IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

OASIS TOOLING, INC., Plaintiff, v. SIEMENS INDUSTRY SOFTWARE, INC., Defendant.	)	Civil Action No. 22-151-CJB
OASIS TOOLING, INC., Plaintiff, v. GLOBALFOUNDRIES U.S., INC., Defendant.	)	Civil Action No. 22-312-CJB

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MEMORANDUM OPINION

March 31, 2023
Wilmington, Delaware

Christopher J. Burke
BURKE, United States Magistrate Judge

Pending before the Court in these patent infringement cases are motions filed by Defendant Siemens Industry Software, Inc. ("Siemens") and Defendant GlobalFoundries U.S. Inc. ("GF" and collectively with Siemens, "Defendants"), pursuant to Federal Rule of Civil Procedure 12(b)(6) (the "Motions"). (Civil Action No. 22-151-CJB, D.I. 13; Civil Action No. 22-312-CJB, D.I. 14) With their Motions, Defendants argue that the patents asserted against them—United States Patent Nos. 7,685,545 (the "'545 patent") and 8,266,571 (the "'571 patent")—are directed to patent-ineligible subject matter pursuant to 35 U.S.C. § 101 ("Section 101"). Plaintiff Oasis Tooling, Inc. ("Oasis" or "Plaintiff") opposes the Motions. For the reasons that follow, the Court DENIES the Motions.

I. BACKGROUND

A. Factual Background

The two patents-in-suit, both titled "Methods and Devices for Independent Evaluation of Cell Integrity, Changes and Origin in Chip Design for Production Workflow," share a common specification.[1] The '545 patent issued on March 23, 2010 from U.S. Appl. No. 12/536,413,

[1] As such, the Court will cite below only to the '545 patent, unless otherwise noted.

which was filed on August 5, 2009. ('545 patent at 1)[2] The '571 patent issued on September 11, 2012 from U.S. Appl. No. 12/482,296, which was filed on June 10, 2009. ('571 patent at 1) The patents relate to systems and methods for the granular analysis of design data utilized to prepare chip designs for manufacturing and to identify similarities and differences among design data residing in files. ('545 patent, Abstract; *see also* D.I. 1 at ¶ 15)[3] The named inventors of the asserted patents include Thomas Grebinski, who founded Oasis in 2004. ('545 patent at 1; '571 patent at 1; D.I. 1 at ¶¶ 3, 13-14) Oasis develops software for the semiconductor and fabrication industry. (D.I. 1 at ¶ 10)

Designing a chip is an iterative process, and chip designs are broken into hundreds of thousands of pieces known as "cells" which are grouped into "blocks[.]" ('545 patent, cols. 1:39-40, 4:38-39) Chip designs are created using different design tools and can be written in different design languages. (*Id.*, col. 4:12-15) Designing and manufacturing chips is a complex and expensive process. (*See, e.g.*, *id.*, cols. 2:13-14, 3:64-4:4)

The "Background of the Invention" section of the asserted patents explains that cells and blocks proceed through the chip design process at different rates; this process begins with internal development of cells and release by a design template vendor; the process continues thereafter as the cell and block designs cycle through multiple revisions. ('545 patent, col. 1:44-47) Keeping track of the most recent version of cells and blocks in a chip design is difficult.

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[2] The patents-in-suit are attached as exhibits to the relevant Complaints. (Civil Action No. 22-151-CJB, D.I. 1, exs. 1-2; Civil Action No. 22-312-CJB, D.I. 1, exs. 1-2) Herein, the Court will cite to the patents by their patent number.

[3] For simplicity's sake, hereafter the Court will refer to the "D.I." number in Civil Action No. 22-151-CJB, unless otherwise indicated.

(*Id.*, col. 1:47-49) A design ready for release to production could involve as many as 40,000 unique cells. (*Id.*, col. 2:12-13)

When chip production starts, it is essential that the cells and blocks of the design are the correct version. (*Id.*, cols. 3:66-4:1) Indeed, using the incorrect version "can cost millions of dollars and months of delay[,]" and the potential for using an obsolete version of a cell is "everywhere[.]" (*Id.*, col. 4:1-4; *see also id.*, cols. 1:54-55, 2:12-15)

At the time of the inventions, existing design data management tools lacked an auditing capability that would allow project managers to verify that the cells in a chip design are of the latest approved version, or to determine whether a proposed design update would be usable in a design approaching the final "tapeout" process. (*Id.*, cols. 2:15-20, 4:22-31) In order to track and find changes in cell data in a file during the design of a circuit, a designer might have to manually analyze millions of lines of data, typically using a differencing tool.[4] (*Id.*, col. 2:22-26) However, the use of differencing tools had some drawbacks. These tools were not able to take into account differences in design language (e.g., whether different inputs are used in different languages that nevertheless mean the same thing), nor were they able to analyze whether certain changes were significant or had a functional impact on the chip being produced. (*Id.*, col. 2:25-32; *see also* Civil Action No. 22-312-CJB, D.I. 15 at 3) Accordingly, sometimes a design team would not discover an out-of-date file until the problematic design returned from manufacturing. ('545 patent, col. 1:57-59)

Another problem with then-existing chip-level design template management systems was that they could not effectively determine when parts of different chip designs included the same

