

United States District Court
Northern District of California

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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION**

HEWLETT PACKARD COMPANY,
Plaintiff,

v.

SERVICENOW, INC.,
Defendant.

Case No. 14-cv-00570-BLF

**ORDER GRANTING DEFENDANT’S
MOTION FOR SUMMARY
JUDGMENT OF INVALIDITY**

[Re: ECF 70]

Defendant ServiceNow moves for summary judgment of invalidity of claims asserted against it under four U.S. patents. For the reasons below, the motion is **GRANTED**.

I. BACKGROUND

Plaintiff Hewlett Packard (“HP”) brought this suit against Defendant ServiceNow, alleging infringement of eight patents. At issue in the present motion are claims 12, 32, and 35 of U.S. Patent 8,224,683; claims 8-10, 13, 15, and 17-20 of U.S. Patent 6,321,229; claims 1, 2, 3, 5, and 15 of U.S. Patent 7,890,802; and claims 1, 3, 4, 5, and 7 of U.S. Patent 7,610,512.¹ ServiceNow contends that these claims (collectively the “asserted claims”) are invalid under 35 U.S.C § 101 for failing to claim patentable subject matter. Specifically, ServiceNow contends that the asserted claims are directed to abstract ideas, which the Supreme Court has long held fall outside the scope of § 101, *Alice Corp. v. CLS Bank Int’l*, 134 S.Ct. 2347, 2354 (2014).

The court held a hearing on January 29, 2015. HP argued that the parties’ positions revealed underlying disputes as to the proper construction of critical claim terms and that construction of these claim terms would be necessary in order resolve the parties’ ultimate dispute regarding patent-eligibility. *See* Hearing Transcript at 40:5-14, ECF 87. However, HP did not provide explicit proposed constructions of the claim terms it believed precluded summary judgment of invalidity,

¹ The full text of the challenged claims is reproduced in Appendix A.

1 explaining that it had understood the court’s prior instructions to preclude claim construction prior
2 to this summary judgment motion. The court, recognizing a misunderstanding, granted leave for
3 HP to file proposed constructions; the court also granted ServiceNow leave to file additional
4 briefing to address whether the patents at issue would be invalid under HP’s proposed
5 constructions. ECF 84. HP took the opportunity to file proposed constructions.² ECF 89.
6 ServiceNow has accepted HP’s proposed constructions for purposes of this motion and argued
7 that the asserted claims are invalid even under the proposed constructions. ServiceNow’s
8 Supplemental Brief, ECF 91. The court will adopt HP’s proposed constructions for purposes of
9 this motion as well. *See Bascom Research, LLC v. LinkedIn, Inc.*, No. 12-cv-06293, 2015 WL 149480,
10 at *12 (N.D. Cal. Jan. 5, 2015).

11 **A. U.S. PATENT 8,224,683**

12 The ’683 patent is directed toward optimizing the efficiency of providing IT helpdesk services.
13 According to the patent’s specification, “many businesses choose to contract . . . information
14 technology (IT) specialists to install and maintain appropriate computer and network hardware and
15 software necessary for the business to achieve its business objectives. . . . Typically, the contract
16 requires the IT provider to maintain a helpdesk to which the business’[s] employees may call to
17 notify the IT provider of problems with the computer system, network, or software. ¶ The
18 helpdesk agent assigns each reported problem a service ticket.” ’683 patent at 1:27-40. The claims
19 of the ’683 patent are directed to a “system for monitoring service tickets in order to provide
20 reminders to a help desk user of impending times for actions.” Claim 12 of the ’683 patent, which is
21 representative for § 101 purposes,³ recites:

22 A computer program product in a non-transitory computer readable media for
23 use in a data processing system for monitoring service tickets for information
24 technology service providers to ensure that levels of service required to be
provided to a customer pursuant to a contractual agreement between the

25 ² The constructions submitted by HP are reproduced in Appendix B.

26 ³ Although HP has not stipulated that Claim 12 is representative for § 101 purposes, both parties
27 argued the patent’s validity in general terms, without identifying differences among the claims that
28 would change the § 101 analysis. After reviewing the asserted claims, the court concludes that
Claim 12 is representative for § 101 purposes “because all the claims are substantially similar and
linked to the same abstract idea.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat.
Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (internal citations omitted).

1 customer and a service provider, are met, the computer program product
2 comprising:

- 3 first instructions for inspecting a service ticket in a database to
4 determine a deadline for when a problem associated with the service
5 ticket must be resolved, with the deadline based upon a contractually
6 determined severity of the problem and a corresponding
7 contractually required time for resolution of the problem;
- 8 display instructions for displaying, on a display device at the help desk, a
9 graphical display populated with representations of service tickets
10 that have reached a predetermined percentage of the time before
11 their due date;
- 12 second instructions for determining an deadline approaching alert time
13 at which a help desk user must be notified that the deadline for
14 resolving the problem must be met; and
- 15 third instructions for alerting the help desk user that the deadline for
16 resolving the problem is approaching when the deadline approaching
17 alert time is reached.

18 **B. U.S. PATENT 6,321,229**

19 The '229 patent is directed toward accessing information in an information repository, such as
20 a computer database. Recognizing the utility of displaying information hierarchically, the '229
21 patent claims a method and apparatus for accessing a repository's information in a way that it may
22 be displayed to a user in hierarchical form. Claim 8 of the '229 patent, representative for § 101
23 purposes,⁴ recites:

24 Apparatus for accessing an information repository, comprising:

- 25 a. a number of computer readable media; and
- 26 b. computer readable program code stored on said number of computer
27 readable media, said computer readable program code comprising:
 - 28 i. code for creating a hierarchy of derived containers, wherein a
given derived container corresponds to:
 - (1) a container definition node of an information model,
said information model comprising a hierarchy of
container definition nodes; and
 - (2) a category of information stored in said information
repository;
 - ii. code for displaying given ones of said derived containers to a
computer user; and
 - iii. code for determining if a given one of said displayed derived
containers has been selected by a computer user, and upon
selection of said given one of said displayed derived
containers, displaying contents of said given one of said
displayed derived containers.

