

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

KAAVO INC.,

Plaintiff,

v.

C.A. No. 14-353-LPS-CJB

AMAZON.COM INC. and AMAZON WEB
SERVICES, INC.,

Defendants.

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MEMORANDUM OPINION

June 18, 2018
Wilmington, Delaware



STARK, U.S. District Judge:

Pending before the Court are: (i) Defendants Amazon.com, Inc. and Amazon Web Services, Inc.'s (collectively, "Amazon" or "Defendants") motion for summary judgment of invalidity under 35 U.S.C. § 101 (D.I. 124); and (ii) Plaintiff Kaavo Inc.'s ("Kaavo" or "Plaintiff") motion for reconsideration of the Court's March 31, 2016 Order in light of subsequently-issued authority (DJ. 131).¹ For the reasons stated below, the Court will grant Defendants' motion and deny Plaintiffs motion.

I. BACKGROUND

A. Procedural History

Plaintiff sued Defendants for infringement of United States Patent No. 8,271,974 (the "'974 patent"), which is entitled "Cloud Computing Lifecycle Management for N-tier Applications." In related cases, Magistrate Judge Burke issued a report and recommendation that the asserted independent claims, as well as dependent claim 12, be found patent ineligible under § 101. (C.A. No. 14-1192 D.I. 35; C.A. No. 14-1193 D.I. 42) ("R&R") Over Plaintiffs objection (C.A. No. 14-1192 D.I. 39; C.A. No. 14-1193 D.I. 46), the Court adopted the R&R in full (C.A. No. 14-1192 DJ. 44; C.A. No. 14-1193 D.I. 52). Later, Magistrate Judge Burke ordered limited discovery as well as claim construction and summary judgment briefing, with respect to the eligibility of the remaining dependent claims, and conducted a hearing on these issues. (See DJ. 116) Thereafter, the Court denied without prejudice Defendants' summary judgment motion and Plaintiffs request to re-file a Rule 60 motion for reconsideration of the

¹Unless otherwise noted, all references to the docket index ("D.I.") are to C.A. No. 14-353.

Court's ruling on the independent claims, instead ordering new briefing to allow the parties - and the Court - to consider anew all § 101 issues in light of the manifold decisions issued by the Federal Circuit with respect to patent eligibility since this Court's earlier opinion issued in March 2016. (*See* D.I. 118, 121)

The parties completed briefing (*see* D.I. 126, 132, 136) and submitted expert declarations (*see* D.I. 127, 133, 137). On March 12, 2018, the Court held a combined hearing on the motions and claim construction. (*See* D.I. 140 ("Tr."))²

B. The Patent-in-Suit

The '974 patent generally relates to ..methods, devices, and systems [in] the fields of computers, information technology, virtualization, and cloud computing," and, more particularly, the "management of a cloud computing environment for use by a software application." '974 patent, col. 11. 6-11. The application may include software "(e.g., a web portal with email functionality, database programs, word processing programs, accounting programs, inventory management programs, numerical analysis programs)," or services "(e.g. , an autonomous unit that is responsible for a transformation, storage and/or retrieval of data, such as a database management service or a database API service)." *Id.* col. 11. 46-55.

The patent explains that "[c]loud computing may be used to leverage virtualization of the resources of, for example, datacenters." *Id.* col. 11. 21-22. According to the patent, "[v]irtualization technology facilitates the operation of multiple virtual servers within a single physical server system, such that each virtual sever may operate within its own unique system

²The Court will be issuing a separate opinion resolving the parties' claim construction disputes.

environment (e.g., operating system, applications)." *Id.* col. I 11. 12-15. "Cloud providers, which may operate resources such as datacenters and/or other information technology-related capabilities, may facilitate the use of such resources by providing users (which may be remote to the cloud provider) with access to their resources." *Id.* col. 1 11. 22-26. The patent refers to these "potentially accessible resources" collectively as a "cloud computing environment" or a "cloud environment." *Id.* col. I 11. 27-29.

The cloud computing environment "may be an N-tier environment." *Id.* Abstract; Fig. 8. The patent describes the N-tier computing environment as "having any number of tiers (e.g., logical groupings of components directed to a general type of functionality)" that is made available to the application by the cloud environment. *Id.* col. 5 11. 22-30; *see also id.* col. 5 11. 22-30 (noting that "application cloud environment configuration ... may include an environment containing ... 20 or more tiers"). The patent lists some examples of tiers such as "a presentation tier, an application tier (e.g., a logic or business logic tier), and a database tier." *Id.* col. 5 11. 34-35.