[4] According to Defendants, running a differencing tool is akin to running a "redline" in a word processor. (Civil Action No. 22-312-CJB, D.I. 15 at 3)

cells. (*Id.*, col. 4:8-10, 18-21) For example, when a yield problem was discovered in a product that utilized a particular design template, it was difficult to determine what other projects used that same template. (*Id.*, col. 1:49-52)

In light of these problems, the patent specification highlights a need to develop new tools to analyze design data—and more specifically to enable "granular evaluation of design data at various junctures in the design work flow." (*Id.*, col. 2:63-65) Such tools may result in work flows and product designs that are improved, more error free, more transparent and more resilient. (*Id.*, col. 2:63-67)

The inventors of the asserted patents set out to provide tools and methods to allow for such granular analysis of design data and to enable the identification of meaningful similarities and differences in design data files. (*Id.*, col. 3:3-6) As is discussed more fully below, the "Summary/Overview" section of the patents' specification explains that the disclosed technology "relates to parsing data and organizing it into canonical forms,[5] digesting the canonical forms, and comparing digests of design data from different sources, such as chip-level designs and design template libraries." (*Id.*, col. 3:6-10) Organizing the data into canonical forms in the manner described in the patent reduces the sensitivity of the analysis to differences in the data that do not have a functional impact on the design. (*Id.*, col. 3:10-13)

Further relevant facts related to resolution of the Motions will be set out as needed in Section III.

B. Procedural Background

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[5] The specification notes that, as used in the claims, "canonical" means data that is "in a standardized format." ('545 patent, col. 75:15-16; *see also id.*, col. 75:46-47 (explaining that the claimed method includes "normalizing [] the design data within the cells into canonical forms")) So herein, the Court will use the terms "canonical" and "standardized" interchangeably.

Plaintiff filed its Complaint against Siemens on February 1, 2022 in Civil Action No. 22-151-CJB. (D.I. 1) Plaintiff accuses Siemens' Calibre Design Solutions suite of infringing at least claims 1 and 16 of the '571 patent, and at least claim 1 of the '545 patent. (*Id.* at ¶¶ 33, 49, 63, 71, 84)

Plaintiff filed its Complaint against GF on March 9, 2022 in Civil Action No. 22-312-CJB. (Civil Action No. 22-312-CJB, D.I. 1) Plaintiff accuses GF's DRC+ tool and its open process technology platforms of infringing at least claim 16 of the '571 patent, and at least claim 14 of the '545 patent. (*Id.* at ¶¶ 58, 82, 99, 107, 125)

Siemens filed its motion to dismiss on April 1, 2022, (D.I. 13), and briefing on the motion was completed on April 26, 2022, (D.I. 20). GF filed its motion on May 6, 2022, (Civil Action No. 22-312-CJB, D.I. 14), and briefing on the motion was completed on May 27, 2022, (Civil Action No. 22-312-CJB, D.I. 24). Thereafter, Plaintiff and Defendants submitted numerous notices of supplemental authority. (D.I. 37; D.I. 57; D.I. 60; D.I. 62; Civil Action No. 22-312-CJB, D.I. 31; D.I. 52; D.I. 56) The Court heard oral argument on the Motions on September 27, 2022. (D.I. 61; Civil Action No. 22-312-CJB, D.I. 53 (hereinafter, "Tr."))[6]

II. LEGAL STANDARD

The instant Rule 12(b)(6) Motion is premised on Defendants' assertion that the Complaints in these cases should be dismissed due to the applicability of an affirmative defense: that the patent claims-in-suit are directed to patent-ineligible subject matter pursuant to Section 101. The Court has often set out the relevant legal standards for review of such a Rule 12(b)(6)/Section 101 motion, including in *Genedics, LLC v. Meta Co.*, Civil Action No. 17-

[6] On May 11, 2022, the parties consented to the Court's jurisdiction to conduct all proceedings in these actions, including entry of a final judgment. (D.I. 26; Civil Action No. 22-312-CJB, D.I. 19)

1062-CJB, 2018 WL 3991474, at *2-5 (D. Del. Aug. 21, 2018). It hereby incorporates by reference its discussion in *Genedics* of these relevant legal standards and will follow this legal guidance in assessing the Motions. To the extent that other related legal principles are relevant to the Motions, the Court will discuss those below in Section III.

III. DISCUSSION

Motions advancing a Section 101 challenge at the pleading stage are often difficult and challenging to resolve. The instant Motions certainly fit that bill. Both sides here made strong and cogent arguments in favor of their positions.

The Court begins its analysis with a discussion of representative claims. In its briefing, Siemens asserted that claim 1 of the '571 patent is representative of all claims of both patents. (D.I. 14 at 2-3)[7] GF, meanwhile, asserted that claim 1 of the '545 patent is representative of all claims. (Civil Action No. 22-312-CJB, D.I. 15 at 4-5) For its part, Plaintiff vaguely disputed that claim 1 of either asserted patent is representative. But in its briefing, Plaintiff said little of substance about why this was so. (D.I. 18 at 18; Civil Action No. 22-312-CJB, D.I. 23 at 20; Tr. at 70-71 (Plaintiff's counsel noting that in its briefing, Plaintiff did not "discuss[] the representative[ness] issue, per se")) Then, during oral argument, Plaintiff focused most of its attention on claim 14 of the '545 patent. (Tr. at 65, 69-71) Hearing this, Defendants' counsel agreed that they would be "happy to refer to any of the claims" as there are "no meaningful distinction[s]" among them for purposes of the Motions. (*Id.* at 7, 107; *see also* Civil Action No. 22-312-CJB, D.I. 15 at 14)

[7] The parties addressed the arguments for eligibility of the '545 patent and the '571 patent together, since the two patents are part of the same patent family and share a common specification. And so herein, the Court will do the same.

