ABSTRACT

Under *Alice Corp. Pty. v. CLS Bank International*, when a claim is found directed to a patent-ineligible subject matter, the claim is still patent-eligible if it includes an inventive concept. The Federal Circuit’s case law has indicated that an alleged inventive concept with unconventionality may satisfy step two of the *Alice* standard. Specifically, this paper demonstrates that the case law suggests a way to prove such unconventionality. That is, a patent specification or a patentee’s complaint must include four topics: (1) prior art technology; (2) how a system executing the claimed invention performs differently from the prior art technology; (3) the benefits derived from the claimed unconventional system; and (4) a specific feature operating differently from the prior art technology. With these factual statements, a patent may survive a patent-ineligibility challenge in a motion to dismiss.

Keywords: Patent-eligibility, 35 U.S.C. § 101, inventive concept, unconventional, non-conventional

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I. INTRODUCTION

A patentable invention under 35 U.S.C. § 101 requires the invention to fall within any category of a “process, machine, manufacture, or composition of matter, or any new and useful improvement thereof[].”1 The Supreme Court has held that § 101 “contains an important implicit exception [that] ‘[l]aws of nature, natural phenomena, and abstract ideas’ are not patentable.”2

In 2014, the Supreme Court in Alice Corp. Pty. v. CLS Bank International finalized a two-part inquiry for determining whether a claim is patent-eligible under § 101.3 The first step asks “whether the claims at issue are directed to one of those patent-ineligible concepts.”4 The second step “consider[s] 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.”5

Step two of the Alice standard specifically searches 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.’”6 While “[p]atent eligibility under 35 U.S.C. § 101 is an issue of law[,]”7 the step two analysis “may contain disputes over underlying facts.”8 For example, step two “is satisfied when the claim limitations involve more than performance of well-understood, routine, and conventional activities previously known to the industry.”9 But,

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4 Alice Corp. Pty., 573 U.S. at 217. For computer-implemented inventions, step one may focus on whether a claim recites an improvement in computer functionality. See Finjan, Inc. v. Blue Coat Sys., Inc., 879 F.3d 1299, 1304–06 (Fed. Cir. 2018) (“The question, then, is whether this behavior-based virus scan in the ’844 patent constitutes an improvement in computer functionality. We think it does.”).
5 Alice Corp. Pty., 573 U.S. at 217.
6 Id. at 217–18 (emphasis and alteration in original).
7 OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1362 (Fed. Cir. 2015).
8 Berkheimer v. HP Inc., 881 F.3d 1360, 1368 (Fed. Cir. 2018).
9 Berkheimer, 881 F.3d at 1367 (internal quotation marks omitted and alteration in original); see also BSG Tech LLC v. Buyseasons, Inc., 899 F.3d 1281, 1290–91 (Fed. Cir. 2018) (“If a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed
“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.”

Before Alice Corp. Pty., it was not required to specifically show any inventive concept of the claimed invention to pass the patent-eligibility test. The machine-or-transformation test (“MOT”) guided practitioners to carefully draft a process claim that avoids finding of patent-ineligibility. The MOT is a two-part inquiry. First, “an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” Second, “the involvement of the machine or transformation in the claimed process must not merely be an insignificant extra-solution activity.” For example, a claim with a patent-ineligible process may become patent-eligible if it recites a structure in a form of claim limitations that can perform the functions of the structure, while the claim limitations should not comprise of language merely repeating an intended use of the claimed process nor amounting to extra-solution activity.

After Alice Corp. Pty., even a system claim may not survive a patent-ineligibility challenge. The Alice standard creates an inventor-unfriendly standard for determining what an inventive concept is. Professor Andres Sawicki has criticized that “the ‘inventive concept’ demands that the inventor point to something unusual or

References:
10. Berkheimer, 881 F.3d at 1368. Contrarily, “[t]he analysis under Alice step one is whether the claims as a whole are ‘directed to’ an abstract idea, regardless of whether the prior art demonstrates that the idea or other aspects of the claimed invention are known, unknown, conventional, unconventional, routine, or not routine.” CardioNet, L.L.C. v. InfoBionics, Inc., 955 F.3d 1358, 1372 (Fed. Cir. 2020).


13. See In re Bilski, 545 F.3d 943, 961 (Fed. Cir. 2008).

14. Id.

15. Id. at 962; see also Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1311 (Fed. Cir. 2016) (Reyna, J., dissenting) (“[E]xtra-solution activity, by definition, describes activity unrelated to how the solution is achieved.”).


surprising in her application of the prohibited subject matter.” 19 Unfortunately, the need to present any unusual or surprising feature is urged during the early stage of patent litigation, because an issue of patent-ineligibility can be brought in a motion to dismiss under Federal Rule of Civil Procedure (“Rule”) 12(b)(6). 20 A patentee is often forbidden from going through claim construction to define the claimed invention. 21

In Cellspin Soft, Inc. v. Fitbit, Inc., 22 the Federal Circuit vacated the district court’s motion to dismiss because the district court failed to acknowledge the patentee’s factual allegations in the complaint concerning the patent-eligibility issue of the disputed claims. 23 The district court required the patentee to cite the specification to support that the claimed inventive concept was unconventional, but the Federal Circuit considered the district court’s approach as misreading its case law. 24 The Federal Circuit restated that a district court must take allegations in the complaint as true. 25 Eventually, the Federal Circuit concluded that the patentee “made specific, plausible factual allegations about why aspects of its claimed inventions were not conventional” 26 and held that the disputed claims included an inventive concept. 27

The question arising from Cellspin Soft, Inc. is how to successfully allege that the claim has unconventionality to survive a motion to dismiss. In fact, the Federal Circuit’s case law may have shown that unconventionality of an invention may be a key for such an invention to survive a patent-ineligibility challenge under step two. 28

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19 Id. at 667.
20 See Genetic Techs. Ltd. v. Merial L.L.C., 818 F.3d 1369, 1373 (Fed. Cir. 2016) (“We have repeatedly recognized that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion.”); see also Rebecca Lindhorst, Note, Two-Stepping Through Alice’s Wasteland of Patent-Eligible Subject Matter: Why the Supreme Court Should Replace the Mayo/Alice Test, 69 CASE W. RES. L. REV. 731, 752 (2019) (discussing determination of patent-eligibility on a motion to dismiss); Robert Daniel Garza, Software Patents and Pretrial Dismissal Based on Ineligibility, 24 RTC. J.L. & TECH. 1, 56–63 (2018) (discussing patent-ineligibility-based dismissals under Rule 12(b)(6) & Rule 12(c)).
21 See, e.g., Genetic Techs. Ltd., 818 F.3d at 1374 (“In many cases, too, evaluation of a patent claim’s subject matter eligibility under § 101 can proceed even before a formal claim construction.”); Content Extraction & Transmission L.L.C. v. Wells Fargo Bank, Nat. Ass’n, 776 F.3d 1343, 1349 (Fed. Cir. 2014) (“Although the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter, claim construction is not an inviolable prerequisite to a validity determination under § 101.”); cf. Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.), 687 F.3d 1266, 1273–74 (Fed. Cir. 2012) (“[I]t will ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter.”); CG Tech. Dev., L.L.C. v. William Hill U.S. Holdco, Inc., 404 F. Supp. 3d 842, 851 (D. Del. 2019) (“Therefore, I will not complete the § 101 analysis until I construe ‘reliability information.’ Defendants’ motion to dismiss based on § 101 is denied.”); RideApp, Inc. v. Lyft, Inc., No. 18-CV-07152-JST, 2019 WL 7834759, at *2 (N.D. Cal. Aug. 15, 2019) (“The Court will defer ruling on § 101 patent eligibility until after it has construed the claims, including determining whether any of the claims are indefinite.”).
26 Id. (emphasis added).
27 Id. at 1318.
Therefore, this article explores a line of cases where the Federal Circuit’s patent-eligibility determination depends on whether the alleged inventive concept was unconventional. Particularly, this article attempts to determine whether this unconventional approach to patent-eligibility is a stable methodology and whether the Federal Circuit has established a bright line between patent-eligible and patent-ineligible subject matters for Internet-implemented inventions. Next, Part II discusses the review standard of a patent-ineligibility issue in a motion to dismiss. Part III analyzes a series of cases where the Federal Circuit looked for the unconventional nature of a claimed invention when determining whether the claimed invention contains an inventive concept. Finally, Part IV illustrates the nature of the Federal Circuit’s unconventional approach.

II. RULE 12(B)(6) AND PATENT-INELIGIBILITY ISSUE

Rule 8(a)(2) requires a plaintiff’s complaint to contain “a short and plain statement of the claim showing that the pleader is entitled to relief.” On the other hand, Rule 12(b)(6) allows a defendant to assert by motion a defense based on a plaintiff’s “failure to state a claim upon which relief can be granted.” If a Rule 12(b)(6) motion is granted, a complaint will be dismissed. But, a court may grant a plaintiff’s motion for leave to amend, so the plaintiff can provide sufficient factual allegations in a new complaint to survive another Rule 12(b)(6) motion.