The patent explains that "[e]ach individual cloud configuration may contribute all, a portion, or none of each individual tier of the N-tier configuration of application cloud environment configuration." *Id.* col. 6 11. 3-5; *see also id.* col. 6 11. 6-10 ("[A]n embodiment of application cloud environment configuration 110 may include application tier that contains servers (e.g., virtual servers, physical servers) from cloud configurations 111 and 112, and a database tier that contains servers from cloud configurations 112-115."). The patent also describes "various modules of an embodiment of an N-tier configuration lifecycle management engine for managing a cloud computing environment for use by a software application." *Id.* col.

13 11. 57-60; *see also id.* col. 13 l. 64-col. 16 l. 39 (listing examples of several modules).

0. LEGAL STANDARDS

A. Summary Judgment

Under Rule 56(a) of the Federal Rules of Civil Procedure, "[t]he court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986). An assertion that a fact cannot be - or, alternatively, is - genuinely disputed must be supported either by "citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials," or by "showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact." Fed. R. Civ. P. 56(c)(1)(A) & (B). If the moving party has carried its burden, the nonmovant must then "come forward with specific facts showing that there is a genuine issue for trial." *Matsushita*, 475 U.S. at 587 (internal quotation marks omitted). The Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

To defeat a motion for summary judgment, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts." *Matsushita*, 475 U.S. at 586; *see also Podobnik v. U.S. Postal Serv.*, 409 F.3d 584, 594 (3d Cir. 2005) (stating

party opposing summary judgment "must present more than just bare assertions, conclusory allegations or suspicions to show the existence of a genuine issue") (internal quotation marks omitted). The "mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment;" a factual dispute is genuine only where "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50 (internal citations omitted); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986) (stating entry of summary judgment is mandated "against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial"). Thus , the "mere existence of a scintilla of evidence" in support of the nonmoving party's position is insufficient to defeat a motion for summary judgment; there must be "evidence on which the jury could reasonably find" for the nonmoving party. *Anderson*, 477 U.S. at 252.

B. Section 101: Patentable Subject Matter

Under 35 U.S.C. § 101, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." There are three exceptions to § 101 's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) . "Whether a claim recites patent eligible subject matter is a question of law which may contain disputes over underlying facts." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), the Supreme Court set out a two-step "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). First, courts must determine if the claims at issue are directed to a patent-ineligible concept ("step one"). See *id.* If so, the next step is to look for an "inventive concept" - *i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself ("step two"). *Id.* The two steps are "plainly related" and "involve overlapping scrutiny of the content of the claims." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

At step one, "the claims are considered in their entirety to ascertain whether their character **as a whole** is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015) (emphasis added); see also *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (stating first step "calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter").

Courts should not "oversimplif[y]" key inventive concepts or "downplay" an invention's benefits in conducting a step one analysis. See *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337-38 (Fed. Cir. 2016); see also *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) ("[C]ourts 'must be careful to avoid oversimplifying the claims' by looking at them generally and failing to account for the specific requirements of the claims.") (quoting *In re TU Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)). "Whether

at step one or step two of the *Alice* test, in determining the patentability of a method, a court must look to the claims as an ordered combination, without ignoring the requirements of the individual steps." *McRO*, 837 F.3d at 1313.

At step two, courts must "look to both the claim as a whole and the individual claim elements to determine whether the claims contain an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself" *Id.* at 1312 (internal brackets and quotation marks omitted). The "standard" step two inquiry includes consideration of whether claim elements "simply recite 'well-understood, routine, conventional activit[ies].'" *Bascom Glob. Intern.et Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016) (quoting *Alice*, 134 S. Ct. at 2359). "Simply appending conventional steps, specified at a high level of generality, [is] not **enough** to supply an inventive concepe' *Alice*, 134 S. Ct. at 2357 (internal quotation marks omitted).

However, "[t]he inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art." *Bascom*, 827 F.3d at 1350. In *Bascom*, the Federal Circuit held that "the limitations of the claims, taken indi vidua lly, recite generic computer, network and Internet components, none of which is inventive by itself," but nonetheless determined that an **ordered combination** of these limitations was patent-eligible under step two. *Id.* at 1349. The Federal Circuit has looked to the claims as well as the specification in performing the "inventive concept" inquiry. *See Affinity Labs o,f Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1271 (Fed. Cir. 2016) ("[N]either the claim nor the specification reveals any concrete way of employing a customized user interface.").