In light of the above, the Court will assess the eligibility of claim 14 of the '545 patent (hereafter, "claim 14") below, treating it as representative of the other claims at issue. That is because doing so best aligns with all of the parties' views as to how best to address representativeness. Claim 14 recites:

> **14**. A device that evaluates similarities and/or differences between design data for circuits, the design data residing in at least two files stored in computer memory, the device including:
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> at least one processor and memory;
>
> a parser running on the processor, that parses a file containing design data representing aspects of a design for a physical circuit and creates one or more syntax trees in the memory;
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> normalizer logic running on the processor and cooperating with the parser that organizes the syntax trees to produce canonical forms, wherein the normalizer logic includes:
>
> a partitioning module that partitions the file into at least one header and, depending on rules of a design language used to encode the file, into multiple cells of design data and organizes the syntax trees to represent the header and cell partitions; and
>
> a canonical forming module that interprets the syntax trees to produce canonical forms of the design data, wherein the canonical forms reduce sensitivity of data analysis to non-functional variations in the design data;
>
> a digester module running on the processor that receives the canonical forms for at least selected partitions and calculates and stores in the memory at least one digest per selected partition;
>
> a comparer module running on the processor that receives and compares the digests of at least a first file and a second file, which contain design data; and
>
> a reporter module running on the processor and coupled to the digester that summarizes at least some of the matches and/or differences detected by the comparisons of digests.

('545 patent, cols. 85:40-86:14)

A. *Alice*'s Step One

The Court first assesses *Alice*'s step one, which asks whether the claim at issue is "directed to" an abstract idea.

What is an abstract idea? It can be (but is not necessarily limited to) a "preexisting, fundamental truth" that "exis[ts] in principle apart from any human action[,]" or it can be a "method of organizing human activity" (such as a "longstanding commercial practice"). *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 220 (2014) (internal quotation marks and citations omitted); *see also DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256-57 (Fed. Cir. 2014). A claim to an abstract idea has been described as one directed to a "'disembodied' concept . . . a basic building block of human ingenuity, untethered from any real-world application." *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1286 (Fed. Cir. 2013) (Lourie, J., concurring) (citation omitted). Beyond that, the "abstract ideas" category has not been crisply defined, *see Alice*, 573 U.S. at 221 (declining to "labor to delimit the precise contours of the 'abstract ideas' category"), and the Supreme Court of the United States and the United States Court of Appeals for the Federal Circuit have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases, *see Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016).

In their briefing, Defendants argued that the claims of the asserted patents are directed to the abstract idea of "comparing parsed and standardized data to evaluate their similarities and/or differences." (D.I. 14 at 7; Civil Action No. 22-312-CJB, D.I. 15 at 7; Tr. at 8) During oral argument, the Court observed that this articulation made it seem as if the claims are solely directed to the *comparison* of data. (Tr. at 44) That seemed not to align with the text of claim 14, which is not just about *comparing* data, but is also about, *inter alia*, the steps of actually

parsing and normalizing that data into a standardized format. (*See, e.g.*, '545 patent, col. 85:45-56) Defendants acknowledged this, and accordingly asserted that another way of articulating the abstract idea could be: "parsing, standardizing and comparing data for similarities and differences[.]" (Tr. at 45) They explained that framing the abstract idea in this way would make no difference to their Section 101 analysis. (*Id.* at 45-46) Therefore, in its step one analysis, the Court will consider "parsing, standardizing and comparing data for similarities and differences" to be the abstract idea at issue.

This brings us to the next question: Is "parsing, standardizing and comparing data for similarities and differences" in fact an abstract idea? The Court concludes that it is. Indeed, the Federal Circuit has said something similar in a number of cases. *See, e.g.*, *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1366 (Fed. Cir. 2018) (claims directed to "parsing and comparing data" were directed to an abstract idea); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (claims focused on "selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis" were directed to abstract ideas). Indeed, Plaintiff does not dispute this. (Tr. at 98; *see also id*. at 82 (Plaintiff's counsel acknowledging that "if all that the claims covered was just comparing two things and saying are they the same, then we would have a big [eligibility] problem"))

With that decided, then a further question is: Is claim 14 actually *directed to* the abstract idea at issue? In asserting that it is, Defendants contend that the claim uses a computer to automate what would otherwise be a manual process of analyzing certain information, and that the end result is simply the generation of "more information[.]" (Civil Action No. 22-312-CJB,

D.I. 15 at 10; Tr. at 17-21)[8] Defendants also assert that the steps of the claims utilize "only generic computer components" and recite "generic computer functions" for carrying out the claimed steps, and thus fail to recite any particular improvement in computer technology. (Civil Action No. 22-312-CJB, D.I. 15 at 12-13)

Plaintiff, meanwhile, argues that claim 14 is not directed only to the abstract idea at issue. In its briefing, Plaintiff asserted that the abstract idea amounted to an oversimplification of the claim, which glossed over three key claim elements: "[(1)] partitioning and parsing designs using specific data structures, [(2)] converting the designs into canonical forms that wash out non-functional differences between cells, and [(3)] generating a digest for each cell that is compact and easily analyzed but corresponds to the canonical form for a cell." (D.I. 18 at 10) During oral argument, Plaintiff focused especially on elements 2 and 3 referenced above. In doing so, it asserted that claim 14 creates something "new and better" that improves computer functionality: a "canonical form digest" that "allows for more efficient comparison with fewer false negatives in the comparisons." (Tr. at 66; *see also id.* at 72, 78, 86)

This step one question is not free from doubt. Both sides have something to work with.