⁴ Although HP has not stipulated that Claim 8 is representative for § 101 purposes, both parties argued the patent's validity in general terms, without identifying differences among the claims that would change the § 101 analysis. After reviewing the asserted claims, the court concludes that Claim 8 is representative for § 101 purposes "because all the claims are substantially similar and linked to the same abstract idea." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (internal citations omitted).

1 **C. U.S. PATENTS 7,890,802 AND 7,610,512**

2 The '802 and '512 patents, which share a specification, are directed toward automating
3 workflows for resolving IT incidents. The '802 patent's claims focus on the creation of these
4 automated IT workflows, while the '512 patent's claims focus on running the automated IT
5 workflows. Claim 1 of the '802 patent, representative for § 101 purposes,⁵ recites:

6 A computer implemented method for facilitating a user in defining a repair
7 workflow for subsequent use in resolving information technology (IT)
8 incidents, comprising:

- 9 facilitating the user in defining a plurality of steps of the repair workflow
10 using a computing device, wherein facilitating the user in defining a
11 plurality of steps comprises facilitating the user in defining a plurality
12 of operations for the steps, and defining inputs and outputs of the
13 operations;
14 facilitating the user in defining a plurality of transitions between the
15 steps, based at least in part on the outputs of the steps, using a
16 computing device; and
17 checking the defined repair workflow for correctness before being used
18 to resolve an IT incident using a computing device, wherein
19 checking the defined repair workflow for correctness includes
20 verifying that each response of each step's operation has a transition
21 to another step.

22 Claim 1 of the '512 patent, representative for § 101 purposes,⁶ recites:

23 A computer implemented method for resolving an information technology
24 (IT) incident, comprising:

- 25 loading a repair workflow having a plurality of steps and transitions
26 between the steps, defined to repair the IT incident on a computing
27 device, each of the steps having one or more inputs, processing logic
28 for the input(s) and one or more outputs;
29 creating a repair frame for the loaded repair workflow on the computing
30 device;
31 creating a repair context for the repair frame on the computing device,
32 and populating the repair frame with configuration data;
33 binding one or more data values to the one or more inputs of one of the
34 steps within the repair context;

35 ⁵ Although HP has not stipulated that Claim 1 is representative for § 101 purposes, both parties
36 argued the patent's validity in general terms, without identifying differences among the claims that
37 would change the § 101 analysis. After reviewing the asserted claims, the court concludes that
38 Claim 1 is representative for § 101 purposes "because all the claims are substantially similar and
39 linked to the same abstract idea." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat.*
40 *Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (internal citations omitted).

41 ⁶ Although HP has not stipulated that Claim 1 is representative for § 101 purposes, both parties
42 argued the patent's validity in general terms, without identifying differences among the claims that
43 would change the § 101 analysis. After reviewing the asserted claims, the court concludes that
44 Claim 1 is representative for § 101 purposes "because all the claims are substantially similar and
45 linked to the same abstract idea." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat.*
46 *Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (internal citations omitted).

1 processing the bound data values of the one or more inputs of the step
2 within the repair context;
3 executing the step's operation;
4 extracting the one or more outputs of step within the context; and
5 selecting a transition to transition to another step within the context,
6 based at least in part on the extracted one or more outputs.

7 **II. LEGAL STANDARD**

8 **A. MOTION FOR SUMMARY JUDGMENT**

9 Pursuant to Rule 56 of the Federal Rules of Civil Procedure, a “court shall grant summary
10 judgment if the movant shows that there is no genuine issue as to any material fact and that the
11 movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a).

12 The Supreme Court’s 1986 “trilogy” of *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986), *Anderson*
13 *v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986), and *Matsushita Electric Industrial Co. v. Zenith Radio*
14 *Corp.*, 475 U.S. 574 (1986), requires that a party seeking summary judgment show the absence of a
15 genuine issue of material fact. Once the moving party has done so, the nonmoving party must “go
16 beyond the pleadings and by [its] own affidavits, or by the depositions, answers to interrogatories,
17 and admissions on file, designate specific facts showing that there is a genuine issue for trial.” *See*
18 *Celotex*, 477 U.S. at 324. “When the moving party has carried its burden under Rule 56(c), its
19 opponent must do more than simply show that there is some metaphysical doubt as to the material
20 facts.” *Matsushita*, 475 U.S. at 586. “If the [opposing party’s] evidence is merely colorable, or is not
21 significantly probative, summary judgment may be granted.” *Liberty Lobby*, 477 U.S. at 249-50.
22 “[I]nferences to be drawn from the underlying facts,” however, “must be viewed in the light most
23 favorable to the party opposing the motion.” *See Matsushita*, 475 U.S. at 587.

24 **B. PATENT-ELIGIBLE SUBJECT MATTER**

25 Section 101 of the Patent Act defines the classes of patentable subject matter: “Whoever
26 invents or discovers any new and useful process, machine, manufacture, or composition of matter,
27 or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions
28 and requirements of this title.” 35 U.S.C. § 101.

