1" in the second position of said register,
> (3) masking out said binary "1" in said second position of said register,
> (4) adding a binary "1" to the first position of said register,
> (5) shifting the signals to the left by two positions,
> (6) adding a "1" to said first position, and
> (7) shifting the signals to the right by at least three positions in preparation for a succeeding binary "1" in the second position of said register.

Benson, 409 U.S. at 73–74.

As shown in *Benson's* claim, the process of converting BCD numerals

into pure binary numerals is an algorithm or series of interrelated

mathematical relationships between a first form of data (input) and a second

form data (output). The Supreme Court decided that *Benson's* process claim

was directed to "a method . . . to convert signals from binary-coded decimal

form into pure binary form" and constituted an "algorithm" to solve the

mathematical problem of "converting one form of numerical representation

to another." *Benson,* 409 U.S. at 65. The Court held that the claimed

algorithm was "so abstract and sweeping as to cover both known and

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unknown use" of the BCD to pure binary conversion and that the claims
were an unpatentable idea since "the patent would wholly pre-empt the
mathematical formula and in practical effect would be a patent on the
algorithm itself." *Id.* at 68, 71–72.

Similarly in *Digitech Image Technologies, LLC v. Electronics for
Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014), our reviewing court
held method claims shown below constitute the recitation of an ineligible
abstract process of using "mathematical algorithms to manipulate existing
information to generate additional information" and that "without additional
limitations" outside of the recitation of the algorithm, the claim is an
ineligible abstract idea. *See Digitech*, at 1350–1351.

> generating first data for describing a device dependent
> transformation of color information content of the image to a
> device independent color space through use of measured
> chromatic stimuli and device response characteristic functions;
> generating second data for describing a device dependent
> transformation of spatial information content of the image in said
> device independent color space through use of spatial stimuli and
> device response characteristic functions; and
> combining said first and second data into the device
> profile.

Id. (emphasis added).

Furthermore, as stated in MPEP § 2106.04(a)(2)(IV)(B), the
above claims in *Digitech* "were directed to an abstract idea because
they described a process of organizing information through
mathematical correlations." "It is of no moment that the algorithm is
not expressed in terms of a mathematical formula. Words used in a
claim operating on data to solve a problem can serve the same purpose
as a formula." *See In re Grams*, 888 F.2d 835, 837 (Fed. Cir. 1989);

see also In re Richman, 563 F.2d 1026, 1027 (CCPA 1977) ("deletion from the claims of the mathematical formula involved and substitution of words which mean the same thing would not transform the claimed method into statutory subject matter'); *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994) ("The body of claim 1 recites the steps of 'locating' a medial axis, and 'creating' a bubble hierarchy. These steps describe nothing more than the manipulation of basic mathematical constructs, the paradigmatic 'abstract idea.'").

In view of *Benson* and the guidance on recitation of mathematical concepts found in *Digitech, Richman, Warmerdam*, and *Grams,* Appellants' claim 1 recites an abstract idea of, i.e., using a mathematical algorithm to convert (1) "encoded data slices" into (10) "a data segment," wherein each of steps (2)–(7), (9), and (10) recite a mathematical relationship or calculation to transform data analogous to the steps in *Benson* and *Digitech* including: (2) "decoding . . . encoded data slices," (3) "de-combining the secure data segment," (4) "performing a deterministic function," (5) "de-masking the masked key based on the transformed data to produce a master key," (6) "de-aggregating the encrypted," (7) "generating a sub-key based on the master key," (9) "decrypting the encrypted data," and (10) "de-partitioning the . . . data sub-segments." Each of steps (2)–(7), (9), and (10) at least recite the transformation of an input data into a different output data using a mathematical relationship or calculation, analogous to the recited transformation of data determined to be recited in the claims at issue in *Digitech*. Similarly, the total mathematical algorithm recited in Appellants claim 1 itself transforms (1) "encoded data slices" into (10) "a data segment" and constitutes an abstract idea in the form of a mathematical concept.

Appellants argue the Examiner fails to identify an abstract idea to which the claim 1 is directed in violation of *Alice* step 1. App. Br. 8–9. However, the Examiner concluded that claim 1 was directed to "encoding and decoding . . . data" and "manipulating information through mathematical correlations" which is an abstract idea in the form of mathematical concepts under the 2019 Revised Guidance. Final Act. 12; Ans. 2–3. The Examiner further concluded the claims are directed to the abstract idea of "decoding encoded data slices" that "are substantially similar to the abstract idea found in encoding and decoding image data" in *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322 (Fed. Cir. 2017), and to "organizing and manipulating information through mathematical correlations" in *Digitech*. Ans. 3. For the reasons provided above, we agree with Examiner.