On the one hand, there is evidence to support Defendants' position that claim 14 should be characterized as simply being directed to "parsing, standardizing and comparing data for similarities and differences." In part, this is shown by simply looking to the steps of the claim. Those steps tell us that the device at issue includes: (1) a data processor and memory; (2) a parser that parses a file containing design data and that creates one or more syntax trees in the

[8] On this point, Defendants argued that the claims do not actually require that the claimed methods and devices must be used to create improved computer chips; instead, they assert that the claims are "ultimately [about] presenting a summary of that [information], which can be in human readable format [or] in a data file [or] [i]t can be thrown in the trash, frankly." (Tr. at 9; *see also id*. at 21)

memory; (3) normalizer logic that organizes the syntax trees to produce canonical forms (i.e., "standardizing" the data) and that reduces sensitivity of data analysis to non-functional variations in the data; (4) a digester module that receives the canonical forms and calculates and stores at least one digest per selected partition; (5) a comparer module that receives and compares the digests of files containing design data; and (6) a reporter module that summarizes similarities and differences. In sum, a good portion of claim 14's text—and of what one could say the claim is about—relates, at a fairly high level, to parsing design data, standardizing certain of that data, and comparing the data to ascertain similarities and differences.

Certain portions of the specification[9] can also be read to support Defendants' position. (*See id.* at 20) The title of the patents is very broad and general ("Methods and Devices for Independent Evaluation of Cell Integrity, Changes and Origin in Chip Design for Production Workflow"). ('545 patent, Title) This tells us nothing much more than the patent is about evaluating cell integrity, cell changes and cell origin. Moving to the patent's Abstract, it advises that the disclosed invention "relates to granular analysis of design data . . . and to identification of similarities and differences among parts of design data files." (*Id.*, Abstract) More specifically, the Abstract continues, the invention "relates to *parsing* data and *organizing [it] into canonical forms* [i.e., standardizing the data], digesting the canonical forms, and *comparing*

[9] In order to determine what a patent claim is really "directed to" at step one, the Federal Circuit has encouraged district courts to consider the content of the patent's specification. *Cf. Enfish*, 822 F.3d at 1337 (indicating that it is appropriate to look to the specification to determine whether a claim of the patent is "directed to" a particular concept, and that if a claim contains a particular element that is described by the patent's specification as what the "present invention comprises[,]" this suggests that the claim may be directed to that element or concept) (internal quotation marks and citation omitted); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015) (same, and noting that if a concept is described in the patent as being "the innovation over the prior art" or the "essential, most important aspect" of the patented invention, that suggests that the claim is directed to that concept) (internal quotation marks and citation omitted).

digests of design data from different sources[.]" (*Id.* (emphasis added)) It also notes that "[o]rganizing the design data into canonical forms generally reduces the sensitivity of data analysis to variations in data that have no functional impact on the design." (*Id.*) The "Background of the Invention" section begins by reiterating this summary of the invention, (*id.*, col. 1:19-28), and the "Summary/Overview" section of the specification also describes the invention in a similar way, (*id.*, col. 3:3-13). And lastly, the specification goes on to describe the "[c]ommon [t]heme" of the disclosed applications as "evaluat[ing] similarities and/or differences between design data for circuits" in multiple files. (*Id.*, col. 69:16-20)

In other words, in various places, the specification characterizes the invention as being in significant part about getting design data ready for comparison (by parsing it and standardizing it), and then later comparing that data. In that sense, then, Defendants do not seem wildly off base in suggesting that claim 14 is simply directed to "parsing, standardizing and comparing data for similarities and differences."[10]

On the other hand, Plaintiff can point to evidence indicating that claim 14 is directed to something narrower or more specific than the abstract idea at issue. Here, the Court is referring to the portions of claim 14 requiring that: (1) the canonical forms created by the claimed device

[10] Another clue that the claim could be directed to an abstract idea is that, as Defendants note, the patent seems to be addressing what in part was a "human problem." That is, the patent indicates that it seeks to better address the difficulties stemming from a prior art approach used by designers; these designers had been required to engage in a "manual analysis" of millions of lines of design data to locate cell changes within a file, as conventional tools were unable to analyze whether any such changes had a functional impact on the chip being produced. (Civil Action No. 22-312-CJB, D.I. 15 at 10 (emphasis omitted) (citing '545 patent, col. 2:23-27); Civil Action No. 22-312-CJB, D.I. 24 at 4; Tr. at 20); *see also, e.g.*, *eBuddy Techs. B.V. v. LinkedIn Corp.*, Civil Action No. 20-1501-RGA-CJB, 2021 WL 7209517, at *6 (D. Del. Nov. 29, 2021) (explaining that where a patent describes how its claims are focused on seeking to automate a manual methodology in order to conserve resources and minimize errors, this only tends to "underscore[] that the claims are really directed to the well-known, longstanding abstract idea itself").