Despite the apparent breadth of this language, § 101 has long contained “an important implicit
exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Ass’n for*
Molecular Pathology v. Myriad Genetics, 133 S.Ct. 2107, 2116 (2013) (quoting *Mayo Collaborative*

1 *Services v. Prometheus Laboratories*, 132 S.Ct. 1289, 1293 (2012)). The Supreme Court recently
2 reaffirmed this principle in *Alice Corp. v. CLS Bank Int'l*, 134 S.Ct. 2347 (2014). The “concern that
3 drives this exclusionary principle [is] one of pre-emption. . . . Monopolization of [laws of nature,
4 natural phenomena, and abstract ideas] through the grant of a patent might tend to impede
5 innovation more than it would tend to promote it, thereby thwarting the primary object of the
6 patent laws.” *Id.* at 2354.

7 However, the Supreme Court has repeatedly stressed the need to “tread carefully in
8 construing this exclusionary principle lest it swallow all of patent law. At some level, all inventions
9 embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.
10 Thus, an invention is not rendered ineligible for patent simply because it involves an abstract
11 concept.” *Id.* (internal citations omitted).

12 The Supreme Court has set forth a “framework for distinguishing patents that claim . . .
13 abstract ideas from those that claim patent-eligible applications of those concepts. First, we
14 determine whether the claims at issue are directed to one of those patent-ineligible concepts. If so,
15 we then ask, ‘what else is there in the claims before us?’ . . . to determine whether the additional
16 elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 2355 (internal
17 citations omitted). Step two of the analysis is a “search for an ‘inventive concept’—*i.e.*, an element
18 or combination of elements that is sufficient to ensure that the patent in practice amounts to
19 significantly more than a patent upon the ineligible concept itself.” *Id.* (internal citations omitted).

20 Because patents are presumed valid, *see* 35 U.S.C. § 282, an alleged infringer asserting an
21 invalidity defense bears the burden of proving invalidity by clear and convincing evidence. *Microsoft*
22 *Corp. v. i4i L.P.*, 131 S.Ct. 2238, 2242 (2011).

23 **III. DISCUSSION**

24 **A. U.S. PATENT 8,224,683**

25 ServiceNow argues that the ’683 patent claims the abstract idea of monitoring deadlines and
26 providing an alert when a deadline is approaching. Opening Brief at 6, ECF 70. HP’s expert
27 describes the ’683 patent as disclosing “a technological innovation that reduces the average time to
28 resolve an IT incident.” Menascé Decl. at ¶ 46, ECF 79-10. Dr. Menascé generally describes the

1 benefit of the '683 patent in terms of its ability to handle large volumes of service requests, each
2 with its own contractual deadline. Menascé Decl. at ¶¶ 125-27.⁷ The court agrees with
3 ServiceNow that the claims of this patent are directed to an abstract idea. Looking to Claim 12 of
4 the '683 patent, the court notes that the “concept embodied by the majority of the limitations,”
5 *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014), reduces to four conceptual
6 elements:⁸

- 7 1. Inspecting a service ticket to determine a deadline for when a problem must be
8 resolved
- 9 2. Displaying service tickets that have reached a predetermined percentage of the time
10 before their due date
- 11 3. Determining a deadline-approaching alert time
- 12 4. Alerting the user when that alert time is reached

13 '683 Patent at Claim 12.

14 Taken together, limitations 1, 3, and 4 listed above do nothing more than describe what it
15 means to monitor deadlines and provide alerts regarding those deadlines. “Although certain
16 additional limitations, such as [limitation 2], add a degree of particularity, the concept embodied by
17 the majority of the limitations describes only the abstract idea of” monitoring deadlines and
18 providing alerts regarding those deadlines. *Ultramercial*, 772 F.3d at 715. The court thus concludes
19 that Claim 12 of the '683 patent is directed to the abstract idea of monitoring deadlines and
20 providing an alert when the deadline is approaching.

21 _____
22 ⁷ ServiceNow objects to HP’s submission of the declaration of Dr. Daniel A. Menascé on the basis
23 that the declaration is directed to legal conclusions, which fall exclusively within the province of
24 the court. The court agrees with ServiceNow that much of the declaration is directed to
25 impermissible legal conclusions. However, the objection is **OVERRULED** on the basis that the
26 court is capable of considering the declaration for its factual content while ignoring any
27 impermissible legal conclusions. The court has reviewed Dr. Menascé’s declaration and has
28 considered his conclusions to the extent they are properly characterized as factual rather than legal.
See Accenture Global Servs., GmbH v. Guidewire Software, Inc., 728 F.3d 1336, 1340 (Fed. Cir. 2013)
(recognizing that “[p]atent eligibility under § 101 presents an issue of law” that “may contain
underlying factual issues”), cert. denied, 134 S. Ct. 2871 (2014).

⁸ The court need not reach the question of whether the preamble to this claim is limiting. Even
assuming it is, it merely “recite[s] a handful of generic computer components,” which is
insufficient to turn a claim for an abstract idea into a concrete implementation of that idea. *See*
Alice, 134 S.Ct. at 2360.

1 Having found that this claim is directed to an abstract idea, the court must now search the
2 claim limitations, individually and taken as an ordered combination, to determine whether the
3 claim contains an “inventive concept” to ensure that the patentee is claiming a patent-eligible
4 application of this idea, rather than attempting to patent the idea itself.