In considering whether to grant a motion to dismiss under Rule 12(b)(6), courts accept “as true the complaint’s factual allegations and construe[e] them in the light most favorable to the plaintiff.” But, the district court in Cellspin Soft, Inc. deviated from that standard by requiring a patentee to cite the specification to support factual allegations.

U.S. Patent Nos. 8,738,794 (”794 Patent”), 8,892,752 (”752 Patent”), 9,258,698 (”698 Patent”), and 9,749,847 (”847 Patent”) were four asserted patents in Cellspin Soft, Inc. The district court found the disputed claims directed to an abstract idea of “a method of acquiring, transferring, and publishing data and multimedia content on

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20 29 FED. R. CIV. P. 8(a)(2).
30 FED. R. CIV. P. 12(b)(6).
33 Aatrix Software, Inc. v. Green Shades Software, Inc., 890 F.3d 1354, 1357 (Fed. Cir. 2018) (Moore, J., concurring) (per curiam) (applying the Eleventh Circuit’s case law); see also Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009) (“To survive a motion to dismiss, a complaint must contain sufficient factual matter, accepted as true, to ‘state a claim to relief that is plausible on its face.’”).
34 See Cellspin Soft, Inc., 927 F.3d at 1313.
35 Id. at 1309.
one or more websites,36 and did not contain an inventive concept.37

In its decision, the district court mainly focused on the ‘794 Patent and briefly addressed the patent-ineligibility issues of the other three patents.38 Regarding the ‘794 Patent, the district court first opined that the components recited in the disputed claims behave in their expected, ordinary functions.39 In addition, the district court criticized that the disputed claims were merely “set in a ‘technological environment’ consisting of conventional components and utiliz[ing] standard technology,”40 such that “such invocations of computers and networks that are not even arguably inventive are insufficient to pass the test of an inventive concept.”41

In responding to the patentee’s six arguments stating the benefits gained from the inventiveness of the claimed invention, the district court found them unpersuasive.42 The district court acknowledged that the specification of the ‘794 Patent supported the first benefit, i.e., the efficiencies of the claimed inventions,43 but it concluded that “a method which utilizes known and conventional computer components to achieve an improvement in the efficiency or speed of a previously manual process does not constitute a sufficient inventive concept.”44 As for the five other alleged benefits, the district court rejected all of them, because the patentee failed to cite the specification to support these allegations.45

Furthermore, the district court criticized that the patentee’s amended complaint had the same flaws.46 The district court noted that the patentee’s allegations concerning technological improvements were not based on the specification.47 Regarding those specification-related allegations, the district court disagreed that the cited portions of the specification actually support the relevant allegations.48

Finally, regarding the ‘752 Patent, ‘698 Patent, and ‘847 Patent, the district court opined that the patentee failed to allege how each patent was sufficiently different from the ‘794 Patent to acquire any inventive concept.49 Therefore, the district court found all disputed claims patent-eligible.50

On appeal, the Federal Circuit disapproved of the district court’s approach and illustrated why the district court applied an incorrect standard for reviewing a patent-ineligibility issue on a motion to dismiss.51 That is, the district court erred in discounting the allegations in the patentee’s amended complaint because of the

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37 Id. at 1152, 1155.
38 Id. at 1152–55.
39 Id. at 1152.
40 Id. (citing Intellectual Ventures I.L.L.C. v. Symantec Corp., 838 F.3d 1307, 1319 (Fed. Cir. 2016)).
42 Id.
43 Id.
44 Id. (citing OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir. 2015)).
45 Id. at 1153–54.
47 Id.
48 Id.
49 Id. at 1155.
50 Id.
51 See Cellspin Soft, Inc., 927 F.3d at 1316–18.
patentee’s failure to cite the specification to support the allegations.  

The Federal Circuit started with its precedent, Aatrix Software, Inc. v. Green Shades Software, Inc., and concluded that it “repeatedly cited allegations in the complaint to conclude that the disputed claims were potentially inventive.” In addition, the Federal Circuit derived from Aatrix Software, Inc. two legal propositions. First, while it is not “to say that any allegation about inventiveness, wholly divorced from the claims or the specification, defeats a motion to dismiss, plausible and specific factual allegations that aspects of the claims are inventive are sufficient.” Second, “[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.” 

Under these principles, the Federal Circuit held that the patentee’s complaint successfully “made specific, plausible factual allegations about why aspects of its claimed inventions were not conventional[].” In addition, the Federal Circuit criticized that “[t]he district court erred by not accepting those allegations as true.” 

Secondly, the Federal Circuit discussed why the district court misapplied Berkheimer v. HP Inc. to support the denial of the patentee’s allegations. Among other things, the district court held that the disputed patent in Berkheimer described an inventive feature “in a purportedly unconventional manner[,]” whereas the patentee here failed to “identify any portion of the specification which describes the purportedly inventive [features or benefits].” But, the Federal Circuit opined that the district court’s view in Berkheimer did not comply with Aatrix Software, Inc., because under Aatrix Software, Inc., “patentees who adequately allege their claims contain inventive concepts survive a § 101 eligibility analysis under Rule 12(b)(6).” Finally, the Federal Circuit reaffirmed a “principle, implicit in Berkheimer and explicit in Aatrix, that factual disputes about whether an aspect of the claims is inventive may preclude dismissal at the pleadings stage under § 101.”

Lastly, the Federal Circuit pointed to Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C. and emphasized that ‘the limited record’ [in Bascom] did not

52 See id. at 1317–18.
54 Cellspin Soft, Inc., 927 F.3d at 1317 (emphasis in original) (citing Aatrix Software, Inc., 882 F.3d at 1128).
55 See id. at 1317–18.
56 Id. at 1317.
57 Id. at 1317–18.
58 Id. at 1318.
60 See Cellspin Soft, Inc., 927 F.3d at 1318. Originally, the patentee used Berkheimer to argue that the defendant’s motion to dismiss should be denied because “the question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field . . . must be proven by clear and convincing evidence.” Cellspin Soft, Inc., 316 F. Supp. 3d at 1154, n.12. But, the district court disagreed. See Cellspin Soft, Inc., 927 F.3d at 1313.
61 Cellspin Soft, Inc., 316 F. Supp. 3d at 1154, n.12; see Cellspin Soft, Inc., 927 F.3d at 1313.
62 Cellspin Soft, Inc., 927 F.3d at 1318.
63 Id. (quoting Aatrix Software, Inc., 882 F.3d at 1126–27).
64 Id.; see also Simio, L.L.C. v. FlexSim Software Prod., Inc., No. 2:18-CV-00853, 2019 WL 5423609, at *3 (D. Utah Oct. 23, 2019) (“Cellspin merely reiterates established principles from Berkheimer and Aatrix that ‘plausible and specific factual allegations that aspects of the claims are inventive are sufficient’ at the pleading stage[].”).
65 Bascom Glob. Internet Servs., Inc. v. AT&T Mobility L.L.C., 827 F.3d 1341 (Fed. Cir. 2016).
demonstrate that the [claimed inventive step] `had been conventional or generic.'\textsuperscript{66} Likewise, the Federal Circuit applied the correct standard and further held that "on the limited record here, and at this stage in the case, we reach the same result with respect to the elements recited by the asserted claims."\textsuperscript{67} Because the patentee had successfully alleged the inventive concept, the Federal Circuit stated that it "ha[d] no basis, at the pleadings stage, to say that these claimed techniques, among others, were well-known or conventional as a matter of law."\textsuperscript{68} Thus, the Federal Circuit concluded that the asserted claims here did not lack an inventive concept when it accepted the patentee's allegations as true.\textsuperscript{69}

After Cellspin Soft, Inc., it is clear that courts cannot disregard what is stated in a complaint concerning the patent-eligible nature of a claimed invention.\textsuperscript{70} However, the Federal Circuit has allowed courts not to "accept as true allegations that contradict matters properly subject to judicial notice or by exhibit," such as the claims and the patent specification.\textsuperscript{71} For example, in Secure Mail Solutions L.L.C. v. Universal Wilde, Inc., the Federal Circuit denied the claimed inventive concept, because many of the technologies the claimed inventive concept relied upon were well-known and could be discerned from the disputed patents themselves.\textsuperscript{72} In addition, some district courts have rejected "conclusory or generalized statements, and fanciful or exaggerated allegations,"\textsuperscript{73} or "non-specific, conclusory allegations of inventiveness divorced from the claims and specification[]."\textsuperscript{74} One district court in Utah even stated that Cellspin Soft, Inc. "does not mean that `any allegation about inventiveness . . . defeats a motion to dismiss.'\textsuperscript{75}

Nonetheless, Cellspin Soft, Inc. provided a way to allege "[a]n inventive concept [that] reflects something more than the application of an abstract idea using `well-
understood, routine, and conventional activities previously known to the industry.\textsuperscript{76} as the Federal Circuit opined that the patentee had “made specific, plausible factual allegations about why aspects of its claimed inventions were not conventional.”\textsuperscript{77} This approach looking for unconventional features of an invention is not new as this article will address in Part III.  But, \textit{Cellspin Soft, Inc.} along with \textit{Aatrix Software, Inc.} may clarify what constitutes unconventionality of an invention.\textsuperscript{78}