"reduce sensitivity of data analysis to non-functional variations in the design data"; and that (2) the device will utilize "digests" to represent these canonical forms in the comparison process. (*Id.*, col. 86:1-10) As noted above, the patentee also highlighted these aspects of the claimed invention in the Abstract and otherwise in the specification. (*Id.*, Abstract) And so these concepts appear to be important parts of the invention too. (Tr. at 73-75, 84-85; *see also id.* at 22-23)

In this regard, the specification explains that canonical cell digests "are outputs of a new tool that will be useful in the" chip design process, and that canonical digest tools can "distinguish between trivial changes . . . and major changes" in cells. ('545 patent, col. 5:41-43, 46-49) The patent further explains that "[c]omparison of canonical digests is a powerful tool that allows a user to understand small differences between design elements in large files." (*Id.*, col. 6:17-19) This is because design files "can be enormous" with "[t]housands or hundreds of thousands of cells (or more, with large memories, for instance) [] contained in the [] file[s]" such that "[w]ith this much data, false alarms are a real problem." (*Id*., col. 6:19-23) The patent thus advises that one use of canonical cell digests is to "identify and allow filtering of detected changes based on their functional significance and, sometimes, their source in the design process." (*Id*., col. 6:23-26)

Defendants acknowledge that their articulation of the abstract idea does not expressly capture at least the notion of *digesting* the standardized data.[11] Defendants attempted to explain

[11] During oral argument, Defendants' counsel provided examples of how digesting data like this might work: "So you are taking a chunk of data, and you are assigning it, it might be a number. It might be a name. It's some shortened thing that will make it easier for you to later compare that [chunk of data] to some other thing and see if it is the same thing. . . . [I]t could be as simple as [assigning the data] a hash function." (Tr. at 12-13; *see also id*. at 78 (Plaintiff's counsel noting that an example of digesting in the patent is to use a hash function that takes a "canonical form and put[s] it in a much more compact, single numerical string")) Indeed,

this away by asserting that digesting is "fairly attendant" to standardizing the data—i.e., that condensing the standardized data into digests for comparison purposes is "part of the organization for comparison that the standardization process all leads to[.]" (Tr. at 46-48) But it seems clear to the Court that digesting design data is not inherently part of the abstract idea. After chip design data is standardized, one would not *necessarily* need to condense that data into digests in order to facilitate a comparison between the data. Instead, a chip designer could theoretically compare all of the relevant standardized data (though this might be unwieldy to do) or use methods other than digesting (i.e., using a differencing tool) in order to facilitate a comparison.[12] Additionally—and importantly—Defendants' articulation of the abstract idea does not include the concept of "reduc[ing] sensitivity of data analysis to non-functional variations in the design data[.]"

In the end, then, the step one question presents a tough call. Therefore, the Court will analyze whether claim 14 amounts to an improvement to computer technology (or otherwise contains an inventive concept) at step two. *Cf. Enfish*, 822 F.3d at 1339 (noting that there may sometimes be "close calls" about how to characterize what a claim is directed to at *Alice* step one, and in such scenarios, an analysis of whether the claims contain "arguably concrete improvements in the recited computer technology could take place" at step two).

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the patents explain that a variety of hash functions can be used to create the digests referred to in the claims. ('545 patent, col. 6:8-9; *see also* D.I. 18 at 7)

[12] Defendants also argued that the Federal Circuit has found the concept of "digesting" data to itself be an abstract idea. (Civil Action No. 22-312-CJB, D.I. 15 at 13, 17); *see, e.g.*, *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1313, 1316-18 (Fed. Cir. 2021) (finding ineligible claims directed to receiving a request containing a content-based identifier for a data item, comparing the identifier to a plurality of values, and granting or disallowing access to the data item based on the comparison). The Court will address this argument further at step two, below.

B. *Alice*'s Step Two

Step two of the *Alice* framework requires a court to assess "[w]hat else is there in the claims"; a court does so by considering "the elements of each claim 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*, 573 U.S. at 217 (internal quotation marks and citation omitted). The Supreme Court describes step two as 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." *Id.* at 217-18 (internal quotation marks and citation omitted); *see also Berkheimer*, 881 F.3d at 1367. The purpose of the "inventive concept" requirement is to "ensure that the claim is more than a drafting effort designed to monopolize the abstract idea." *Alice*, 573 U.S. at 221 (internal quotation marks, citation, and brackets omitted). With regard to computer-related claims, the Supreme Court has noted that if a patentee argues that an aspect of the claim amounts to an inventive concept—but that aspect simply amounts to the use of "computer implementation" that is "purely conventional[,]" or to invoking "the most basic functions of a computer"—then this add will not serve to render the claim patent eligible. *Id.* at 222, 225.[13]

In exploring the step two question, the Court is mindful that although a determination of patent eligibility is ultimately an issue of law, the determination may involve "disputes over

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[13] For example, simply stating an abstract idea and then adding the words "apply it with a computer" (or the equivalent thereof) will not transform an abstract idea into a patent-eligible invention. *Alice*, 573 U.S. at 223 (internal quotation marks omitted). The additional elements within the claim, apart from the abstract idea itself, must involve more than "'well-understood, routine, conventional activit[ies]' previously known to the industry." *Id.* at 225 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012)); *see also Mayo*, 566 U.S. at 82 ("[S]imply appending conventional steps, specified at a high level of generality, to . . . abstract ideas cannot make those . . . ideas patentable.").