The Federal Circuit recently elaborated on the step two standard, stating that "[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. Any fact, such as this one, that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence." *Berkheimer*, 881 F.3d at 1368; *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018) ("While the ultimate determination of eligibility under § 101 is a question of law, like many legal questions, there can be subsidiary fact questions which must be resolved en route to the ultimate legal determination."); *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 732 Fed. Appx. 989, 2018 WL 935455, at *5 (Fed. Cir. Feb. 16, 2018) ("We have held that '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.") (quoting *Berkheimer*, 881 F.3d at 1368). "Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional." *Berkheimer*, 881 F.3d at 1369. Still, "[w]hen there is no genuine issue of material fact regarding whether the claim element or claimed combination is well-understood, routine, [and] conventional to a skilled artisan in the relevant field, this issue can be decided on summary judgment as a matter of law." *Id.*; *see also Intellectual Ventures I LLC v. Symantec Corp.*, 2018 WL 1324863, at *1 n.1 (Fed. Cir. Mar. 15, 2018) (affirming grant of summary judgment of patent ineligibility and stating *Berkheimer* "does not compel a different conclusion").

III. DISCUSSION

A. Reconsideration of March 31, 2016 Order Regarding Ineligibility of Claims 1, 12, 13, 24, and 35

Plaintiff moves for reconsideration of the Court's Order invalidating all of the asserted independent claims - 1, 13, 24, and 35 - and claim 12, a dependent claim. (C.A. No. 14-1193 D.I. 52) Plaintiff's motion arises under Federal Rule of Civil Procedure 60(b)(6), which permits relief from an order for "any other reason that justifies relief."³ The Third Circuit has noted that "courts are to dispense their broad powers under 60(b)(6) only in 'extraordinary circumstances where, without such relief, an extreme and unexpected hardship would occur.'" *Cox v. Horn*, 757 F.3d 113, 120 (3d Cir. 2014).⁴ "[I]ntervening changes in the law *rarely* justify relief from final judgments under 60(b)(6)." *Id.* at 121. Plaintiff "bears the burden of establishing entitlement to such equitable relief." *Id.* at 122.

³Plaintiff also cites Rule 60(b)(5), which authorizes relief from a final judgment, order, or proceeding where "applying it prospectively is no longer equitable." (D.I. 132 at 12) Plaintiff does not provide any substantive arguments on this issue. In any event, the Court agrees with Defendants that Rule 60(b)(5) provides no meritorious basis for reconsideration here. (D.I. 126 at 25-26) Rule 60(b)(5) "empowers a court to modify a judgment only if it is 'prospective,' or executory." *Marshall v. Bd. of Ed., Bergenfield, NJ*, 575 F.2d 417, 425 (3d Cir. 1978). The Court's "dismissal[] with prejudice" of the asserted claims is "not prospective within the meaning of Rule 60(b)(5)." *Coltec Indus., Inc. v. Hobgood*, 280 F.3d 262, 272 (3d Cir. 2002).

⁴Both parties rely on Third Circuit cases and have not addressed the issue of whether Federal Circuit law governs. The Federal Circuit generally "defer[s] to the law of the regional circuit in reviewing" Rule 60 rulings because they "commonly involve procedural matters." *Fiskars, Inc. v. Hunt Mfg. Co.*, 279 F.3d 1378, 1381 (Fed. Cir. 2002). But Federal Circuit law governs "when a district court's Rule 60(6) ruling turns on substantive matters that pertain to patent law." Here, Federal Circuit law applies, as the Court's ruling under Rule 60(b)(6) hinges on the applicability of Federal Circuit opinions interpreting patentable subject matter under § 101, a patent-specific statute. *See id.* Nevertheless, because the Federal Circuit considers the "law of other circuits . . . that have reviewed Rule 60(b)(6) rulings" applying the "extraordinary circumstances" standard, the Court does so as well. *Id.* at 1382-83.