III. FEDERAL CIRCUIT'S CASES APPLYING THE UNCONVENTIONALITY APPROACH

\textbf{A. Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C.}

In \textit{Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C.}, the Federal Circuit affirmed that the new patent-eligibility standard considers “whether various claim elements simply recite ‘well-understood, routine, conventional activit[ies].’”\textsuperscript{79} However, the Federal Circuit began to acknowledge that “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”\textsuperscript{80} In \textit{Bascom Global Internet Services, Inc.}, the disputed patent was U.S. Patent No. 5,987,606 (“606 Patent”) entitled “Method and System for Content Filtering Information Retrieved from an Internet Computer Network.”\textsuperscript{81} The district court dismissed the complaint under Rule 12(b)(6), finding the asserted claims patent-ineligible.\textsuperscript{82} On appeal, the Federal Circuit found that the disputed claims passed step two of the \textit{Alice} standard.\textsuperscript{83}

The patented technology was filtering software attempting to prevent a computer user from accessing certain websites without being bypassed by such user.\textsuperscript{84} It utilized certain communication networks to implement individually customizable filtering at a remote ISP (Internet service provider) server.\textsuperscript{85} These networks are composed of remote ISP servers and user computers.\textsuperscript{86} Before browsing websites, a user is required to first log into an ISP server that then identifies the user’s filtering profile.\textsuperscript{87} Then, when the user accesses a specific website from their computer, the ISP server will check whether visiting such website is allowable according the user’s

\textsuperscript{76} \textit{Cellspin Soft, Inc.}, 927 F.3d at 1316 (quoting \textit{Aatrix Software, Inc.}, 882 F.3d at 1128).
\textsuperscript{77} \textit{Id.} at 1317–18.
\textsuperscript{78} \textit{Id.} at 1317–18.
\textsuperscript{79} \textit{See infra} Part IV.A.
\textsuperscript{80} \textit{Bascom Glob. Internet Servs., Inc.} v. AT&T Mobility L.L.C., 827 F.3d 1341, 1350 (Fed. Cir. 2016) (alteration in original) (quoting \textit{Alice Corp. Pty.}, 573 U.S. at 225).
\textsuperscript{81} \textit{Bascom Glob. Internet Servs., Inc.}, 827 F.3d at 1350 (emphasis added); \textit{see also} Kurt Prange, \textit{Blockchain & Business Methods: How Business Method Patents May Be Redeemed by Furthering Blockchain Innovation}, 18 COL. TECH. L.J. 185, 200 (2020) (discussing \textit{Bascom Glob. Internet Servs., Inc.}).
\textsuperscript{82} \textit{Bascom Glob. Internet Servs., Inc.}, 827 F.3d at 1343.
\textsuperscript{83} \textit{Id.} at 1346.
\textsuperscript{84} \textit{Id.} at 1349–52.
\textsuperscript{85} \textit{Id.} at 1349–52.
\textsuperscript{86} \textit{Id.} at 1344–45.
\textsuperscript{87} \textit{Id.}
filtering profile.88

The disputed claims of the ’606 Patent were categorized into two groups.89 The first group focused on “individual-customizable filtering on a remote ISP server.”90 The second group related to “a hybrid filtering scheme implemented on the ISP server.”91 The Federal Circuit agreed with the district court that “the limitations of the claims, taken individually, recite generic computer, network and Internet components, none of which is inventive by itself[,]” but disagreed with the district court’s step two analysis of the ordered combination of limitations. 92 The Federal Circuit acknowledged that “local computers, ISP servers, networks, network accounts, or filtering” were neither invented by the patentee nor described as inventive in the specification.93 However, the Federal Circuit found the present case was where “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”94

The Federal Circuit recognized the inventive concept as “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.”95 According to the patentee, the inventive concept relied on some ISP servers capable of “identify[ing] individual accounts that communicate with the ISP server” and “associat[ing] a request for Internet content with a specific individual account.”96 Additionally, the claimed inventive concept was implemented by “associating individual accounts with their own filtering scheme and elements while locating the filtering system on an ISP server.”97 Consequently, the claimed invention allegedly embraced “both the benefits of a filter on a local computer

88 See id. at 1345.
89 See id.
90 Id. For instance, claim 1 recited “a content filtering system for filtering content retrieved from an Internet computer network by individual controlled access network accounts” with a key limitation:

a remote ISP server coupled to said client computer and said Internet computer network, said ISP server associating each said network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated filtering scheme utilizing said associated set of logical filtering elements.

Id.
91 Bascom Glob. Internet Servs., Inc., 827 F.3d at 1345. For example, claim 23 recited “an ISP server for filtering content forwarded to controlled access network account generating network access requests at a remote client computer, each network access request including a destination address field.” Id. But, claim 23 dependent on claim 22 (an independent claim), see id., and covered a key limitation:

a plurality of inclusive-lists of allowed sites, each controlled access user associated with at least one of said plurality of inclusive-lists of allowed sites, said filtering program further allowing said network access request if said requested destination address exists on said at least one associated inclusive-list.

Id. at 1346.
92 Id. at 1349.
93 Id.
94 Id. at 1350.
95 Id.
96 Bascom Glob. Internet Servs., Inc., 827 F.3d at 1350.
97 Id.
and the benefits of a filter on the ISP server.”\textsuperscript{98}

Ultimately, the Federal Circuit opined that “[o]n this limited record, this specific method of filtering Internet content cannot be said, as a matter of law, to have been conventional or generic.”\textsuperscript{99} However, the Federal Circuit did not address what constitutes the unconventional features of the alleged inventive concept.\textsuperscript{100} Rather, the Federal Circuit focused on whether the disputed claims “recite a specific, discrete implementation of the abstract idea of filtering content” without preempting all ways of Internet content-filtering.\textsuperscript{101} The Federal Circuit noted that the disputed patent “describes how its particular arrangement of elements is a technical improvement over prior art ways of filtering [unwanted] content.”\textsuperscript{102} In addition, the Federal Circuit recognized the disputed patent as “claiming a technology-based solution (not an abstract-idea-based solution implemented with generic technical components in a conventional way)[.]”\textsuperscript{103} Moreover, the Federal Circuit distinguished the disputed claims from claims “without providing a specific technical solution beyond simply using generic computer concepts in a conventional way.”\textsuperscript{104} That is, the Federal Circuit found that the disputed claims “carve[d] out a specific location for the filtering system (a remote ISP server) [that gives] users the ability to customize filtering for their individual network accounts.”\textsuperscript{105}

B. Amdocs (Israel) Ltd. v. Openet Telecom, Inc.

In Amdocs (Israel) Ltd. v. Openet Telecom, Inc., while applying the Alice standard by “examin[ing] earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided[,]”\textsuperscript{106} the Federal Circuit affirmed that a claim may “recite a sufficient inventive concept under step two—particularly when the claims solve a technology-based problem, even with conventional, generic components, combined in an unconventional manner.”\textsuperscript{107} In Amdocs (Israel) Ltd., four patents were involved: U.S. Patents Nos. 7,631,065 ("'065 Patent"), 7,412,510 ("'510 Patent"), 6,947,984 ("'84 Patent"), and 6,836,797 ("'97 Patent"), all originating from U.S. Patent No. 6,418,467.\textsuperscript{108} The district court granted the defendant's motion for judgment on the pleadings under Rule 12(c) because the disputed claims were found patent-ineligible.\textsuperscript{109} However, the Federal Circuit vacated the district court's judgment.\textsuperscript{110}

The patented technology provided a system that helps network service

\textsuperscript{98} Id.

\textsuperscript{99} Id. (emphasis added).

\textsuperscript{100} See id. at 135–52.

\textsuperscript{101} Bascom Glob. Internet Servs., Inc., 827 F.3d at 1350 (emphasis added).

\textsuperscript{102} Id. (emphasis added).

\textsuperscript{103} Id. at 1351.

\textsuperscript{104} Id. at 1352 (emphasis added).

\textsuperscript{105} Id. (emphasis added).

\textsuperscript{106} Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016).

\textsuperscript{107} Id. at 1300 (emphasis added) (citing DDR Holdings, L.L.C. v. Hotels.com, L.P., 773 F.3d 1245, 1256–59 (Fed. Cir. 2014); Bascom Glob. Internet Servs., Inc., 827 F.3d at 1349–52).

\textsuperscript{108} Id. at 1290–91.

\textsuperscript{109} Id. at 1290.

\textsuperscript{110} Id. at 1307.
providers “account for and bill for internet protocol (IP) network communications.” The '065 Patent’s specification described prior art systems “that stored information in one location, which made it difficult to keep up with massive record flows from the network devices and which required huge databases.” To solve the problem, the claimed system utilized network devices, information source modules (“ISMs”), gatherers, a central event manager (“CEM”), a central database, a user interface server, and terminals or clients operated in a distributed manner. Under the distributed manner, “the network usage records are processed close to their sources before being transmitted to a centralized manager.” The advantage was minimization of the data-load impact on network and system resources. Specifically, the claimed system included “distributed gathering, filtering, and enhancements that enable load distribution” and then “allow data to reside close to the information sources.” Therefore, the claimed system could “reduce congestion in network bottlenecks, while still allowing data to be accessible from a central location.”