underlying facts[.]" *Berkheimer*, 881 F.3d at 1368. One such factual issue is "[w]hether [a claim element or claimed combination] is well-understood, routine, and conventional to a skilled artisan at the time of the patent[.]" *Id.* at 1369.[14]

Having set out the law with respect to step two, the Court now asks: What else is there in claim 14, apart from the abstract idea of parsing, standardizing and comparing data for similarities and differences? As noted above, Plaintiff has focused particularly on two such additional claim components: (1) the creation of a canonical form that reduces sensitivity of data analysis to non-functional variations in the data; and (2) digesting of the canonical forms so that the digests are used in the comparison process. (D.I. 18 at 15; Civil Action No. 22-312-CJB, D.I. 23 at 13; Tr. at 72, 76-78)[15] Plaintiff argues that the combination of these limitations provides specific improvements to computer functionality as compared to conventional approaches to comparing chip design data. (D.I. 18 at 15-17; Tr. at 83-84, 87) According to Plaintiff, the claimed canonical form would identify functional aspects of the data, so that compared data with non-functional differences would be recognized as being the same. (D.I. 18 at 7) And then the

[14] Alleged improvements to the prior art described in a patent's specification and "captured in the claims" can "create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities"—thus precluding either summary judgment, *Berkheimer*, 881 F.3d at 1369-70, or dismissal at the Rule 12 stage, *see BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Content that creates this type of fact dispute might also be found in a plaintiff's complaint, so long as the complaint's allegations are not "wholly divorced from the claims or the specification[.]" *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1317 (Fed. Cir. 2019) (citation omitted). Put differently, "[a]s long as what makes the claims inventive is recited by the claims, the specification need not expressly list all the reasons why this claimed structure is unconventional." *Id*.

[15] Although herein the Court is analyzing claim 14 of the '545 patent, claim 1 of the '545 patent and claim 1 of the '571 patent also include these requirements. ('545 patent, cols. 81:63-82:13; '571 patent, col. 81:52-62; Tr. at 71)

digests would be used to quickly identify similarities in that data (even if, for example, the cells were originally expressed in different languages). (*Id.* at 7-8)

The specification suggests that these aspects of the claims might, taken together, amount to an inventive concept. The patent tells us that conventional approaches to evaluating cell data (namely, the use of a differencing tool) would subtract differences between files "without analysis of whether the changes have a functional impact on the chip being produced or whether they are significant." ('545 patent, col. 2:22-34; *see also id.*, col. 69:44-46 ("[D]ifferencing tools are designed to flag changes, rather than evaluate the significance of changes."); *id.*, col. 4:5-21) However, the claimed device "can distinguish between trivial changes . . . and major changes[,]" such that it contains "a powerful tool that allows a user to understand small differences between design elements in large files." (*Id.*, cols. 5:46-48, 6:17-19) Indeed, while "false alarms" were a "real problem" when designers used conventional techniques to compare huge amounts of design data, the use of the claimed invention curbed that problem. (*Id.*, col. 6:19-26; *see also* Tr. at 86 (Plaintiff's counsel explaining that a key to claim 14 from an eligibility perspective is that it "allows for a meaningful comparison between data that comes from different sources for circuit design . . . without getting a lot of false negatives"))[16] Additionally, the patent notes that while differencing tools required a pair of files to be present at the time of analysis, the invention's use of canonical digests in the comparison process allows data to "be compared without having either file present." ('545 patent, col. 12:12-16; *see also id.*, col. 2:37-44) These above-referenced aspects of the invention are said to help save money and time in the design process

[16] Similarly, Plaintiff's Complaint also alleges that conventional tools were unable to "identify cells that were functionally the same but described differently in design files[.]" (D.I. 1 at ¶ 17; *see also id.* at ¶¶ 20-21) The claimed invention, meanwhile, allows for such analysis. (*Id.* at ¶¶ 18-19, 21)

for project managers, (*id.*, cols. 3:66-4:4; 6:16-26), allowing the production of "[b]etter, more error free, more resilient and transparent work flows and resulting product designs[,]" (*id.*, col. 2:65-67).

In sum, the specification describes these key claim limitations as inventive features, which allow for comparison of design data in a purportedly unconventional manner. Therefore, it appears that these purportedly unconventional aspects of claim 14 could make a difference in the Section 101 analysis. *See Berkheimer*, 881 F.3d at 1370; *see also Coop. Ent. Inc. v. Kollective Tech., Inc.*, 50 F.4th 127, 131 (Fed. Cir. 2022) ("Claim 1 contains several alleged inventive concepts which the specification touts as specific improvements in the distribution of data compared to the prior art. The amended complaint plausibly alleges these inventive concepts, and this should have defeated Kollective's Rule 12(b)(6) motion in this case.").