Plaintiff argues that the Federal Circuit's decisions in "*Enfish*, *McRO*, *Bascom*, *Visual Memory*, *Core Wireless* and *Berkheimer*, and *Aatrix*" - all of which were decided after the Court's Order- "were previously unavailable" when the Court issued its 2016 Order. (D.1. 132 at 16) Had the Court followed those decisions, Plaintiff argues, "it is evident that the asserted claims of the '974 patent are directed to an improvement of the functioning of computers and improve an existing technology, and thus are not abstract." (*Id.*)

Plaintiff has failed to show the kind of extraordinary circumstance required for relief under Rule 60(b)(6). None of the Federal Circuit cases cited by Plaintiff constitutes a change in the law pertaining to § 101. Instead, these cases provide further guidance on applying the Supreme Court's two-step § 101 analysis to different factual scenarios. *See Cloud Satchel LLC v. Amazon.com, Inc.*, 2017 WL 1197677, at *2 (D. Del. Mar. 30, 2017) (denying relief under Rule 60(b)(6) and noting that "Federal Circuit decisions identified by plaintiff [including *Enfish*] are the kind of 'intervening developments in the law' that result from *our* system of common law"); *A Pty Ltd. v. Facebook, Inc.*, 2016 WL 4212292, at *4 (W.D. Tex. Aug. 9, 2016) (denying relief under Rule 60(b)(6) and noting that "*Enfish* did not depart from [*Alice's* two-step] framework"); *see also Rothschild Location Techs. LLC v. Vantage Point Mapping, Inc.*, 2016 WL 7049401, at *4 (E.D. Tex. Dec. 5, 2016) (denying relief under Rule 59(e), noting that "*Enfish* does not overturn or substantially change the *Alice* test; rather the decision largely reaffirms the existing case law in clarifying the application of *Alice* to claims that as a whole are directed to a technological improvement").

Reconsideration is also not warranted because even retroactive application of all of Plaintiffs' new cases would not alter the Court's conclusion that the claims considered in the

Order are not directed to patent eligible subject matter. Contrary to Plaintiffs assertion (*see* D.I. 132 at 16-17), the asserted claims here are different from those held to be patent eligible in *Enfish* , *Visual Memory* , and *Core Wireless*.

In *Enfish*, 822 F.3d at 1337, the claims recited a four-step algorithm that included a self-referential table for a computer database. The specification taught that the "self-referential table functions differently than conventional database structures." *Id.* Based on this, among other things, the Federal Circuit held that the claims were not directed to an abstract idea under *Alice's* step one, but were instead "directed to a specific improvement to the way computers operate, embodied in the self-referential table." *Id.* at 1336. The Federal Circuit noted that the "claims are not simply directed to *any* form of storing tabular data, but instead are specifically directed to a *self-referential* table for a computer database" that "is a specific type of data structure designed to improve the way a computer stores and retrieves data in memory." *Id.* at 1337, 1339.

In *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017), the claims were "directed to an improved computer memory system, not to the abstract idea of categorical data storage." As in *Enfish*, the specification explained that "multiple benefits flow from the . . . patent's improved memory system." *Id.*

In *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.* , 880 F.3d 1356, 1362 (Fed. Cir. 2018), the Federal Circuit held that the claims were "directed to an improved user interface for computing devices, not to the abstract idea of an index ." The Federal Circuit noted that the claims "disclose a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods to display a generic index on a computer." *Id.*

The specification explained that the "claims disclose an improved user interface for electronic devices , particularly those with small screens." *Id.* at 1363.

Unlike the claims disclosing the self-referential table in *Enfish*, the computer memory system in *Visual Memory*, and the user interface in *Core Wireless* , the claims at issue here - disclosing the cloud computing environment - are not " directed to a particular improvement in the computer's functionality." *Id.* at 1362 . Plaintiff has not pointed to anything in the patent that, in light of the recent cases, alters the Court's conclusion that the claims are, instead, directed to the abstract idea of setting up and managing a cloud computing environment. Plaintiff contends that the claims "improve the functioning of a computer itself , more spe-eifically, they improve the functioning of cloud computing itself, and they solve the technological problem of decreased performance and reliability of an application being run in the cloud." (D.1. 132 at 18) But that view is not supported by the patent. While Plaintiff insists that cloud computing technology is a " fairly recent computer-science development" and differs from conventional computing technology (*id.* at 5-6) , neither the claim language nor the specification discloses specific improved methods or systems of cloud computing. Unlike in *Enfish*, *Visual Memory* , and *Core Wireless*, nothing in the specification explains that the claimed invention is an improved cloud computing system as compared to cloud computing systems already existing in the prior art (a point Plaintiff appears to acknowledge based on the prosecution history). Nor does the specification discuss any technological problems in this field nor explain how the claimed invention provides an unconventional technolof,rical solution to those probl ems.