Four disputed patents protected the patented technology in different aspects. The '065 Patent focused on “merging data in a network-based filtering and aggregating platform” and “enhancing networking accounting data records.” The '510 Patent concerned reporting on the collection of network usage information. The '984 Patent related to “reporting on the collection of network usage information from a plurality of network devices.” Finally, the '797 Patent involved “generating a single record reflecting multiple services for accounting purposes.”

All these representative claims included limitations relying on a distributed architecture that the Federal Circuit considered to support the patent-eligibility of the disputed claims. For instance, claim 1 of the '065 Patent recited a limitation “computer code for using the accounting information with which the first network accounting record is correlated to enhance the first network accounting record” (the enhancing limitation). The term “enhance” was construed to mean: “apply a number of field enhancements in a distributed fashion.” Thus, the Federal Circuit opined that the enhancing limitation was an inventive concept because of its dependency on

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111 Amdocs (Isr.) Ltd., 841 F.3d at 1291.
112 Id. at 1292 (emphasis added) (citing U.S. Patent No. 7,631,065 col.4, ll.39–42 (filed Dec. 7, 2001)).
113 See id. at 1291–92.
114 Id. at 1300.
115 Id. at 1291.
116 Amdocs (Isr.) Ltd., 841 F.3d at 1291–92.
117 Id. at 1292.
118 See id. at 1291.
119 Id. Claim 1 of the '065 Patent was representative and recited “a computer program product embodied on a computer readable storage medium for processing network accounting information.” Id. at 1299.
120 Id. at 1291. The representative claim of the '510 Patent was claim 16 reciting “a computer program product stored in a computer readable medium for reporting on a collection of network usage information from a plurality of network devices.” Id. at 1302.
121 Amdocs (Isr.), Ltd, 841 F.3d at 1291. Claim 1 of the '984 Patent was representative and recited “a method for reporting on the collection of network usage information from a plurality of network devices.” Id. at 1304.
122 Id. at 1291. Claim 1 of the '797 Patent was a representative claim reciting “a method for generating a single record reflecting multiple services for accounting purposes.” Id. at 1305.
123 See id. at 1299–306.
124 Id. at 1300 (emphasis added).
125 Id. (quoting Amdocs (Israel) Ltd. v. Openet Telecom, Inc., 761 F.3d 1329, 1340 (Fed. Cir. 2014)).
the invention’s distributed architecture.\textsuperscript{126}

The Federal Circuit also relied on a portion of the specification of the ’065 Patent and found that “this distributed enhancement is a critical advancement over the prior art[].”\textsuperscript{127} Therefore, the Federal Circuit held that claim 1 “entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases).”\textsuperscript{128} Moreover, the Federal Circuit noted that the enhancing limitation needs those arguably generic components (e.g., network devices and gatherers) to “operate in an unconventional manner to achieve an improvement in computer functionality.”\textsuperscript{129}

However, the Federal Circuit did not describe a standard for determining “unconventionality.”\textsuperscript{130} Rather, the Federal Circuit looked to some technological solution to a technological problem or some technical improvement over prior art technologies.\textsuperscript{131} Nevertheless, the Federal Circuit’s reasoning may imply the nature of “unconventionality.”\textsuperscript{132} For instance, in concluding claim 1 “entails an unconventional technological solution[,]” the Federal Circuit specified a portion of the specification comparing the data flows in the claimed distributed architecture and the prior art system.\textsuperscript{133} Hence, “unconventionality” may require identification of what advancement the claimed inventive concept would provide over prior art technology.

Secondly, in stating that “any and all generic enhancement of data in a similar system” would not be preempted, the Federal Circuit noted that claim 1 “depends upon a specific enhancing limitation that necessarily incorporates the invention’s distributed architecture.”\textsuperscript{134} Consequently, the Federal Circuit held that claim 1 “provides the requisite ‘something more’ than the performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’”\textsuperscript{135} Therefore, “unconventionality” may be shown by what specific limitation a claim would include for executing the claimed inventive concept.

Lastly, the Federal Circuit opined that the benefits of claim 1 “are possible because of the distributed, remote enhancement that produced an unconventional result—reduced data flows and the possibility of smaller databases.”\textsuperscript{136} Therefore, evidence showing “unconventionality” may cover what benefit the claimed inventive concept would offer.

\textbf{C. Aatrix Software, Inc. v. Green Shades Software, Inc.}

In \textit{Aatrix Software, Inc. v. Green Shades Software, Inc.}, the Federal Circuit...
stated that “[i]f the elements involve ‘well-understood, routine, [and] conventional activity previously engaged in by researchers in the field,’ they do not constitute an ‘inventive concept.” 137 On the other hand, the Federal Circuit affirmed that “the second step of the Alice/Mayo test is satisfied when the claim limitations involve more than performance of well-understood, routine, [and] conventional activities previously known to the industry.”138 There, the district court found the disputed claims patentineligible, dismissed the case, and rejected the patentee’s motion to leave to amend the complaint.139 On appeal, the Federal Circuit abrogated the district court’s decision and specifically found that the proposed complaint, if taken as true, would have proven patent-eligibility.140

In Aatrix Software, Inc., there were two asserted patents: U.S. Patents No. 7,171,615 (“’615 Patent”) and 8,984,393 (“’393 Patent”), which share essentially the same specification. 141 The patented technology involved “systems and methods for designing, creating, and importing data into a viewable form on a computer so that a user can manipulate the form data and create viewable forms and reports.” 142 For example, the representative claim recited a data processing system “which has three main components: a form file, a data file, and a viewer.”143 The claimed invention used in-house form development tools to create and design the form file that can “model the physical characteristics of an existing form, including the calculations and rule conditions required to fill in the form.”144 Then, through an Aatrix Universal File (“AUF”; that is, the data file), data from third-party applications could be “seamlessly imported’ into the form file program to populate the form fields.”145 Eventually, the viewer relied on the form file and the AUF together to calculate the data and further allowed a user who creates a report by reviewing and changing the values in the form fields.146

138 Id. (alteration in original and emphasis added and citations omitted).
139 Id. at 1124.
140 See id. at 1130.
141 Id. at 1123.
142 Id., 882 F.3d at 1123.
143 Id. Claim 1 of the ’615 Patent was representative and recited:

1. A data processing system for designing, creating, and importing data into, a viewable form viewable by the user of the data processing system, comprising:
   (a) a form file that models the physical representation of an original paper form and establishes the calculations and rule conditions required to fill in the viewable form;
   (b) a form file creation program that imports a background image from an original form, allows a user to adjust and test-print the background image and compare the alignment of the original form to the background test-print, and creates the form file;
   (c) a data file containing data from a user application for populating the viewable form; and
   (d) a form viewer program operating on the form file and the data file, to perform calculations, allow the user of the data processing system to review and change the data, and create viewable forms and reports.

Id. at 1123–24 (emphasis in original).
144 Id. at 1123.
145 Id.
146 Id.
The Federal Circuit recognized the proposed second amended complaint as supporting that the claimed date file, alone or in combination with other elements, could be an inventive concept under step two. The Federal Circuit noted that those new allegations “if accepted as true, contradict the district court’s conclusion that the claimed combination was conventional or routine.” Besides, the Federal Circuit found that the proposed complaint contained concrete allegations supporting both that “individual elements and the claimed combination are not well-understood, routine, or conventional activity” and that the claimed combination improves the functioning of the computer.

The Federal Circuit focused its analysis on the “data file” limitation alleged as “an improvement in the importation of data from third-party software applications.” The Federal Circuit acknowledged that the patentee had cited the specification to support the related allegations concerning the improved data importation. On the other hand, in responding to the defendant’s oral argument the Federal Circuit stated that “this purported improvement in importation of data is in fact a routine and conventional use of a computer,” and noted that the defendant “conceded that nothing in the specification describes this importation of data as conventional.” Moreover, the Federal Circuit discredited the district court’s finding that the “data file” limitation was “a ‘well understood’ and ‘routine’ component and function of a computer.” The Federal Circuit criticized that this finding was not grounded on any reasoning or evidence nor supported by the record at the motion-to-dismiss stage. Therefore, the Federal Circuit held that the district court erred in not permitting the patentee to file the proposed second amended complaint.

Unfortunately, the *Aatrix* Court did not explain a clear rule for determining whether an inventive concept involves “more than performance of well-understood, routine, [and] conventional activities previously known to the industry.” The only standard was whether the patentee had relied on the specification to make factual allegations about the alleged inventive concept.

D. *Uniloc USA, Inc. v. ADP, L.L.C.*

While the *Amdocs* decision indicates that family patents with shared or overlapping specifications may pass the *Alice* standard together, *Uniloc USA, Inc. v. ADP, L.L.C.* may show an opposite result. In *Uniloc USA, Inc.*, U.S. Patent Nos.