The Court's conclusion here is bolstered by the fact that the eligibility analysis is driven by "the concern . . . of pre-emption." *Alice*, 573 U.S. at 216. The preemption analysis, in turn, compels a court to assess whether the claims at issue "attempt to preempt every application [or at least a great many applications]" of the abstract idea at issue. *DDR Holdings, LLC*, 773 F.3d at 1259. Here, the presence of the above-referenced limitations in claim 14 (as well as other specificity recited in the claim, such as the creation of a syntax tree and the partitioning of the files in a particular way) could help demonstrate that claim 14 walls off only a narrow subset of all inventions that parse, standardize and compare design data for similarities and differences. (D.I. 18 at 16-17) Thus, expert testimony about the scope of any such preemption seems like it could be critical to a final assessment of eligibility.

This all counsels in favor of denial of the Motions at *Alice*'s step two. The Court recognizes, however, that Defendants made a number of arguments to the contrary. It will discuss these arguments below, explaining why they did not win the day.

First, Defendants assert that claim 14 is most analogous to claims found patent ineligible in *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018). (D.I. 14 at 15-18; D.I. 20 at 1-4; Tr. at 24-25) The Court agrees that *Berkheimer* is a key and important case as to resolution of the instant Motions. But a close look at the claims at issue in *Berkheimer* actually supports Plaintiff's position, not Defendants' position. (*See* D.I. 18 at 20; Tr. at 76, 92-94; Plaintiff's Hearing Presentation, Slide 27)

In *Berkheimer*, the district court granted summary judgment that claims 1-7 and claim 9 of the asserted patent were patent ineligible under Section 101. *Berkheimer*, 881 F.3d at 1362. Independent claim 1 recited a method of archiving an item in a computer processing system, which included: (1) presenting the item to a parser; (2) parsing the item into multi-part object structures with searchable information tags; (3) evaluating the object structures in accordance with object structures previously stored in an archive; and (4) presenting an evaluated object structure for manual reconciliation where there is a variance between the object and at least one of a predetermined standard and a user defined rule. *Id.* at 1366.[17]

At *Alice*'s step one, the Federal Circuit held that claims 1-3 and 9 were directed to the abstract idea of "parsing and comparing data[;]" dependent claim 4 was directed to the abstract idea of "parsing, comparing, and storing data[;]" and dependent claims 5-7 were directed to the abstract idea of "parsing, comparing, storing, and editing data." *Id.* In doing so, the Court

[17] Dependent claim 3 recited, before the parsing step, "converting an input item to a *standardized format* for input to the parser." (D.I. 15, ex. C, col. 47:25-27 (emphasis added))

rejected the plaintiff's argument that the "parsing" limitation, by transforming data from source code to object code, rendered the claims patent eligible. *Id.* at 1367. The Court explained that there was no evidence that such a transformation improved the functionality of the computer in some way. *Id.*

At step two, the plaintiff argued that the claimed combination improved computer functionality by eliminating redundancy in archived items and by implementing a "one-to-many editing feature"—such that the claims included inventive concepts. *Id.* at 1369. The *Berkheimer* Court then considered the specification, which explained that conventional digital asset management systems included many documents "containing multiple instances of redundant document elements[,]" which resulted in "inefficiencies and increased costs." *Id.* (internal quotation marks and citation omitted). The specification further noted:

> By eliminating redundancy in the archive 14, system operating efficiency will be improved, storage costs will be reduced and a one-to-many editing process can be implemented wherein a singular linked object, common to many documents or files, can be edited once and have the consequence of the editing process propagate through all of the linked documents and files. The one-to-many editing capability substantially reduces effort needed to up-date files which represent packages or packaging manuals or the like as would be understood by those of skill in the art.

Id. (internal quotation marks and citation omitted). In these passages, then, the specification highlighted inventive features that stored parsed data in an unconventional manner—by eliminating redundancy, improving efficiency, reducing storage requirements and enabling a single edit to propagate to all linked documents. *Id.* The Federal Circuit explained that if these recited improvements were actually captured in the claims, then a factual dispute would exist as to whether the invention describes well-understood, routine and conventional activities. *Id.*

Claim 1 did not meet this test. Its limitations did not incorporate the elimination of redundancy of stored object structures, nor the concept of effecting a one-to-many editing change of linked documents. *Id*. Indeed, the claim did not even require the storage of data after it had been presented for reconciliation. *Id.* Instead, claim 1 simply recited a method of "parsing data, analyzing and comparing the data to previously stored data, and presenting the data for reconciliation when there is a variance." *Id*. It was undisputed that parsers had existed prior to the asserted patent, and the parsing limitation—combined with the limitations requiring the analysis and comparison of data, and reconciliating differences between the data—amounted to no more than performing the abstract idea with conventional computer components. Thus, claim 1 (as well as certain other similar dependent claims) were deemed ineligible. *Id.* at 1370.

Claims 4-7 were different, as they contained limitations directed to the purportedly unconventional concepts highlighted in the specification. In that regard, Claim 4 recited, in addition to the limitations of claim 1, "storing a reconciled object in the archive without substantial redundancy." *Id*. And claims 5-7 further recited the one-to-many editing feature. *Id*. Because claims 4-7 recited a "specific method" of archiving that, "according to the specification, provides benefits that improve computer functionality[,]" the *Berkheimer* Court found there to be a genuine issue of material fact as to whether the claims archive documents in an inventive manner. *Id*. Thus, granting summary judgment as to these claims was improper. *Id.*