Thus, after applying the 2019 Revised Guidance, and considering the claims as a whole, we conclude Appellants' claims 1–18 fall into the category of mathematical concepts.

Integration of the Judicial Exception into a Practical Application

Regarding the 2019 Revised Guidance, and for the reasons which follow, we conclude that Appellants' claims 1–18 **do not integrate** the judicial exception into **a practical application**. *See* MPEP §§ 2106.05(a)–(c) and (e)–(h). Applying the 2019 Revised Guidance, we address these "practical application" MPEP sections *seriatim*.

MPEP § 2106.05(a) Improvements to the Functioning of a Computer or to Any Other Technology or Technical Field [R-08.2017]

This section of the MPEP guides: "In determining patent eligibility, examiners should consider whether the claim 'purport(s) to improve the

functioning of the computer itself' or 'any other technology or technical field.' . . . While improvements were evaluated in *Alice Corp* as relevant to the search for an inventive concept (Step 2B), several decisions of the Federal Circuit have also evaluated this consideration when determining whether a claim was directed to an abstract idea (Step 2A)."

The MPEP instructs: "Thus, an examiner may evaluate whether a claim contains an improvement to the functioning of a computer or to any other technology or technical field **at Step 2A or Step 2B**, as well as when considering whether the claim has such self-evident eligibility that it qualifies for the streamlined analysis." MPEP § 2106.05(a) (emphasis added).

Here, we consider the question of whether the claims are directed to a *specific improvement* in the capabilities of the computing devices, or, instead, "a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Enfish*, 822 F.3d at 1336.

Appellants contend the claims improve a computer-related technology by providing "additional functionality" for "currently available decryption mechanisms for dispersed error encoded data slices in distributed storage networks." App. Br. 10; Reply Br. 3–5. Applicants argue, "[f]or example, when encoded data slices representing a data segment are dispersed (using multi-key processes) across a distributed storage network some of the slices may not be available when needed to reproduce a data segment. Data segments can be reproduced, even though multi-key processes were used in the encoding and the full set of slices are not available. *Id.* Appellants reason that this improvement is analogous to the claims in *DDR Holdings LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) found to be

"necessarily rooted in computer technology in order to overcome a problem specifically arising the realm of computer networks." App. Br. 10, 12–13.

Appellants' arguments are not persuasive. At the outset, we note Appellants acknowledge that "decryption mechanisms for dispersed error encoded data slices in distributed storage networks" already exist in currently available technology such that the "specific improvement" is the "additional functionality" that "data segments can be reproduced, even though multi-key processes were used in the encoding and the full set of slices are not available." App. Br. 10; Reply Br. 4. However, claim 1 does not recite this additional functionality. For example, although claim 1 is directed to *receiving* and *decoding* data, claim 1 fails to recite a "multi-key processes . . . used in the encoding" or any other encoding step. Furthermore, the asserted additional functionality that "data segments can be reproduced, even though . . . the full set of slices are not available" is also not reflected in the claim.

For example, claim 1 recites "receiving <u>at least</u> a <u>decode threshold number</u> of encoded data slices of a set of encoded data slices" (emphasis added). Nothing in the claim requires the problem of "the full set of slices are not available" or specifically recites *how* the claimed invention would overcome that problem.

As described in the Specification, T represents the set of encoded data slices and D is a "threshold number of encoded data slices that are needed to recover the data segment." Spec. ¶ 36. The values for T and D can be a number assigned according to "the dispersed storage error encoding parameters." *Id.* ¶¶ 36, 73. The decoding process of claim 1 fails to recite any limitations for assigning "dispersed storage error parameters" such that

it recites how to reproduce a data segment when "the full set of slices are not available." In addition, the claim recites "receiving at least a decode threshold number of encoded data slices . . . to reproduce a data segment" (emphasis added) and so does not limit the claimed invention to reproducing the data segment "even though . . . the full set of slices are not available" as asserted by Appellants. When a claim directed to an abstract idea contains no restriction on how an asserted improvement is accomplished and the asserted improvement is not described in the claim, then the claim is not patent eligible. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1316 (Fed. Cir. 2016).