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147 *Aatrix Software, Inc.*, 882 F.3d at 1126.
148 Id. at 1128.
149 Id. (emphasis added).
150 Id. at 1129.
151 Id.
152 *Aatrix Software, Inc.*, 882 F.3d at 1129.
153 Id.
154 Id.
155 See id. at 1129–30.
156 See id. at 1128–30 (emphasis added).
157 See *Aatrix Software, Inc.*, 882 F.3d at 1129 (“[The patentee] cites the specification as support for its argument that the claimed data file contains an inventive concept directed to improved importation of data and interoperability with third-party software.”).
158 See infra Part III.D.
6,324,578 ("’578 Patent"), 6,510,466 ("’466 Patent"), 6,728,766 ("’766 Patent"), and 7,069,293 ("’293 Patent") were allegedly infringed. The patented technology generally involved management of applications (or programs) on a computer network, or a client-server environment, that includes a server supporting client stations. These four patents protected different aspects of the patented technology. The ’578 and ’766 Patents shared a common specification, while the ’466 and ’293 Patents shared a common specification.

The district court granted two motions to dismiss in separate decisions partially because of the patent-ineligibility of the patents-in-suit. On appeal, the Federal Circuit reversed and remanded the district court’s grant of a motion to dismiss based on the patent ineligibility of the ’293 and ’578 Patents, but affirmed the district court’s dismissal with respect to the ’466 and ’766 Patents. Specifically, the Federal Circuit found that the ’293 Patent passed step one without going through step two and the ’578 Patent passed both step one and step two. On the other hand, the Federal Circuit found that the ’466 and ’766 Patents failed the Alice two-step analysis.

The ’578 Patent focused on “obtaining user and administrator sets of configuration preferences for applications and then executing the applications using both sets of obtained preferences.” The Federal Circuit considered the positioning of the application launcher program on the client site and the configurable preferences on the server together as an inventive concept. The Federal Circuit noted that “[t]he positioning of these components on the application server together with the application launcher on the client computer” allowed customized installation of applications based

The representative claim of the ’578 Patent was claim 1 reciting:

1. A method for management of configurable application programs on a network comprising the steps of:
installing an application program having a plurality of configurable preferences and a plurality of authorized users on a server coupled to the network;
distributing an application launcher program associated with the application program to a client coupled to the network;
obtaining a user set of the plurality of configurable preferences associated with one of the plurality of authorized users executing the application launcher program;
obtaining an administrator set of the plurality of configurable preferences from an administrator; and
executing the application program using the obtained user set and the obtained administrator set of the plurality of configurable preferences responsive to a request from the one of the plurality of authorized users.

ADP, L.L.C., 279 F. Supp. 3d at 740 (emphasis added).
on the administrator and user sets of preferences. Acknowledging that “[t]here has been no showing or determination that such a network architecture was conventional[,]” the Federal Circuit held that the district court erred in finding claim 1 of the ’578 Patent patent-ineligible.

The ’466 Patent related to “installing application software on the server and providing instances of that software to the clients for execution.” According to the patentee, the improvement provided by the claimed invention over the prior art was achieved via “a user desktop interface that includes ‘display regions associated with application programs for which the user is authorized.’” But, the Federal Circuit found that the claimed display regions were “simply icons that execute programs.”

In addition, the Federal Circuit noted that when the defendants contended that the claimed display regions were “all conventional,” the patentee failed to “argue that the display icons or the user desktop incorporate any unconventional software or perform any unconventional functionality” or that “using an icon to access an application is in any way unconventional.”

Moreover, because of its view on the claimed user desktop interface, the Federal Circuit disagreed with the patentee’s proposed inventive concept framed as the ordered combination of “the various software limitations and their interaction” in the disputed claims. The Federal Circuit criticized that “the ‘software limitations’ are merely the conventional ones” and that “[t]here is nothing unconventional about the [alleged] ordered combination[].” The Federal Circuit also opined that the district court correctly found that the specification “describes the prior art client- application server architecture, which necessarily includes a user interface, and allows

1. A method for management of application programs on a network including a server and a client comprising the steps of:
   installing a plurality of application programs at the server;
   receiving at the server a login request from a user at the client;
   establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized;
   receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and
   providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

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169 Uniloc USA, Inc., 772 F. App’x at 899.
170 Id. (emphasis added); see also Cisco, What Is Network Architecture?, https://www.cisco.com/c/en/us/solutions/enterprise-networks/what-is-network-architecture.html (last visited Dec. 8, 2020) (“Network architecture refers to the way network devices and services are structured to serve the connectivity needs of client devices.”). Here, the positioning of the application launcher program on the client site and the configurable preferences on the server is a kind of network architecture. See Uniloc USA, Inc., 772 F. App’x at 899.
171 Id.
172 AVG Techs. USA, Inc., 2017 WL 1154927, at *2.
173 Uniloc USA, Inc., 772 F. App’x at 899.
174 Id.
175 Id. at 899–900 (emphasis added).
176 See Uniloc USA, Inc., 772 F. App’x at 900. The representative claim of the ’466 Patent was claim 1 reciting:
the transmission of an application program from a server to a client for installation.”\textsuperscript{178} Eventually, among other things, the Federal Circuit affirmed the district court’s patent-ineligibility decision concerning the ’766 Patent.\textsuperscript{179}

Lastly, the ’766 Patent involved “the management of licenses for the application software” to maintain “license-related policies and information in the client-server environment such that license availability can be communicated to clients on a user-specific basis.”\textsuperscript{180} In deciding that there was no inventive concept in claim 1 of the ’766 Patent under step two,\textsuperscript{181} the Federal Circuit found that “[n]othing about the licensing policy, the application server, or the notification of authorization is asserted as unique or non-conventional from the way that those components ordinarily function.”\textsuperscript{182} Rather, the Federal Circuit concluded that the licensing policy, the application server, and the authorization notification operated in a conventional way.\textsuperscript{183} In addition, the Federal Circuit opined that “the real-time availability of authorization information” alleged by the patentee as an inventive concept was merely “a staple of a conventional network.”\textsuperscript{184} Therefore, among other things, the Court upheld the district court’s decision on the patent-ineligibility of the ’766 Patent.\textsuperscript{185}

Like Bascom and Amdocs, the Uniloc Court did not define “unconventionality.”\textsuperscript{186} Instead, the line between “conventional” and “unconventional” was drawn by whether the specification has disclosed the elements of the claimed inventive concept as conventional components.\textsuperscript{187} The Uniloc approach is similar to the Aatrix approach.

\begin{itemize}
\item 1. A method for management of license use for a network comprising the steps of:
\begin{itemize}
\item maintaining license management policy information for a plurality of application programs at a license management server, the license management policy information including at least one of a user identity based policy, an administrator policy override definition or a user policy override definition;
\item receiving at the license management server a request for a license availability of a selected one of the plurality of application programs from a user at a client;
\item determining the license availability for the selected one of the plurality of application programs for the user based on the maintained license management policy information; and
\item providing an unavailability indication to the client responsive to the selection if the license availability indicates that a license is not available for the user or an unavailability indication if the licensed availability indicates that a license is available for the user.
\end{itemize}
\end{itemize}

\textsuperscript{178} Id. (citing AVG Techs. USA, Inc., 2017 WL 1154927, at *15); see also U.S. Patent No. 6,510,466 col.1 l.57 – col.21 l.11 (filed Dec. 14, 1998).
\textsuperscript{179} See Uniloc USA, Inc., 772 F. App’x at 900–01.
\textsuperscript{180} AVG Techs. USA, Inc., 2017 WL 1154927, at *2.
\textsuperscript{181} Uniloc USA, Inc., 772 F. App’x at 902. Claim 1 of the ’766 Patent was representative and recited:

1. A method for management of license use for a network comprising the steps of:
\begin{itemize}
\item maintaining license management policy information for a plurality of application programs at a license management server, the license management policy information including at least one of a user identity based policy, an administrator policy override definition or a user policy override definition;
\item receiving at the license management server a request for a license availability of a selected one of the plurality of application programs from a user at a client;
\item determining the license availability for the selected one of the plurality of application programs for the user based on the maintained license management policy information; and
\item providing an unavailability indication to the client responsive to the selection if the license availability indicates that a license is not available for the user or an unavailability indication if the licensed availability indicates that a license is available for the user.
\end{itemize}

AVG Techs. USA, Inc., 2017 WL 1154927, at *2 (emphasis added); see Uniloc USA, Inc., 772 F. App’x at 901.
\textsuperscript{182} Uniloc USA, Inc., 772 F. App’x at 902 (emphasis added).
\textsuperscript{183} Id.
\textsuperscript{184} Id. (emphasis added).
\textsuperscript{185} See id.
\textsuperscript{186} See id. at 899–902.
\textsuperscript{187} See Uniloc USA, Inc., 772 F App’x at 899–902.
E. Cellspin Soft, Inc. v. Fitbit, Inc.