Plaintiff points to the claim language reciting that the "initial cloud environment is not yet instantiated and is an N-tier computing environment" for use by a software application and that

"an adjusted cloud environment configuration [is] to be made available to the application. " ⁵ (D.I. 132 at 18) However, the different claim limitations are merely a generalized description of cloud computing that the Court previously found to relate to the abstract idea of "setting up the cloud computing environment." (D.I. 52 at 5)

In sum, Plaintiff has not demonstrated that the Court should exercise its discretion to provide relief under Rule 60(b)(6).

B. The Asserted Dependent Claims Are Not Patent Eligible Under Section 101

The Court previously concluded that all of the asserted independent claims and one asserted dependent claim are directed to the abstract idea of setting up and managing a cloud computing environment and contain no inventive concept and, thus, are not patent eligible. (D.I. 52 at 4, 6) Defendants now move for summary judgment that the remaining asserted dependent claims - claims 5-6, 8-9, 11, 17-18, 20-21, 23, 28-29, 31-32, and 34- all of which depend from the invalidated independent claims, are similarly not eligible for patent protection under § 101. (D.I. 126 at 3) Plaintiff responds that the dependent claims, "when considered as a whole, as they must be, are directed to an improvement in cloud-computing and not an abstract idea." (D.I. 132 at 4)

The asserted representative dependent claims (5-6, 8-9, and 11) depend from independent

⁵Plaintiff also points out that the specification discloses a specific "exemplary coded configuration file describing a three-tier cloud environment configuration." (D.I. 132 at 11, 19) However, Plaintiff does not explain how this example reveals a requirement of the *claims*. Further, the specification does not disclose how this exemplary file is different from generic files of this type or improves the functioning of computers.

claim 1.⁶ Claim 1 recites:

A method for managing a cloud computing environment for use by a software application comprising:

determining a requested initial cloud environment based on user-defined provisioning information, where the requested initial cloud environment is not yet instantiated and is an N-tier computing environment;

sending an initialization event based on the requested initial cloud environment, where the initialization event is configured to cause an initial cloud environment configuration to be made available to an application;

sending application data that is configured to cause the application to begin execution in the initial cloud environment configuration;

receiving monitoring environment data that represents a current cloud environment state;

determining a requested adjusted cloud environment based on the monitoring environment data, where the requested adjusted cloud environment is an N-tier computing environment; and

sending a cloud environment adjustment event based on the requested adjusted cloud environment, where the cloud environment adjustment event is configured to cause an adjusted cloud environment configuration to be made available to the application.

Dependent claims 5, 6, 8, 9, and 11 include additional limitations, as follows:

- forecasting an optimal cloud environment for future use with the application based on monitoring environment data (claim 5)
- forecasting a future cost associated with executing the application based on monitoring environment data (claim 6)
- the user-defined provisioning information is determined using a needs analysis

⁶The Court **will** treat dependent claims 5-6, 8-9, and 11 as representative of the other asserted dependent claims (i.e., claims 17-18, 20-21, 23, 28-29, 31-32, and 34), as the additional limitations found in each of the corresponding dependent claims share similar language. (*See* D.I. 126 at 15 n.65)

algorithm and a user input received from a user interface (claim 8)

- the user-defined provisioning information comprises geographic data (claim 9)
- receiving security information, determining a requested security action based on the security information, and sending a security event based on the requested security action (claim 11)

The Court now turns to the *Alice/Mayo* two-step analysis of these dependent claims.⁷

1. Step One

Under step one, the Court inquires "whether the claims at issue are *directed to* one of those patent-ineligible concepts," such as an abstract idea. *Alice*, 134 S. Ct. at 2355 (emphasis added). The Federal Circuit has described the "directed to" inquiry as an effort to understand the "basic character" or the "focus" of the asserted claims. *Two-Way Media*, 874 F.3d at 1340 ("The district court's inquiry centered on determining the 'focus' of the claims, and was thus in accord with our precedent."); *Elec. Power Grp.*, 830 F.3d at 1353 ("[W]e have described the first-stage inquiry as looking at the 'focus' of the claims, their 'character as a whole'") *Internet Patents Corp.*, 790 F.3d at 1348 ("Applying the guidance of *Bilski*, *Mayo*, and *Alice* . . . , we start by ascertaining the basic character of the [claimed] subject matter") *Bancorp Servs., L.L.C. v. SunLifeAssur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012) ("[T]he determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter.").