5 It is clear under Supreme Court precedent that simply reciting the phrase “instructions for” in
6 front of the substantive functional limitations is insufficient to turn an otherwise ineligible abstract
7 idea into a patent-eligible application. This is no different than simply adding the words “use a
8 computer to” before reciting an abstract idea, which the Supreme Court has unanimously held to
9 be insufficient. *See Alice*, 134 S.Ct. at 2359 (“[T]he relevant question is whether the claims here do
10 more than simply instruct the practitioner to implement the abstract idea . . . on a generic
11 computer. They do not.”) Claiming any and all “instructions for” implementing an abstract idea is
12 substantively identical to instructing the practitioner to implement the abstract idea on a computer.

13 For the same reason, adopting HP’s proposed constructions does not alter the court’s
14 conclusion that the claims are directed to patent-ineligible subject matter. *See Bascom Research,*
15 *LLC v. LinkedIn, Inc.*, No. 12-cv-06293, 2015 WL 149480, at *12 (N.D. Cal. Jan. 5, 2015). HP’s
16 proposed constructions of ‘monitoring server,’ ‘database,’ and ‘help desk client’ fail to limit claim
17 scope to a concrete implementation or application of the abstract idea discussed above. HP
18 construes ‘monitoring server’ to mean “[a] server specifically configured to,” followed by a
19 functional description of the abstract idea being claimed. HP construes ‘database’ to mean “[a]
20 structured set of data specifically configured to,” followed by a functional description of the
21 abstract idea being claimed. Finally, HP construes ‘help desk client’ to mean “[a] client used by a
22 help desk user specifically configured to,” followed by a functional description of the abstract idea
23 being claimed. Reciting generic computer components “configured to” implement an abstract idea
24 is no different than adding “instructions for” in front of the abstract idea; in either case, any and all
25 implementations of the abstract idea are being claimed, which is essentially equivalent to claiming
26 the abstract idea itself. *See Alice*, 134 S.Ct. at 2360 (holding unpatentable “system claims recit[ing]
27 a handful of generic computer components configured to implement the [abstract] idea” because
28 the recited computer component limitations were “purely functional and generic”).

1 Similarly, the fact that the claims are limited to applying this abstract concept in the context of
2 IT help desks does not supply the necessary inventive concept. “*Flook* established that limiting an
3 abstract idea to one field of use . . . did not make the concept patentable.” *Bilski v. Kappos*, 561 U.S.
4 593, 612 (2010). For the same reason, the fact that the claims are limited to deadlines based on a
5 “contractually required time for resolution of the problem,” ’683 Patent at Claim 12, does not
6 transform the abstract idea of providing deadline alerts into a patentable implementation or
7 application of that concept.

8 The only potential for an inventive concept is in the second limitation listed above. In addition
9 to providing alerts regarding upcoming deadlines, the claimed invention requires displaying service
10 tickets that have reached a predetermined percentage of the time before their due date. Taken by
11 itself, this claim limitation certainly cannot supply an inventive concept to render the abstract idea
12 patent-eligible. First, this limitation is in itself an abstract idea, and so is not patentable on its own.
13 Second, the court does not understand HP to be arguing that the idea of showing service tickets
14 that have reached a predetermined percentage of time before their due date is innovative or non-
15 conventional. The court also considers the limitations as an ordered combination and finds that
16 considering them as such adds nothing to what is present when the limitations are considered
17 separately. *See Alice*, 134 S.Ct. at 2359.

18 Because the claims of the ’683 patent do nothing more than recite the abstract idea of
19 monitoring deadlines and alerting users about upcoming deadlines, along with an instruction to
20 implement the idea on various computing components, the claims of the ’683 patent are not
21 directed to patentable subject matter. Accordingly, the court grants ServiceNow’s motion for
22 summary judgment as to the invalidity of the asserted claims of the ’683 patent.

23 **B. U.S. PATENT 6,321,229**

24 The ’229 patent is directed to an apparatus and method “for accessing an information
25 repository.” ’229 Patent at Claim 8. Specifically, it is directed toward allowing hierarchical access to
26 the information based on categories of information stored in the repository. *See* ’229 Patent at
27 Claim 8(b)(i), 8(b)(i)(2); *see also* Menascé Decl. at ¶¶ 47, 82. ServiceNow contends that the ’229
28 patent attempts to claim the abstract idea of categorizing and organizing information into a

1 hierarchy. Opening Brief at 16, ECF 70. If this characterization of the claims at issue is correct,
2 there is little doubt that the claims are invalid as being directed to patent-ineligible subject matter.
3 Claiming the abstract idea of organizing information into a hierarchy would preempt any other
4 inventor from creating a computer-based method for categorizing and organizing information by
5 classification, no matter how the inventor achieved this result. *See, e.g., Cyberfone Sys v. CNN*
6 *Interactive Grp*, 558 F. App'x 988, 992 (Fed. Cir. 2014); *Digitech Image Technologies v. Electronics for*
7 *Imaging*, 758 F.3d 1344, 1351 (Fed. Cir. 2014).

8 HP does not dispute that such abstract ideas are patent-ineligible, but rather disputes
9 ServiceNow's characterization of the '229 patent's claims. According to HP, the '229 patent claims
10 something much more specific and concrete than ServiceNow suggests. Opposition Brief at 14,
11 ECF 79 ("The '229 Patent is directed to an apparatus and method that uses specialized data
12 structures . . ."). Specifically, HP points to the fact that its claims are limited to implementations
13 that use "derived containers" and "container definition nodes." Opposition Brief at 15.