In Cellspin Soft, Inc. v. Fitbit, Inc., the patented technology involved “connecting a data capture device, e.g., a digital camera, to a mobile device so that a user can automatically publish content from the data capture device to a website.”188 The Federal Circuit followed two legal propositions: (1) “[a]n inventive concept reflects something more than the application of an abstract idea using ‘well-understood, routine, and conventional activities previously known to the industry’”189; and (2) “[i]f a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.”190 The Federal Circuit considered the patentee’s allegations as “identify[ing] several ways in which its application of capturing, transferring, and publishing data was unconventional.”191 Eventually, the Federal Circuit found the disputed claims patent-eligible under the step two analysis.192

Before the patented technology was invented, “the conventional method for publishing data and multimedia content on a website was time-consuming required and manual user intervention[,]”193 As the ’794 Patent described, traditionally a user takes a picture via, for instance, a digital camera and stores the picture on a memory device of the camera.194 When the user decides to publish the picture onto a website, she has to transfer the picture to a computer off-line by plugging, for example, a cable such as a universal serial bus (“USB”) or a memory stick to the computer that then uploads the picture onto the designated website.195 The ’794 Patent characterized this traditional approach as manual uploading that “takes time and may be inconvenient for the user.”196

To solve the problem, the patented technology utilized “a digital data capture device in conjunction with a Bluetooth™ (“BT”) enabled mobile device for publishing data and multimedia content on one or more websites automatically or with minimal user intervention[,]” where the data capture device is physically separated from the mobile device.197 The patented technology was protected by the ’794 Patent, ’752 Patent, ’698 Patent, and ’847 Patent, which shared the same specification.198 The disputed claims of the ’794 Patent included two independent claims, 1 and

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189 Id. at 1316 (quoting Aatrix Software, Inc., 882 F.3d at 1128).
190 Id. (quoting BSG Tech L.L.C. v. Buyseasons, Inc., 899 F.3d 1281, 1290–91 (Fed. Cir. 2018)).
191 Id. (emphasis added).
192 Id. at 1319.
198 Cellspin Soft, Inc., 927 F.3d at 1309.
16, reciting the same subject matter.\textsuperscript{199} For instance, claim 1 had two features.\textsuperscript{200} The first feature was referred to as “establishing a paired connection between the data capture device and the mobile device before data is transmitted between the two.”\textsuperscript{201} The second feature included a step of detecting and signaling the new data for transfer to the mobile device and a step of transferring the new data from the data capture device to the mobile device.\textsuperscript{202}

\footnote{\textit{Cellspin Soft, Inc.}, 927 F.3d at 1310. Other disputed claims covered (1) claims 2–4, 7 and 9 (dependent claims of claim 1) and (2) claims 17, 18, 20 and 21 (dependent claims of claim 16). See \textit{Cellspin Soft, Inc.}, 316 F. Supp. 3d at 1145; see also U.S. Patent No. 8,738,794 cols.11–15 (filed June 19, 2013).}

\footnote{See \textit{Cellspin Soft, Inc.}, 927 F.3d at 1311. Claim 1 of the ’794 Patent recited:}

1. A method for acquiring and transferring data from a Bluetooth enabled data capture device to one or more web services via a Bluetooth enabled mobile device, the method comprising:

- providing a software module on the Bluetooth enabled data capture device;
- providing a software module on the Bluetooth enabled mobile device;
- establishing a paired connection between the Bluetooth enabled data capture device and the Bluetooth enabled mobile device;
- acquiring new data in the Bluetooth enabled data capture device, wherein new data is data acquired after the paired connection is established;
- detecting and signaling the new data for transfer to the Bluetooth enabled mobile device, wherein detecting and signaling the new data for transfer comprises:
  - determining the existence of new data for transfer, by the software module on the Bluetooth enabled data capture device; and
  - sending a data signal to the Bluetooth enabled mobile device, corresponding to existence of new data, by the software module on the Bluetooth enabled data capture device automatically, over the established paired Bluetooth connection, wherein the software module on the Bluetooth enabled mobile device listens for the data signal sent from the Bluetooth enabled data capture device, wherein if permitted by the software module on the Bluetooth enabled data capture device, the data signal sent to the Bluetooth enabled mobile device comprises a data signal and one or more portions of the new data;

- transferring the new data from the Bluetooth enabled data capture device to the Bluetooth enabled mobile device automatically over the paired Bluetooth connection by the software module on the Bluetooth enabled data capture device;
- receiving, at the Bluetooth enabled mobile device, the new data from the Bluetooth enabled data capture device;
- applying, using the software module on the Bluetooth enabled mobile device, a user identifier to the new data for each destination web service, wherein each user identifier uniquely identifies a particular user of the web service;
- transferring the new data received by the Bluetooth enabled mobile device along with a user identifier to the one or more web services, using the software module on the Bluetooth enabled mobile device;
- receiving, at the one or more web services, the new data and user identifier from the Bluetooth enabled mobile device, wherein the one or more web services receive the transferred new data corresponding to a user identifier; and
- making available, at the one or more web services, the new data received from the Bluetooth enabled mobile device for public or private consumption over the internet, wherein one or more portions of the new data correspond to a particular user identifier.

\textit{Id.} at 1310–11 (emphasis in original).

\footnote{\textit{Id.} at 1310–11 (emphasis in original).}

\footnote{See \textit{Cellspin Soft, Inc.}, 927 F.3d at 1311 (citing U.S. Patent No. 8,738,794 col.12, ll.1–2 (filed June 19, 2013)). The second feature was referred to as a “push mode.” \textit{Id.} On the other hand, claim 16 utilized a “pull mode.”}
Regarding the '752 Patent, the asserted claims covered two subject matters: (1) “a method for transferring data from a Bluetooth enabled data capture device to a remote internet server via a Bluetooth enabled mobile device” (claim 1 and its dependent claims 2 and 4-5); and (2) “a method for transferring data to a remote internet server by a Bluetooth enabled mobile device” (claim 12 and its dependent claims 13 and 14). Claim 1 of the '752 Patent was allegedly different. Although claim 1 of the '752 Patent was similar to claim 1 of the '794 Patent, the Federal Circuit identified two different features. First, the mobile device and data capture device were connected by using a cryptographic encryption key. Second, the hypertext transfer protocol (“HTTP”) was implemented for data transmission.

Regarding the '698 Patent, the disputed claims included four independent claims reciting four subject matters. Claim 1 recited “a machine-implemented

Id. (citing U.S. Patent No. 8,738,794 col.14, ll.30–35 (filed June 19, 2013)). The “pull mode”-related limitations included:

detecting the new data for transfer to the Bluetooth enabled mobile device, wherein detecting the new data for transfer comprises:
polling the Bluetooth enabled data capture device using the software module on the Bluetooth enabled mobile device over the established paired Bluetooth connection, wherein the Bluetooth enabled data capture device listens for the polling request sent from the Bluetooth enabled mobile device; and
determining the existence of new data for transfer, by the software module on the Bluetooth enabled data capture device[.]

See U.S. Patent No. 8,738,794 claim 16.

203 Cellspin Soft, Inc., 927 F.3d at 1311; see U.S. Patent No. 8,892,752 cols.11–14 (filed June 4, 2014).

204 Cellspin Soft, Inc., 927 F.3d at 1311. The patentee did not treat claims 12–14 of the '752 Patent differently from claim 1 of the '794 Patent in terms of the patent-eligibility analysis. See id.

205 Id.

206 Id.

207 Id. (citing U.S. Patent No. 8,892,752 col.11, ll.54–56 (filed June 4, 2014)). The related limitation recited “establishing a secure paired Bluetooth connection between the Bluetooth enabled data capture device and the Bluetooth enabled mobile device, wherein the secure paired Bluetooth connection uses a cryptographic encryption key[,]” U.S. Patent No. 8,892,752 col.11, ll.52–56 (filed June 4, 2014) (emphasis added).

208 Cellspin Soft, Inc., 927 F.3d at 1311 (citing U.S. Patent No. 8,892,752 col.12 ll.16–36 (filed June 4, 2014)). The related limitation recited:

transferring the encrypted data from the Bluetooth enabled data capture device to the Bluetooth enabled mobile device, over the established secure paired Bluetooth connection, wherein the Bluetooth enabled mobile device has access to the internet, wherein the Bluetooth enabled mobile device is configured to receive the encrypted data and obtain the new data from the encrypted data using the cryptographic encryption key, wherein the Bluetooth enabled mobile device is configured to attach a user identifier, an action setting and a destination web address of a remote internet server to the obtained new data, wherein the user identifier uniquely identifies a particular user of internet service provided by the remote internet server, wherein action setting comprises one of a remote procedure call (RPC) method and hypertext transfer protocol (HTTP) method, and wherein the Bluetooth enabled mobile device is configured to send the obtained new data with the attached user identifier, an action setting and a destination web address to a remote internet server.