Defendants argue that "[l]ike the independent claims, the asserted dependent claims are

⁷As already noted, steps one and two are "plainly related" and may "involve overlapping scrutiny of the content of the claims." *Elec. Power Grp.*, 830 F.3d at I 353. In this case, as will be seen below, there is overlap between the two steps in both the parties' arguments and the Court's analysis.

directed to the abstract idea of setting up and managing a cloud computing environment." (D.I. 126 at 15) Plaintiff counters that "Defendants oversimplify the language of the dependent claims and completely ignore the limitations of the parent claims." (D.I. 132 at 23-24) In Plaintiffs view, the claims "focus on improving the use of the computers as a tool to execute a software application." (*Id.*)

The "basic character" or "focus" of dependent claims 5-6, 8-9, and 11 amounts to nothing more than the abstract idea encompassed by independent claim 1 from which they all depend, namely, setting up and managing a cloud computing environment. The dependent claims add no meaningful limitations beyond this abstract idea. Instead, they broadly recite "functional results" for the claimed cloud computing environment, "but [do] not sufficiently describe how to achieve these results in a non-abstract way." *Two-Way Media*, 874 F.3d at 1337. In particular, the dependent claims teach certain functional goals of the cloud computing environment. But the patent does not describe the technical details of how these methods are performed in a non-abstract way.

Claims 5 and 6, for instance, are drawn to methods of "forecasting." '974 patent, col. 19 IL 49-56. The specification explains that the forecasting "may be performed using techniques such as, for example, neural networks, time-series algorithms, and regression analysis." *Id.* col. 8 11. 53-55. The specification further explains that the "forecasting algorithms employed may be refined and updated as additional data becomes available." *Id.* col. 8 11. 57-59. However, there are no details on how the forecasting is done, and no algorithm is provided. The specification also references a "Load Forecasting Module" and a "Pricing Module" that may be used to perform these methods. *Id.* col. 15 11. 6-33. But, even assuming that use of such modules is a

non-abstract way of performing the method of forecasting, the claim language (even applying Plaintiff's proposed constructions) does not require the use of these modules.

Claims 8 and 9 recite methods for determining "user-defined provisioning information" using user input, a needs analysis algorithm,⁸ and geographic data. *Id.* col. 19 II. 58-63. The specification provides some "[e]xamples of information that may comprise the user-defined provisioning information." *Id.* col. 6 II. 41- 43.⁹ It explains that "[i]n some embodiments, a configuration input file may comprise all or a portion of the user-defined provisioning information." *Id.* col. 6 II. 53-55. However, there is no description of any particular algorithm to perform this method. The specification also describes a "User Interface Processing Module" for

⁸In a separate claim construction opinion being issued this same date, the Court has found the term "needs analysis algorithm" to be indefinite. The § 101 outcome does not depend on any portion of the Court's claim construction decision. The asserted claims would fail the patent eligibility test even were the Court to adopt Plaintiffs proposed construction, which broadly included any algorithm as long as a user input or a log is used generate the provisioning information. (*See id.*; *see also Elec. Power*, 830 F.3d at 1354 ("We have treated analyzing information ... by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category."); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("[W]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.)) More generally, although the Court has largely adopted Defendants' proposed constructions, for purposes of the § 101 analysis the Court is assuming Plaintiffs' proposed constructions apply - but this assumption does not alter the outcome. (*See Tr.* at 12) (Defendants arguing summary judgment should be granted even assuming Court adopts Plaintiffs proposed constructions)

⁹Examples of user-defined provisioning information include "geographic preference (e.g., geographic restriction of locations for data and/or applications), service level requirements (e.g., availability), pricing information, tier definitions (e.g., number of tiers, computational resources needed for each tier, security needs for each tier), security requirements (e.g., data encryption requirements), audit/backup requirements (e.g., frequency of backup, data retention specifications), and special monitoring/alert requests (e.g., alert when a firewall rule is breached, alert when average CPU utilization reaches or exceeds a threshold value for a given time in a given tier)." '974 patent, col. 6 II. 40-52.

performing these methods. *Id.* col. 13 I. 64 - col. **14** I. 8. But, even assuming that use of this module is a non-abstract way of performing the methods, the claim language (even applying Plaintiff's proposed constructions) does not require the use of this module.