14 If HP is correct that "derived containers" and "container definition nodes" really are specific,
15 specialized data structures, rather than functionally defined generic computer components, then
16 the '229 patent's claims are distinguishable from those at issue in *Cyberfone* and *Digitech* and may
17 be patent-eligible. However, ServiceNow disputes HP's characterization of the claimed data
18 structures as "specialized." ServiceNow argues that the claims of the '229 patent simply use
19 idiosyncratic names to identify what are actually "generic computer structures." ServiceNow's
20 Supplemental Brief at 5, ECF 91; *see also Alice*, 134 S.Ct. at 2360 (holding unpatentable "system
21 claims recit[ing] a handful of generic computer components configured to implement the [abstract]
22 idea" because the recited computer component limitations were "purely functional and generic").

23 The court concludes, as an initial matter, that the patentability of the invention claimed by the
24 '229 patent turns on whether "container definition nodes" and "derived containers" are
25 idiosyncratic names for generic computer data structures. If they are indeed generic computer data
26 structures, the meaningful limitations of Claim 8 are merely:

- 27 1. Creating a hierarchy of data structures, with each data structure corresponding to:
 - 28 a. a definition for that data structure; and

- 1 b. a category of information stored in the repository
- 2 2. Displaying one or more of these data structures (i.e. categories of information)
- 3 3. Displaying the content of one of these data structures upon selection by the user (i.e.
- 4 displaying the corresponding category of information)

5 Thus, if ServiceNow is correct and “derived containers” and “container definition nodes” are
6 merely generic computer components, Claim 8 of the patent recites nothing more than organizing
7 the information in a repository into a hierarchy and allowing the user to access it that way.
8 Undoubtedly, this would be an unpatentable abstract idea. Accordingly, the court turns to HP’s
9 constructions of “derived container” and “container definition node” to ascertain if they are truly
10 specialized data structures, and not merely “functional” descriptions of “generic computer
11 components configured to implement the same idea.” *See Alice*, 134 S.Ct. at 2360.

12 HP proposes to construe “container definition node” to mean a “[d]ata structure having one
13 or more attributes for accessing an information repository and related to creating a hierarchy of
14 information.” Clearly, unspecified data structures are generic computing components unless
15 defined by further details. The question then is whether HP’s proposed construction amounts to
16 more than a “functional and generic” description of the data structure. The court concludes that
17 HP’s proposed construction does not go beyond the kind of “functional and generic” description
18 of “generic computer components configured to implement the [abstract] idea” that the Supreme
19 Court rejected in *Alice*. Any computer-based “[a]pparatus for accessing information in an
20 information repository,” ’229 Patent at Claim 8, will require data structures containing information
21 for accessing the information repository. This is merely a functional description of what the
22 otherwise generic data structure needs to accomplish. Similarly, any apparatus for organizing
23 information hierarchically will require data structures “related to creating a hierarchy of
24 information.” This is again nothing more than a functional description of the data structure, rather
25 than a substantive limitation on how the abstract idea is implemented.

26 HP’s proposed construction of “derived container” as a “[d]ata structure capable of executing
27 a query based on an attribute from one or more corresponding container definition nodes”—
28 though phrased in technical terms—is similarly functional and generic. The fact that the data

1 structure is capable of executing a query is simply another way of saying that the data structure is
2 capable of accessing the information repository; it says nothing of *how* the data structure is capable
3 of performing these operations. The limitation would cover any implementation of a data structure
4 that achieves this functionality. The generic and functional nature of the data structure’s ability to
5 execute a query is further shown by the fact that it is executing the query “based on an attribute
6 from one or more corresponding container definition nodes.” As explained above, the container
7 definition nodes’ attributes are nothing more than unspecified information for accessing the
8 information repository. The derived containers’ ability to execute queries based on these attributes
9 merely states that derived containers are able to use the information for its intended purpose.

10 In short, taken together, the container definition nodes and derived containers are nothing
11 more than a data structure containing information for accessing the information repository
12 hierarchically and a data structure for using that information. This describes every conceivable
13 implementation of the abstract idea. Accordingly, the court concludes that the claims of the ’229
14 patent are drawn toward an abstract idea.

15 Having found that this claim is directed to an abstract idea, the court must now search the
16 claim limitations for an “inventive concept” to ensure that the patentee is claiming a patent-eligible
17 application of this idea, rather than attempting to patent the idea itself. The only limitation in the
18 claim beyond what was determined above to be a purely abstract idea is the requirement of “a
19 number of computer readable media.” ’229 Patent at Claim 8. This limitation clearly does not
20 supply any inventive concept, but rather merely limits the abstract idea to the context of
21 computers. Similarly, there is no inventive concept in combining computer readable media with the
22 idea of categorizing and organizing information hierarchically. Accordingly, the court finds the
23 asserted claims of the ’229 patent to be invalid under § 101 for failing to claim patentable subject
24 matter.

25 **C. U.S. PATENTS 7,890,802 AND 7,610,512**

26 The ’802 and ’512 patents share a specification and are directed to automating the resolution
27 of IT incidents. The ’802 patent is directed to a “computer implemented method for facilitating a
28 user in defining a repair workflow for subsequent use in resolving information technology (IT)

1 incidents.” ’802 Patent at Claim 1. The ’512 patent is directed toward a “computer implemented
2 method for resolving an information technology (IT) incident,” ’512 Patent at Claim 1, using a
3 repair workflow as created in the ’802 patent. HP’s expert describes the ’512 and ’802 patents as
4 teaching “a technological innovation that reduces the average time to resolve an IT incident,”
5 Menascé Decl. at ¶ 45, and as addressing “the problem of how to manage and resolve ‘Information
6 Technology (IT)’ incidents using a computer,” *id.* at ¶ 57. “The ’512 and ’802 Patents disclose a
7 computer implementation for automating IT incident repair.” *Id.* at ¶ 60.