209 See Cellspin Soft, Inc., 927 F.3d at 1311. Claims 1, 3–5, 7–8, 10–13 and 15–20 were allegedly infringed. Id. Claims 1, 5, 8 and 13 were independent claims. See U.S. Patent No. 9,258,698 cols.11–14 (filed Nov. 5, 2014).
method of media transfer.”

Claim 5 recited “a short-range wireless enabled digital camera device” implemented by the method of claim 1. Claim 8 recited “a system for transferring media,” but contained essentially the same limitations of claim 5. Finally, claim 13 recited “a non-transitory computer-readable medium” essentially used for executing the method of claim 1.

Lastly, the ’847 Patent included claim 1 with limitations also similar to the limitations in claim 1 of the ’752 Patent. But, claim 1 of the ’847 Patent was a system claim with two different features. The first feature was a Bluetooth enabled data capture device that cryptographically authenticates the identity of a Bluetooth enabled cellular phone before connecting the phone and transmitting data. The second feature was a mobile application that listens for the event notification sent from the data capture device and corresponding to the acquired new-data and utilizes HTTP to transfer the new-data to a website over the cellular data network.

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210 See U.S. Patent No. 9,258,698 cols.11–12 (filed Nov. 5, 2014). Claims 3 and 4 were dependent on claim 1. See id.

211 U.S. Patent No. 9,258,698 col.12; see also Cellspin Soft, Inc., 316 F. Supp. 3d at 1146. Claims 7, 17 and 19 were dependent claims of claim 5. See U.S. Patent No. 9,258,698 cols. 12, 13, 16. The patentee singled out claim 5 for a separate patent-eligibility argument. Cellspin Soft, Inc., 927 F.3d at 1311. Unlike the ’794 Patent and ’752 Patent, claim 5 of the ’698 Patent specifically recited a “digital camera” that communicates with a cellular phone through “short-range wireless” signals, rather than reciting a generic data capture device with Bluetooth enablement. See id. at 1311–12. Otherwise, claim 5 included limitations similar to the limitations of claim 1 of the ’752 Patent. Id. at 1312.

212 See U.S. Patent No. 9,258,698 cols.12–14. Claims 10, 12 and 20 were dependent claims of claim 8. See id. at cols.13, 14, 16.

213 See U.S. Patent No. 9,258,698 cols.11, 12, 14, 15. Claims 15, 16 and 18 depended on claim 13. See id. at cols.15, 16.

214 Cellspin Soft, Inc., 927 F.3d at 1312.

215 See id.

216 Id. (citing U.S. Patent No. 9,749,847 col.12, ll.14–25 (filed Dec. 19, 2014)). The related limitation recited:

a first Bluetooth communication device configured to establish a paired Bluetooth wireless connection between the Bluetooth enabled data capture device and a Bluetooth enabled cellular phone, wherein the Bluetooth enabled data capture device is configured to cryptographically authenticate identity of the Bluetooth enabled cellular phone when the first Bluetooth communication device establishes the paired Bluetooth wireless connection[,]U.S. Patent No. 9,749,847 col.12, ll.17–25 (filed Dec. 19, 2014) (emphasis added).


a mobile application in the Bluetooth enabled cellular phone comprising executable instructions that, when executed by a second processor inside the Bluetooth enabled cellular phone controls the second processor to:

detect and receive the acquired new-data, comprising:

detect and receive the acquired new-data, comprising:

*listen for the event notification, sent from the Bluetooth enabled data capture device, over the established paired Bluetooth wireless connection, wherein the event notification corresponds to the acquired new-data; and*

receive the event notification and the acquired new-data, from the Bluetooth enabled data capture device, …;

store the new-data received over the established paired Bluetooth wireless connection, …; and

use HTTP to transfer the new-data received over the established paired Bluetooth wireless connection, along with user information stored in the second memory device of the
On appeal, the Federal Circuit focused on analyzing the '794 Patent because the district court treated the '794 Patent as a representative of all other patents. The Federal Circuit agreed that the disputed claims were directed to an abstract idea and characterized it as the broad idea of “capturing and transmitting data from one device to another.” However, the Federal Circuit found that the patentee’s complaint included statements showing “why aspects of its claimed inventions were not conventional, e.g., its two-step, two-device structure requiring a connection before data is transmitted.” The Federal Circuit acknowledged the patentee’s view on the inventive concept of the claim invention. In general, the claimed inventiveness covered a two-step, two-device structure requiring a data-capturing step and a data-publishing step performed in two different devices between which a paired connection is established before data is transmitted via HTTP from one device to the other device.

Like Bascom and Amdocs, the Cellspin Court did not describe what constitutes “unconventionality.” Nonetheless, the Federal Circuit illustrated other aspects of the claimed inventive concept when it responded to the defendant’s arguments.

First, regarding the defendant’s allegation that the disputed claims simply “replace a USB or similar cable with Bluetooth[,]” the Federal Circuit noted that “even assuming that Bluetooth was conventional at the time of these inventions, implementing a well-known technique with particular devices in a specific combination, like the two-device structure here, can be inventive.” The Federal Circuit emphasized that when describing the inventiveness of the claimed inventions, the patentee “did more than simply label techniques as inventive.” Rather, the patentee “pointed to evidence suggesting that these techniques had not been implemented in a similar way.” For example, the patentee alleged that “[i]t was not until 2009 or later when the leading tech companies, such as Facebook and Google, started releasing HTTP APIs for developers to utilize a HTTP transfer protocol for mobile devices.” Therefore, the Federal Circuit concluded that it is sufficiently to say that the patentee “has claimed significantly more than the idea of capturing, transferring, or publishing data.”

Second, when rejecting the defendant’s argument that the claimed inventive elements “amount to nothing more than minor variations in the technological

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219 Cellspin Soft, Inc., 316 F. Supp. 3d at 1155; see Cellspin Soft, Inc., 927 F.3d at 1313.
220 Cellspin Soft, Inc., 927 F.3d at 1315.
221 Id. at 1317–18 (emphasis added).
222 See id. at 1316–17.
223 See id. at 1316–19.
224 See id. at 1316–17.
225 See Cellspin Soft, Inc., 927 F.3d at 1318–19.
226 Id. at 1318.
227 Id.
228 Id.
229 Id. at 1319.
230 Cellspin Soft, Inc., 927 F.3d at 1319.
environment in which the abstract ideas are implemented[,]” the Federal Circuit compared Electric Power Group, L.L.C. v. Alstom S.A.\textsuperscript{231} with the present case.\textsuperscript{232} The Federal Circuit characterized Electric Power Group, L.L.C. as a case of “merely applying an abstract idea to a “particular technological environment” to an extent that such application “was not enough to transform the underlying idea into something patent eligible[,]” as opposed to the present case where the disputed “claims that use an environment—a computer, a mobile phone, etc.—to do significantly more than simply carry out an abstract idea are patent eligible.” \textsuperscript{233} Specifically, the Federal Circuit found that the asserted claims here “recite[d] a specific, plausibly inventive way of arranging devices and using protocols rather than the general idea of capturing, transferring, and publishing data.”\textsuperscript{234}

IV. NATURE OF THE UNCONVENTIONALITY APPROACH

A. What Constitutes Unconventionality

In BSG Tech L.L.C. v. Buyseasons, Inc., the Federal Circuit criticized that the patentee did not “argue that other, non-abstract features of the claimed inventions, alone or in combination, are not well-understood, routine and conventional database structures and activities.”\textsuperscript{235} Recently, the Federal Circuit in Bridge and Post, Inc. v. Verizon Communications, Inc. questioned that the patentee did not “argue that any individual limitation of the [disputed] patent is unconventional or non-routine.”\textsuperscript{236} But, the question is what constitutes unconventionality.

While the Federal Circuit is yet to provide the contours of “unconventionality” that an inventive concept requires, Aatrix and Cellspin together may guide us to identify what is unconventional in an inventive concept.\textsuperscript{237} What these two decisions looked for is specifically helpful for patentees to make successful allegations in a complaint or for patent drafters to describe patent-eligible innovation in a specification.


In the proposed second amended complaint, the allegations that the Aatrix Court considered as true showed that “individual elements and the claimed combination are not well-understood, routine, or conventional activity.”\textsuperscript{238} These allegations may help define “unconventionality” for software-based innovation in two aspects. First, the claimed invention must process data differently from prior art technology. For example, the complaint stated that the claimed invention “allow[ed]
data to be imported into the viewable electronic form from outside applications[,]” as opposed to “[p]rior art forms solutions [that] allowed data to be extracted only from widely available databases with published database schemas, not the proprietary data structures of application software.”

Second, the claimed invention must improve the functionality of a system that implements it. For instance, the complaint in *Aatrix Software, Inc.* described that the claimed invention “in-creased the efficiencies of computers processing tax forms” and “saved storage space both in the users’ computers’ RAM (Random Access Memory, which is fast, short-term storage used by running programs) and hard disk (permanent slower storage used for files and programs when not running).”