Claim 11 is drawn to a method of receiving "security information," determining a "security action" based on the security information, and sending a "security event" based on the security action. *Id.* col. 19 I. 66 - col. 20 I. 4. However, there are no details on how the security information is received, how a security action is determined, or how a security event is sent. The specification also describes a "Security Module" for performing this method. *Id.* col. 15 I. 60 - col. 16 I. 3. Even assuming that using this module is a non-abstract way of performing this method, the claim language (even applying Plaintiff's proposed constructions) does not require the use of this module.¹⁰

Contrary to Plaintiffs contentions, the dependent claims are not directed to an "improvement to computer functionality." *Enfish*, 822 F.3d at 1335; *see also* R&R at 21-22 ("The Court does not see how touting the benefits of cloud computing generally can amount to sufficient support for Plaintiff's argument that the patent's *claims* contain an inventive concept."). Rather, the claimed methods are directed to "the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem." *In re TLI*, 823 F.3d at 612. The patent does not explain how any of the methods described in the dependent claims provides a technical solution

¹⁰Even Plaintiff acknowledges that the claims do not require the relevant modules identified in the specification. (*See* D.I. 132 at 25) (explaining that Plaintiff's expert's declaration shows that modules disclosed in specification are just "one way of accomplishing" claimed methods)

to a problem or improves the functioning of computers. According to the patent, the methods "relate to management of a cloud computing environment for use by a software application." '974 patent, col. 11. 9-11. This could be achieved by "leverag[ing] virtualization of resources" such as "data centers and/or other technology-related capabilities" that could then be made available to a user by a "cloud provider." *Id.* col. 11. 21-26. However, the specification does not describe new software, new hardware, new algorithms, a new server, or new user interface; nor does it provide any technical details of any of the components for performing the methods used for managing the cloud computing environment with respect to the dependent claims. Instead, the specification "predominately describes the system and methods in purely functional terms." *In re TL!*, 823 F.3d at 612. The specification further notes that the claimed methods may be implemented in any generic computer programmed with generic firmware or running generic software and in any conventional distributed computing environment or a virtual computer system. *See* '974 patent, col. 16. 43-53.

Plaintiff, relying on expert testimony, argues that the dependent claims are not abstract because the corresponding independent claim is not abstract. (*See* D.I. 132 at 25) (relying on its expert and explaining that dependent claims are "directed to improving 'the reliability and optimization of the cloud environment in which the application runs' - ***a context required by parent claim 1***") (emphasis added) But the Court has already concluded that the asserted independent claims are directed to an abstract idea: this was the Court's decision in the March 31, 2016 Order (C.A. No. 14-1192 D.I. 44; C.A. No. 14-1193 D.I. 52), and the Court has today denied reconsideration of that Order. Plaintiff does not point to any intrinsic evidence to show that any of the dependent claims, taken as a whole, teaches methods that are not abstract or that

actually improve the functioning of computers. (*See generally* D.I. 132 at 22-26) Thus, Plaintiffs reliance on contrary expert opinion alone is insufficient to create a genuine issue of material fact. *See Mortg . Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016) ("The mere existence in the record of dueling expert testimony does not necessarily raise a genuine issue of material fact [in the context of a § 101 analysis].").

In sum , Defendants have met their burden at step one.

2. Step Two

At step two, the Court examines the claim limitations "more microscopically," *Elec. Power Grp.*, 830 F.3d at 1354, "both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application ," *Alice*, 134 S. Ct. at 2355 (internal quotation marks omitted). The analysis at this step is "a search for an inventive concept - i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Alice*, 134 S. Ct. at 2355 (internal quotations marks and brackets omitted). "Mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otheiwise abstract idea." *In re TLI*, 823 F.3d at 613. "Rather, the components must involve more than performance of well-understood, routine, conventional activit[ies] previously known to the industry." *Id.*

Defendants argue that the asserted dependent claims lack an inventive concept. (D.I. 126 at 19) Plaintiff responds that "the parties ' arguments and dueling expert testimony clearly point to 'at least a genuine issue of material fact' whether the asserted dependent claims overcome the challenges of nmning an application in a cloud environment in an inventive manner." (D.1. 132

at 26) (citing *Berkheimer*, 881 F.3d at 1370)

Plaintiff does not point to any intrinsic evidence to support its position. Nothing in the claim language with respect to the dependent claims indicates anything inventive about the methods of the cloud computing environment or how those methods accomplish anything inventive. In particular, to the extent Plaintiff is claiming that what is inventive is the "user-centric" approach, the Court is persuaded by Defendants that no claim language incorporates or requires the "user-centric" approach. (See Tr. at 69)

For instance, Claims 5 and 6 do not specify how the forecasting is performed, what monitoring data is used, or how it is used; any generic algorithm, neural network, or regression analysis could be used. Claim 8 does not limit the method to any specific algorithm or user interface; any generic algorithm or user interface could be used. Claim 9 does not teach how the geographic data is created or determined, or what type of data is required; any generic method or data could be used. Claim 11 does not limit how the security information is collected, how the security action is determined, or how the security event is used; any generic method could be used. Plaintiff has not cited to any portion of the specification that fills any of these gaps.