In the Court's view, claim 14 of the '545 patent is more similar to claims 4-7 in *Berkheimer* than it is to *Berkheimer*'s ineligible claims. In *Berkheimer*, the only differences between ineligible claim 1 and claims 4-7 were the requirements that a reconciled object structure *be stored in the archive without substantial redundancy* or that selective editing be performed *that would effect a one-to-many change in linked documents*—requirements that the

specification touted as an improvement upon the prior art. *Id.* at 1369 (noting that claim 1 "does not recite any of the purportedly unconventional activities disclosed in the specification"); *see also* (Tr. at 92-94). Similarly, here claim 14 requires the creation of a canonical form that reduces sensitivity of data analysis to non-functional differences in the design data, and that then uses digests in the process of comparing data for similarities and differences. And just like in *Berkheimer*, here the '545 patent's specification states that these features were unconventional and promoted benefits over prior art solutions—such as increased efficiency, reduction of costs and "much fewer false negatives[.]" (Tr. at 66, 85, 93-94)

Defendants push back on this conclusion about *Berkheimer*'s applicability. In part, they do so by criticizing claim 14 for failing to elaborate further upon *how* the canonical forming module reduces sensitivity of data analysis to non-functional variations. (Civil Action No. 22-312-CJB, D.I. 24 at 3; Tr. at 15) And Defendants are correct; the claim does not appear to further explain how the device's canonical form production process makes this happen. That said, while *Berkheimer*'s claim 4 required that an object structure must be stored in an archive "without substantial redundancy[,]" 881 F.3d at 1370, that claim also did not further explain *how* this storage process was to be accomplished. *Berkheimer's* claims 5-7 were little different. While they required that object structures must be selectively edited so that they were linked to other structures, the claims did not further set out *how* that editing or linkage happened. *Id*. Yet none of this impacted the result in *Berkheimer*. (*See* Tr. at 76-77, 92-93) In other words, the (somewhat limited) amount of specificity in *Berkheimer*'s claims 4-7 regarding the manner of storage of the data or the manner of editing the data was still enough to potentially transform the claims into something other than a claim to an abstract idea. No *additional* level of "how" was needed.

Defendants additionally argue that claims 4-7 in *Berkheimer* are different than claim 14 because the former "added physical-realm utility" (by which they mean that *Berkheimer* claims 4-7 were about "'improving the computer technology'" or "improving the processing of . . . a physical object, the computer"), while claim 14 does not. (D.I. 14 at 17 n.9; D.I. 20 at 5-6; Tr. at 31-35; *see also* Civil Action No. 22-312-CJB, D.I. 24 at 6-7) But it is simply not clear to the Court how the surviving claims in *Berkheimer* were about "improving the computer technology" in a way that is all that dissimilar to what claim 14 accomplishes. Put differently, Defendants have not sufficiently explained why, for example, *Berkheimer* claim 4's use of a computer to store a data object in a particular way is significantly different, for eligibility purposes, than claim 14's use of a computer to assess whether differences in data amount to functional or non-functional variations.

Second, Defendants argue that the claim's use of digests to compare the data cannot save it, because digesting itself is an abstract idea that does "not improve how a computer operates[,]" and because existing standards are utilized in order to create the digests. (D.I. 14 at 14; Tr. at 46; Defendants' Hearing Presentation, Slide 38) To that end, the specification notes that "[a] variety of hash functions can be used to create the digests, such as CRC, MD5 and others." ('545 patent, col. 6:8-9) And it is true that in cases like *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310 (Fed. Cir. 2021), the Federal Circuit has held that using a content-based identifier generated from a hash or message digest function amounts to the use of an abstract idea. *PersonalWeb*, 8 F.4th at 1316. However, claim 14 is not *just* about digesting data *per se*. Instead, the claim utilizes the digest to provide an identifier to match all of the different ways of expressing a *functionally-similar* cell design—something that the prior art differencing tools could not accomplish. (Tr. at 78, 110; Plaintiff's Hearing Presentation, Slide 19) In other words, it seems

that the claim applies the concept of a digest to an improved way of comparing design data—in a manner that amounts to something more than just the abstract idea of parsing, standardizing and comparing (digested) data for similarities and differences**.** So at least at this stage of the case, the specification seems to belie the notion that the digests, in combination with other claimed steps, could not sufficiently improve how the computer operates.

Third, Defendants argue that the claims lack an inventive concept, since they "merely use generic computer components and functions." (Civil Action No. 22-312-CJB, D.I. 24 at 8; *see also* Civil Action No. 22-312-CJB, D.I. 15 at 17-18; Defendants' Hearing Presentation, Slide 24; Tr. at 55-56) However, the use of "any computer functionality does not, by itself, preclude the existence of an inventive concept." *ART+COM Innovationpool GmbH v. Google Inc.*, 183 F. Supp. 3d 552, 560 (D. Del. 2016). If a claim describes a "*specific procedure* that is done by a computer" that "overcom[es] a problem which plagued prior art systems"—instead of describing merely "what a computer does"—then that is a good sign that the claim recites an inventive concept. *Id.* (emphasis added). Claim 14 does not recite merely parsing data, standardizing it and comparing it (using conventional computer components). Instead, it recites a *particular procedure* for doing so. (D.I. 18 at 17-18) This suggests that, at this stage, there is at least a factual question as to whether the claim contains an inventive concept.

For the reasons set out above, the Motions must be denied at step two.

IV. CONCLUSION

For the foregoing reasons, the Court DENIES Defendants' Motions.

An appropriate Order will issue.