8 Looking to Claim 1 of the ’802 patent as representative, the court notes the following
9 substantive limitations:

- 10 1. Defining the steps of the repair workflow, with each step having inputs and outputs
- 11 2. Using the output of a step to determine what step to take next
- 12 3. Making sure the repair workflow is correct, including making sure that there are no
13 “dead ends” in the workflow⁹

14 Looking to Claim 1 of the ’512 patent as representative, the court notes the following
15 substantive limitations:

- 16 1. Loading a repair workflow
- 17 2. Creating a repair frame and initializing its repair context
- 18 3. Supplying inputs to a step in the repair workflow based on the repair context
- 19 4. Executing the step
- 20 5. Extracting the output of the step
- 21 6. Choosing the next step based on the output

22 These limitations, at face, describe the idea of automating IT incident resolution. “Although
23 certain additional limitations . . . add a degree of particularity, the concept embodied by the
24 majority of the limitations describes only the abstract idea of” defining and executing automated
25 workflows to resolve IT incidents. *Ultramercial*, 772 F.3d at 715. Of course, the claims are not
26 stated so simply. As HP notes, the claim limitations are stated in terms of ‘repair workflows,’

27 _____
28 ⁹ Making sure there are no “dead ends” means “verifying that each response of each step’s
operation has a transition to another step.” ’802 Patent at Claim 1.

1 'operations,' 'steps,' 'responses,' 'transitions,' 'bindings,' 'repair contexts,' and 'repair frames.' If
2 these claim terms were precise and narrow, they might well be enough to change the nature of the
3 claimed invention from an abstract idea into a concrete implementation, since any automated
4 system for resolving IT incidents that managed to avoid meeting even one of these limitations
5 would still remain open to the public. But HP's proposed constructions of these terms do nothing
6 to make the claims any narrower than stated above.

7 As made clear by HP's constructions, these terms are not narrowly and specifically defined
8 data structures as HP contends, but rather functional and generic recitations of general computing
9 concepts. A 'repair workflow' is merely "a set of instructions used by the system to resolve
10 incidents." Each repair workflow consists of 'steps,' which perform 'operations': "unit[s] of work
11 to be performed," containing inputs, results, and responses. The response is used to define the
12 'transition' to the next step. The inputs to operations are supplied by 'bindings,' which are defined
13 functionally by the fact that they "define[] a mapping of data values to the inputs of an operation."
14 The 'repair context' and 'repair frame' are generically defined data structures that allow data to be
15 stored for later access, with no further details limiting their scope.

16 These terms are merely recitations of what it means to automate something on a computer,
17 which necessarily requires everything to be defined in terms of discrete operations communicating
18 with each other via inputs and outputs. In short, even after taking HP's proposed constructions
19 into account, the '802 and '512 patents' claims are so broadly worded as to cover *any* attempt to
20 automate the resolution of IT incidents with a computer. But the automation of IT incident
21 resolution is an abstract idea, not patentable under § 101.

22 Having determined that the '802 and '512 patents' claims are drawn to an ineligible abstract
23 idea, the court must consider the claim limitations, individually and taken as an ordered
24 combination, to determine whether the claims contain an "inventive concept" sufficient to ensure
25 that the patentee is claiming a patent-eligible application of the idea, rather than attempting to
26 patent the idea itself. The court concludes that they do not.

27 Looking first at Claim 1 of the '802 patent, the only limitation that is not a recitation of the
28 idea of automating IT incident resolution is the third limitation listed above ("Making sure the

1 repair workflow is correct, including making sure that there are no ‘dead ends’ in the workflow”).
2 This limitation does not specify how the verification of the workflow’s correctness is to be
3 achieved; it merely instructs that the workflow be verified. HP has given the court no reason to
4 suspect that this involves anything other than the routine application of conventional computing
5 concepts, and therefore it cannot supply the necessary “inventive concept” to direct the claim to
6 patent-eligible subject matter. This is true whether the claim limitations are considered individually
7 or as an ordered combination. Accordingly, the court concludes that the asserted claims of the ’802
8 patent are invalid as directed to patent-ineligible subject matter.

9 Looking next at Claim 1 of the ’512 patent, there are no additional limitations beyond reciting
10 the execution of an automated workflow to resolve IT incidents. Because all of the limitations are
11 directed to the abstract idea of automated IT incident resolution, the claims—whether considered
12 individually or as an ordered combination—contain no additional “inventive concept” to render
13 the claim’s subject matter patent-eligible. Accordingly, the court concludes that the asserted claims
14 of the ’512 patent are invalid as directed to patent-ineligible subject matter.

15 To support the validity of the patents’ claims, HP points to the fact that “[t]he invention has
16 also been a success in the industry, thereby demonstrating that the claims represent an
17 improvement over conventional practice.” Opposition Brief at 12, ECF 79. This argument misses
18 the point, directing itself to novelty and obviousness rather than the patentability of the subject
19 matter. *See Diamond v. Diehr*, 450 U.S. 175, 189-91 (1981) (distinguishing patent-eligibility under
20 § 101 from novelty and obviousness under §§ 102, 103). For example, a self-driving car might be
21 very successful commercially. It might be novel and—its implementation, at least—non-obvious.
22 But that doesn’t make the concept of a self-driving car any less abstract. The first inventor to
23 successfully create a self-driving car might be able to patent his specific implementation of the idea
24 with appropriately narrow claim language, limited to the inventor’s particular implementation. But
25 the inventor could *not* patent self-driving cars in the abstract, no matter how novel or successful his
26 particular self-driving car might be.