Although Plaintiff tries to rely on expert testimony, here this is insufficient to create a genuine issue of material fact. *See Mortg. Grader*, 811 F.3d at 1325; *see also Move, Inc. v. Real Estate All. Ltd.*, 2018 WL 656377, at *5 (Fed. Cir. Feb. 1, 2018) (noting, in context of summary judgment, "expert's conclusory declaration . . . [and] bald assertion does not satisfy the inventive concept requirement"). The intrinsic evidence does not support Plaintiff's position. No reasonable fact finder could find for Plaintiff.

Thus, the Court finds that the dependent claims, each viewed individually and as an

ordered combination, lack an inventive concept. *See Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 912 (Fed. Cir. 2017) (concluding that claims do not satisfy *Alice's* second step where "claim language does not provide any specific showing of what is inventive about the [limitation in question] or about the technology used to generate and process it"); *see also Affinity Labs*, 838 F.3d at 1263 (concluding that claims do not satisfy *Alice's* second step where the allegedly inventive concept was not the "essential advance," was only described functionally, and where there was "no further specification of a particular technology for" accomplishing allegedly inventive concept). Taking the evidence (including the expert opinions) in the light most favorable to Plaintiff, a reasonable factfinder could only conclude, by clear and convincing evidence, that the challenged claims lack an inventive concept. No reasonable factfinder could find that anything Plaintiff contends constitutes the "inventive concept" is actually "captured by the claims." (*See generally* Tr. at 58-59) (Plaintiff's counsel agreeing expert opinion is not material if claims do not capture what expert contends is non-routine about them); *see also Two-Way Media*, 874 F.3d at 1338 (distinguishing between "the *claim* - as opposed to something purportedly described in the specification," in analyzing inventive concept). Hence, there is no genuine dispute of material fact and summary judgment is warranted. *See generally Berkheimer*, 881 F.3d at 1369 ("The improvements in the specifications, ***to the extent they are captured ill the claims***, [may] create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities" *(emphasis added)*).

In sum, because the claims are directed to an abstract idea and nothing in the claims add

an inventive concept, the claims are not patent eligible under § 101.¹¹

III. CONCLUSION

The asserted claims of the '974 patent are not patent eligible under § 101. Hence, the Court will grant Defendants' renewed motion for summary judgment and will deny Plaintiff's renewed motion to reconsider the Court's previous Order invalidating certain asserted claims.¹²

An appropriate Order follows.

¹¹Plaintiff further argues that the asserted dependent claims do not run afoul of the preemption principle. (D.I. 132 at 28-30) Even assuming this is so, it does not alter the Court's conclusion. "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 Diagnostic s, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

¹²Plaintiff requests in the alternative "an opportunity to amend its complaint to plead eligibility in a manner aligned with the *Enfish* framework." (D.I. 132 at 2) Given the Court's conclusions - and that the intrinsic record, on which the Court's opinion is based, is closed - amendment would be futile. *See In re Burlington Coat Factory Sec. Litig.*, 114 F.3d 1410, 1434 (3d Cir. 1997); *Massarsky v. Gen. Motors Corp.*, 706 F.2d 111, 125 (3d Cir. 1983).

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

KAAVOINC.,

Plaintiff,

v.

C.A. No. 14-353-LPS-CJB

AMAZON.COM INC. and AMAZON WEB
SERVICES, INC.,

Defendants.

ORDER

At Wilmington, this **18th** day of **June, 2018**:

For the reasons set forth in the Memorandum Opinion issued this date,

IT IS HEREBY ORDERED that:

1. Defendants' Renewed Motion for Summary Judgment of Infringement Under 35 U.S.C § 101 (D.I. 124) is **GRANTED**.

2. Plaintiffs Motion for Reconsideration of Plaintiff s Renewed Motion for the Court to Reconsider the March 31, 2016 Order in Light of Subsequently-Issued Authority (D.I. 131) is **DENIED**.

IT IS FURTHER ORDERED that the parties shall meet and confer and, no later than **June 22, 2018**, submit a joint status report providing the Court with their position(s) as to how this case should now proceed.

UNITED STATES DISTRICT JUDGE