In addition, Appellants argue that unlike the claims in *RecogniCorp* or *Digitech*, claim 1 is more similar to the limitations *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1351 (Fed. Cir. 2016), and *DDR*, because it recites "a particular technique for decoding data slices" wherein "when encoded data slices representing a data segment are dispersed (using multi-key processes) across a distributed storage network some of the slices may not be available when needed to reproduce a data segment. Data segments can be reproduced, even though multi-key processes were used in the encoding and the full set of slices are not available." App. Br. 11. However, as noted above, claim 1 does not recite the inventive concept of encoding data slices, dispersing the data slices across a distributed storage network wherein some of the slices may not be available, or *how* the data segments are reproduced under a condition that less than all data slices are available.

For the same reason, we find that Appellants' assertion that the claims are similar to *BASCOM* because the "inventive concept . . . can be found in

the non-conventional arrangement of individual claim elements" to be unavailing. App. Br. 12–13. In *BASCOM*, the inventive concept was embodied in the claims, which included "a local client computer," "controlled access network accounts," "at least one filtering scheme," "a remote ISP server coupled to said client computer," and an "Internet computer network," and were claimed to work in conjunction with one another to detail *how* a problem was solved ("ISP server associating each said network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated filtering scheme utilizing said associated set of logical filtering elements"). *See BASCOM*, 827 F.3d at 1345. As noted above, claim 1 only relates to a single instance of receiving encoded data related to a single data segment and decoding said data segment with a mathematical algorithm. None of the encoding process, distribution of data, or overall distributed storage network, noted by Appellants as inventive, are recited in claim 1 such that it is much more analogous to Appellants' characterization of the claims in *RecogniCorp* ("a process that starts with data, adds an algorithm and ends up with a new form of data," (App. Br. 11; Reply Br. 3) than the claims in *BASCOM*.

Therefore, we find Appellants' claimed invention does not provide a solution "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," such as considered by the court in *DDR*.

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MPEP § 2106.05(b) Particular Machine [R-08.2017] and
MPEP § 2106.05(c) Particular Transformation [R-08.2017]

Section 2106.05(c) of the MPEP guides: "Another consideration when determining whether a claim recites significantly more is whether the claim effects a transformation or reduction of a particular article to a different state or thing." "[T]ransformation and reduction of an article 'to a different state or thing' is the clue to patentability of a process claim that does not include particular machines." *Bilski v. Kappos*, 561 U.S. 593, 658 (2010) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 70, (1972)). If such a transformation exists, the claims are likely to be significantly more than any recited judicial exception. *Bilski* emphasizes that although the transformation of an *article* is an important clue, it is not a stand-alone test for eligibility. MPEP § 2106.05(c).

We note Appellants advance no arguments in the Briefs that are directed to the *Bilski* machine-or-transformation test.

To the extent Appellants may contend that claim 1 transforms the received encoded data through (2) "decoding . . . encoded data slices," (3) "de-combining the secure data segment," (4) "performing a deterministic function," (5) "de-masking the masked key based on the transformed data to produce a master key," (6) "de-aggregating the encrypted," (7) "generating a sub-key based on the master key," (9) "decrypting the encrypted data," and (10) "de-partitioning the . . . data sub-segments," our reviewing court guides that, if not appropriately limiting, "[t]he mere manipulation or reorganization of *data*, however, does not satisfy the transformation prong." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (emphasis added). Therefore, we conclude method claim 1 fails to satisfy

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the transformation prong of the *Bilski* machine-or-transformation test. *See*
MPEP § 2106.05(c) "Particular Transformation." Nor do Appellants argue
that the method claims on appeal are tied to a particular machine. *See* MPEP
§ 2106.05(b) "Particular Machine." Arguments not made are waived. *See*
37 C.F.R. § 41.37(c)(1)(iv).

> *MPEP § 2106.05(e) Other Meaningful Limitations [R-08.2017]*

> This section of the MPEP guides:

> *Diamond v. Diehr* provides an example of a claim that recited
> meaningful limitations beyond generally linking the use of the
> judicial exception to a particular technological environment. 450
> U.S. 175, 209 USPQ 1 (1981). In *Diehr*, the claim was directed
> to the use of the Arrhenius equation (an abstract idea or law of
> nature) in an automated process for operating a rubber-molding
> press. 450 U.S. at 177-78, 209 USPQ at 4. The Court evaluated
> additional elements such as the steps of installing rubber in a
> press, closing the mold, constantly measuring the temperature in
> the mold, and automatically opening the press at the proper time,
> and found them to be meaningful because they sufficiently
> limited the use of the mathematical equation to the practical
> application of molding rubber products. 450 U.S. at 184, 187,
> 209 USPQ at 7, 8. In contrast, the claims in *Alice Corp. v. CLS
> Bank International* did not meaningfully limit the abstract idea
> of mitigating settlement risk. 573 U.S. __, 134 S. Ct. 2347, 110
> USPQ2d 1976 (2014). In particular, the Court concluded that the
> additional elements such as the data processing system and
> communications controllers recited in the system claims did not
> meaningfully limit the abstract idea because they merely linked
> the use of the abstract idea to a particular technological
> environment (i.e., "implementation via computers") or were
> well-understood, routine, conventional activity.