27 Thus, even accepting that HP was the first entity to successfully automate the resolution of IT
28 incidents, this does not entitle HP to a patent on (the abstract idea of) the automated resolution of

1 IT incidents. The '802 and '512 patents' specification may contain somewhere a specific, patentable
2 implementation of automating the resolution of IT incidents. But for purposes of § 101, the claims
3 themselves are what matter, and what is claimed is far too broad to constitute a specific
4 implementation of automated resolution of IT incidents. Rather, the claims generically claim any
5 computer-implemented automation of resolving IT incidents. This is an abstract idea and thus is
6 not patentable.

7 This conclusion is buttressed by concerns of preemption. Granting HP a monopoly on a very
8 specific implementation of computer-automated resolution of IT incidents would spur innovation,
9 by creating an incentive for others to develop a different implementation in order to avoid HP's
10 patent. But the claims in the '802 and '512 patents would have the opposite effect. They are framed
11 in such broad, functional language as to cover any conceivable computer-automated system for
12 resolving IT incidents. By broadly preempting any computer-automated system for the resolution
13 of IT incidents, these patent claims would inhibit innovation, because there is no incentive to
14 develop new systems of computer-automated resolution of IT incidents—any new system that gets
15 developed would incur not only the cost of development, but also the cost of licensing HP's
16 invention.

17 **IV. ORDER**

18 For the foregoing reasons, **IT IS HEREBY ORDERED** that:

19 ServiceNow's motion for summary judgment of invalidity on the asserted claims of U.S.
20 Patents 8,224,683; 6,321,229; 7,890,802; and 7,610,512 is **GRANTED**.

21 Dated: March 10, 2015

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23 **BETH LABSON FREEMAN**
24 United States District Judge
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APPENDIX A

PATENT CLAIMS AT ISSUE

U.S. PATENT 8,224,683

CLAIM 12

A computer program product in a non-transitory computer readable media for use in a data processing system for monitoring service tickets for information technology service providers to ensure that levels of service required to be provided to a customer pursuant to a contractual agreement between the customer and a service provider, are met, the computer program product comprising:

- first instructions for inspecting a service ticket in a database to determine a deadline for when a problem associated with the service ticket must be resolved, with the deadline based upon a contractually determined severity of the problem and a corresponding contractually required time for resolution of the problem;
- display instructions for displaying, on a display device at the help desk, a graphical display populated with representations of service tickets that have reached a predetermined percentage of the time before their due date;
- second instructions for determining an deadline approaching alert time at which a help desk user must be notified that the deadline for resolving the problem must be met; and
- third instructions for alerting the help desk user that the deadline for resolving the problem is approaching when the deadline approaching alert time is reached.

CLAIM 32

A system for monitoring service tickets in order to provide reminders to a help desk user of impending times for actions, the times for actions being provided according to a level of service required to be provided to a customer pursuant to a contract between the customer and a service provider, the system comprising:

- a monitoring server;
 - a database; and
 - a help desk client;
- wherein the database stores tickets and information regarding ticket types, ticket severities based on the contract, and corresponding contractually required times for actions to be performed for each of the ticket types and ticket severities; the monitoring server monitors tickets in the database, determines when times for actions are approaching, and sends alerts to the help desk client alerting the help desk user that a time to take a specified action is approaching; and the help desk client displays active tickets to a help desk user and provides alerts received from the monitoring server to the help desk user.

1 **CLAIM 35**

2 The system as recited in claim 32, wherein the active tickets displayed are only
3 those that have reached a predetermined percentage of the time before their
4 due date.

5 **U.S. PATENT 6,321,229**

6 **CLAIM 8**

7 Apparatus for accessing an information repository, comprising:
8 a. a number of computer readable media; and
9 b. computer readable program code stored on said number of computer
10 readable media, said computer readable program code comprising:
11 i. code for creating a hierarchy of derived containers, wherein a
12 given derived container corresponds to:
13 (1) a container definition node of an information model,
14 said information model comprising a hierarchy of
15 container definition nodes; and
16 (2) a category of information stored in said information
17 repository;
18 ii. code for displaying given ones of said derived containers to a
19 computer user; and
20 iii. code for determining if a given one of said displayed derived
21 containers has been selected by a computer user, and upon
22 selection of said given one of said displayed derived
23 containers, displaying contents of said given one of said
24 displayed derived containers.

25 **CLAIM 9**

26 Apparatus as in claim 8, wherein the contents of some derived containers
27 comprise child derived containers, and the contents of other derived
28 containers comprise information extracted from said information repository.

29 **CLAIM 10**

30 Apparatus as in claim 8, wherein the contents of some derived containers
31 comprise both child derived containers and information extracted from said
32 information repository.

33 **CLAIM 13**

34 Apparatus as in claim 8, wherein:
35 a. various ones of the container definition nodes forming said
36 information model comprise pointers which establish a hierarchical
37 relationship between said container definition nodes of said
38 information model; and
39 b. said code for creating a hierarchy of derived containers determines the
40 hierarchical relationship of said derived containers by referring to
41 said information model.

42 **CLAIM 15**

43 Apparatus as in claim 8, wherein each of said derived containers inherits at
44 least one attribute from its corresponding container definition node, said at

1 least one attribute comprising a selection criteria attribute which determines
2 the category of information stored in said information repository to which a
3 derived container corresponds.