2. Equipment-Based Innovation: Cellspin Soft, Inc. v. Fitbit, Inc.

The allegations that the *Cellspin* Court accepted as true may define “unconventionality” for equipment-based innovation in three aspects. First, a system implementing the claimed invention must operate differently from prior art systems. For example, the amended complaint described prior art devices as an “inferior” system requiring “a [data] capture device with built in mobile wireless Internet,” such that the data capture device was “bulky, expensive in terms of hardware, and expensive in terms of requiring a user to purchase an extra and/or separate cellular service for the data capture device.” On the other hand, the amended complaint characterized the claimed unconventional system as a “two-step, two-device structure[,]” so as to enable the claimed invention to perform a data-capturing step and data-publishing step separately in “different device[s] linked via a wireless, paired connection.”

Second, the claimed invention must provide benefits derived from the claimed unconventional system. For example, the amended complaint asserted at least four benefits: (1) the data capture device “only needs to serve one core function—capturing data—and does not need to incorporate other hardware and software components that might be needed to store data or publish it onto the Internet”; (2) such components for storing or publishing data can be placed on a user's mobile device, such that “data capture devices [would] be smaller and cheaper to build”; (3) using data capture devices would be simpler because, for instance, “one mobile device with one data plan controls several data capture devices”; and (4) “uploading data via a separate device, wirelessly paired to the data capture device, allows users to access and upload data even if the capture device is physically inaccessible to the user.”

Third, the claimed invention must contain a specific feature operating differently from prior art technology. For instance, the amended complaint in

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240 *Id.* at 1127 (emphasis added).
241 *Id.*
242 See *Cellspin Soft, Inc.*, 927 F.3d at 1316.
243 *Id.*
244 *Id.* at 1316–17 (“Cellspin also alleged that this structure provided various benefits over prior art systems.”).
245 *Id.* at 1317 (emphasis added).
246 See *Cellspin Soft, Inc.*, 927 F.3d at 1317 (“Cellspin also alleged that its specific ordered combination of elements was inventive.”).
Cellspin Soft, Inc. compared prior art devices and the claimed inventions by focusing on the former device capable of forwarding “data to a mobile device as captured[,]” while the latter device “require[d] establishing a paired connection between the mobile device and the data capture device before data is transmitted.” 247 This inventive feature was allegedly to ensure “that data is only transmitted if the mobile device is capable of receiving it.”248 Additionally, the amended complaint alleged “its use of HTTP, by an ‘intermediary device’ and while the data is ‘in transit,’ as being inventive” and “non-existent” prior to the claim invention.249 All these stated features led the Cellspin Court to conclude that the patentee had “alleged that [the claimed invention’s] specific ordered combination of elements was inventive.”250

B. An Approach Unlike Novelty

In Mayo Collaborative Services v. Prometheus Laboratories, Inc., the Supreme Court recognized that “in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap.”251 There, the Court considered whether “any additional steps consist of well-understood, routine, conventional activity already engaged in by the scientific community[,]” such that “those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately” and, therefore, “are not sufficient to transform unpatentable natural correlations into patentable applications of those regularities.”252 One commentator has questioned that the Mayo approach was “a de facto exercise of searching for novelty, or non-obviousness in a subset of the claims.”253 However, the Mayo Court noted “that need not always be so.”254

The Federal Circuit case law has shown that its unconventionality approach is not merely a search for novelty.255 Prior to Cellspin Soft, Inc., the Federal Circuit in ChargePoint, Inc. v. SemaConnect held that “adding novel or non-routine components is not necessarily enough to survive a § 101 challenge.”256 The Federal Circuit emphasized that a claimed inventive concept “must be ‘sufficient to ensure that the patent in practice amounts to significantly more’ than a patent on the abstract idea.”257 With that, the Federal Circuit disagreed that the patentee had “presented sufficient factual allegations to preclude dismissal at the Rule 12(b)(6) stage” by specifically

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247 Id. (emphasis in original).
248 Id.
249 See id.
250 Id.
251 Mayo Collaborative Servs., 566 U.S. at 90.
252 Id. at 79–80.
254 Mayo Collaborative Servs., 566 U.S. at 90.
255 See infra Part IV.B.
257 Id. (citing Mayo Collaborative Servs., 566 U.S. at 72–73).
arguing that “its patents represent an unconventional solution to technological problems in the field, and thus contain an inventive concept.”258

The patented technology in ChargePoint, Inc. related to the operation of multiple charging stations for electric vehicles.259 Four disputed patents, U.S. Patent Nos. 7,956,570 ("'570 Patent"), 8,138,715 ("'715 Patent"), 8,432,131 ("'131 Patent"), and 8,450,967 ("'967 Patent"), shared the same specification and protected the claimed invention in four aspects. 260 Briefly, the claimed invention provided “networked charging stations” subject to “network connectivity [that] allows the stations to be managed from a central location, allow[ing] drivers to locate charging stations in advance, and allows all users to interact intelligently with the electricity grid.”261 But, the Federal Circuit held that all disputed claims were “directed to the abstract idea of communicating over a network for device interaction.”262

Under step two of the Alice standard, the Federal Circuit held that the claimed inventive concept was the abstract idea itself. 263 In responding to the patentee’s argument that the disputed "patents claim charging stations enabled to use networks, not the network connectivity itself[,]" 264 the Federal Circuit criticized that “the specification gives no indication that the patented invention involved how to add network connectivity to these charging stations in an unconventional way.”265 Rather, the Federal Circuit noted that the disputed claims and specification showed that “it is clear that network communication is the only possible inventive concept.”266 Actually, the Federal Circuit acknowledged that the patentee had identified the technical problems and an unconventional way to solve the problems.267 However, the Federal Circuit opined that although “the alleged ‘inventive concept’ that solves problems identified in the field is that the charging stations are network-controlled[,] network control is the abstract idea itself.[]”268 Thus, the Federal Circuit concluded that the disputed claims were patent-ineligible.269

Unlike the plaintiff’s allegations recognized by the Cellspin Court, the alleged unconventional solution in ChargePoint, Inc. did not touch how the claimed invention utilizes network control differently from the traditional network control technology.270 Instead, the patentee in ChargePoint, Inc. focused on the claimed network control itself by pointing out three features: “(a) the ability to turn electric supply on based on

258 Id.
259 Id. at 763.
260 Id. at 764. The asserted claims of the '715 Patent covered an apparatus controlled by a remote server that directs electricity flow, while one claim specifically included a charging initiator physically connecting a charging station to an electric vehicle. Id. The alleged claims of the '131 Patent related to an apparatus capable of modifying electricity flow based on demand response communications sent by the server. Id. The disputed method claims of the '967 Patent “related to using the network-controlled charging stations [with] the idea of demand response.” Id. Lastly, the asserted claims of the '570 Patent covered a network-controlled, charging station system. Id.
261 ChargePoint, Inc., 920 F.3d at 763.
262 Id. at 773.
263 Id. at 774–775.
264 Id. at 775 (emphasis in original).
265 Id. (emphasis added).
266 ChargePoint, Inc., 920 F.3d at 775.
267 See id. at 774.
268 Id.
269 Id. at 775.
270 See id. at 774.
communications from a remote server; (b) a ‘network-controlled’ charging system; and 
(c) a charging station that receives communication from a remote server, including 
communications made to implement a demand response policy.”

Therefore, ChargePoint and Cellspin together indicate that the 
unconventionality approach is not a novelty test. The unconventionality approach 
requires a patentee to describe not only the claimed inventive concept, but also prior 
art technology intended to be improved.272 However, the unconventionality approach is 
different from the novelty analysis under 35 U.S.C. § 102, which requires a prior art 
reference to disclose “all the claimed limitations arranged or combined in the same way 
as in the claim.”273 By contrast, the unconventionality approach does not focus on 
whether all limitations of a claim have been disclosed by alleged prior art technology.274 
Rather, a patentee/applicant must compare the claimed inventive concept and prior 
art technology by explaining how they operate differently.275

V. CONCLUSION

The case law concerning patent-eligibility analysis indicates that whether an 
alleged inventive concept exists depends on whether the claimed limitations, 
individual or as an order combination, are well-understood, routine, conventional 
activities. The Federal Circuit in several cases has adopted the unconventionality 
approach. However, the Federal Circuit has not defined what constitutes an 
unconventional feature of the claimed inventive concept. Nevertheless, Aatrix and 
Cellspin together may suggest a guideline for lower courts or practitioners to follow. A 
patent specification or a patentee’s complaint must include four topics. The first topic 
is prior art technology. The second topic explains how a system executing the claimed 
invention performs differently from the prior art technology. The third topic covers the 
benefits derived from the claimed unconventional system. Finally, the fourth topic 
describes a specific feature in the claimed invention as being operated differently from 
the prior art technology. With these factual statements taken together, a patent may 
survive a patent-ineligibility challenge in a motion to dismiss.

271 ChargePoint, Inc., 920 F.3d at 774; see also Corrected Brief for Plaintiff-Appellant at 58–59, ChargePoint, 
272 See supra Part IV.A.
273 Kennametal, Inc. v. Ingersoll Cutting Tool Co., 780 F.3d 1376, 1381 (Fed. Cir. 2015) (internal quotation 
marks omitted).
274 See supra Part IV.A.
275 See id.