MPEP § 2106.05(e).

Applying this reasoning here, we conclude Appellants' claims do not
add meaningful limitations beyond generally linking the use of the judicial

exception to a particular technological environment. Appellants admit that "elements of the appellant's claims individually may recite generic computer components." App Br. 12. Indeed, the Specification supports Appellants' admission of the generic nature of claim 1 limitations by providing non-limiting and exemplary descriptions of generic computer components. Spec. ¶¶ 88–95.

MPEP § 2106.05(f) Mere Instructions to Apply an Exception [R-08.2017]

For the reasons discussed above, in applying the 2019 Revised Guidance, we conclude Appellants' claims invoke generic computer components merely as a tool in which the *computer instructions* apply the judicial exception, which covers *mathematical concepts*, in particular an algorithm for converting encoded data slices into a data segment.

MPEP § 2106.05(g) Insignificant Extra-Solution Activity [R-08.2017]

Appellants advance no specific arguments in the Briefs contending the claims do not recite insignificant extra-solution activity. We note the first limitation (1) "receiving at least a decode threshold number of encoded data slices of a set of encoded data slices" and the eighth limitation (8) "outputting a decode threshold number of sub-keys to a corresponding decode threshold number of distributed storage and task execution units" recited in claim 1 are examples of insignificant extra-solution activity because the claim limitations amount to necessary data gathering and outputting of data. Specifically, any decoding process would necessarily need a complementary encoded input to be used and at least one data output. *See Mayo*, 566 U.S. at 79; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d

1359, 1363 (Fed. Cir. 2015) (presenting offers and gathering statistics amounted to mere data gathering).

The Supreme Court guides that the "prohibition against patenting abstract ideas 'cannot be circumvented by attempting to limit the use of the formula to a particular technological environment' or [by] adding 'insignificant postsolution activity.'" *Bilski*, 561 U.S. at 610–11 (quoting *Diehr*, 450 U.S. at 191–92).

Therefore, on this record, we are of the view that Appellants' claims do not operate the recited generic computer components in a manner to achieve an improvement in computer functionality.

MPEP § 2106.05(h) Field of Use and Technological Environment [R-08.2017]

The Supreme Court has stated that, "[a] mathematical formula as such 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. Similarly, insignificant postsolution activity will not transform an unpatentable principle into a patentable process." *Diehr*, 450 U.S. at 191-192 (citations omitted). Here, Appellants advance no other specific arguments in the Appeal Brief contending the claims describe *a field of use* that limits the abstract idea to a particular *technological environment*, such that there is purportedly no preemption.

Our reviewing court provides applicable guidance: "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *Ultramercial*, 722 F.3d at 1346.

For the reasons discussed above, we conclude Appellants' claims do not include additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h), as discussed above).

The Inventive Concept

Under the 2019 Revised Guidance, only if a claim: (1) recites a judicial exception, and (2) does not integrate that exception into a practical application, do we then look to whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); **or**, simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

On the record before us, Appellants have not shown that the claims on appeal add a specific limitation beyond the judicial exception that is not "well-understood, routine, and conventional" in the field (*see* MPEP § 2106.05(d)). We find the Specification supports the Examiner's finding that additionally recited elements are merely generic computer elements performing generic computer functions, by providing non-limiting and exemplary descriptions of generic computer components. Spec. ¶¶ 88–95.

In light of the foregoing, we conclude that each of Appellants' claims 1–18, 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, for the reasons discussed above, we sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 1–18.[3]

CONCLUSION

The Examiner did not err in rejecting claims 1–18 under U.S.C. § 101 as being directed to a judicial exception without significantly more.

DECISION

We affirm the Examiner's decision rejecting claims 1–18 under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more.

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

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[3] To the extent Appellants have not advanced separate, substantive arguments for particular claims, or other issues, such arguments are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).