4 **CLAIM 17**

5 Apparatus for accessing an information repository, comprising:

- 6 a. a number of computer readable media; and
- 7 b. computer readable program code stored on said number of computer
8 readable media, said computer readable program code comprising
9 code for creating a hierarchy of derived containers, wherein a given
10 derived container corresponds to:
 - 11 i. a container definition node of an information model, said
12 information model comprising a hierarchy of container
13 definition nodes; and
 - 14 ii. a category of information stored in said information
15 repository; wherein:
 - 16 (1) said hierarchy of container definition nodes comprises
17 at least a first-level container definition node, a
18 plurality of lower level container definition nodes, and
19 a plurality of leaf nodes;
 - 20 (2) various of said container definition nodes comprise
21 pointers to other container definition nodes to thereby
22 establish said hierarchy of container definition nodes;
23 and
 - 24 (3) each of said container definition nodes comprises a
25 selection criteria attribute.

26 **CLAIM 18**

27 A computer based method of accessing an information repository, comprising:

- 28 a. said computer creating a hierarchy of derived containers, wherein a
given derived container corresponds to:
 - i. a container definition node of an information model, said
information model comprising a hierarchy of container
definition nodes; and
 - ii. a category of information stored in said information
repository;
- b. said computer displaying given ones of said derived containers to a
computer user; and
- c. said computer determining if a given one of said displayed derived
containers has been selected by a computer user, and upon selection
of said given one of said displayed derived containers, displaying
contents of said given one of said displayed derived containers.

CLAIM 19

A method as in claim 18, wherein the contents of some derived containers
comprise child derived containers, and the contents of other derived
containers comprise information extracted from said information repository.

CLAIM 20

A method as in claim 18, wherein the contents of some derived containers
comprise both child derived containers and information extracted from said
information repository.

1 **U.S. PATENT 7,890,802**

2 **CLAIM 1**

3 A computer implemented method for facilitating a user in defining a repair
4 workflow for subsequent use in resolving information technology (IT)
5 incidents, comprising:

6 facilitating the user in defining a plurality of steps of the repair workflow
7 using a computing device, wherein facilitating the user in defining a
8 plurality of steps comprises facilitating the user in defining a plurality
9 of operations for the steps, and defining inputs and outputs of the
10 operations;

11 facilitating the user in defining a plurality of transitions between the
12 steps, based at least in part on the outputs of the steps, using a
13 computing device; and

14 checking the defined repair workflow for correctness before being used
15 to resolve an IT incident using a computing device, wherein
16 checking the defined repair workflow for correctness includes
17 verifying that each response of each step's operation has a transition
18 to another step.

19 **CLAIM 2**

20 The method of claim 1, wherein said defining of a plurality of operations
21 comprises attaching to the steps, a plurality of sets of executable code
22 implementing the operations defined by the user.

23 **CLAIM 3**

24 The method of claim 1, wherein said facilitating of the user in defining a
25 plurality of transitions between the steps comprises attaching to the
26 transitions, a plurality of sets of parsing code for processing the outputs.

27 **CLAIM 5**

28 The method of claim 1, wherein said facilitating of the user in defining a
plurality of transitions between the steps comprises attaching to the steps, a
plurality of sets of executable code for processing the outputs.

CLAIM 15

An article of manufacture comprising:

a storage medium; and

a plurality of programming instructions stored in the storage medium,
and adapted to program an apparatus to enable the apparatus to:

facilitate a user in defining a plurality of steps of a repair
workflow using a computing device, wherein the repair
workflow defines a plurality of operations for the steps, and
inputs and outputs of the operations; and

facilitate the user in defining a plurality of transitions between
the steps, based at least in part on the outputs of the steps,
using a computing device; and

check the defined repair workflow for correctness before being
used to resolve an IT incident using a computing device,
wherein said check for correctness includes a verification that

1 each response of each step's operation has a transition to
2 another step.

3 **U.S. PATENT 7,610,512**

4 **CLAIM 1**

5 A computer implemented method for resolving an information technology
6 (IT) incident, comprising:
7 loading a repair workflow having a plurality of steps and transitions
8 between the steps, defined to repair the IT incident on a computing
9 device, each of the steps having one or more inputs, processing logic
10 for the input(s) and one or more outputs;
11 creating a repair frame for the loaded repair workflow on the computing
12 device;
13 creating a repair context for the repair frame on the computing device,
14 and populating the repair frame with configuration data;
15 binding one or more data values to the one or more inputs of one of the
16 steps within the repair context;
17 processing the bound data values of the one or more inputs of the step
18 within the repair context;
19 executing the step's operation;
20 extracting the one or more outputs of step within the context; and
21 selecting a transition to transition to another step within the context,
22 based at least in part on the extracted one or more outputs.

23 **CLAIM 3**

24 The method of claim 2,¹⁰ further comprising receiving from a requestor a
25 request to resolve an IT incident, determining whether the user has requestor
26 has requisite authority to make the request, and rejecting the request if the
27 requestor is determined not to have the requisite authority to make the
28 request.

29 **CLAIM 4**

30 The method of claim 1, further comprising moving the step to the selected
31 transition's destination, determining whether the selected transition's
32 destination is a return step, and if so, select a response of the return step as a
33 response of the repair workflow.

34 **CLAIM 5**

35 The method of claim 4, further comprising storing a record of the processing
36 of the step in a repair history log.

37 **CLAIM 7**

38 An apparatus comprising:
39 a storage medium having a plurality of programming instructions stored
40 in the storage medium, and adapted to enable the apparatus to
41 perform a method; and

10 Claim 2 claims: The method of claim 1, further comprising creating a repair run for said loading of the repair workflow.

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one or more processors coupled to the storage medium to execute the programming instructions;
wherein the method comprises:
loading a repair workflow having a plurality of steps and transitions between the steps, defined to repair the IT incident on a computing device, each of the steps having one or more inputs, processing logic for the input(s) and one or more outputs;
creating a repair frame for the loaded repair workflow on the computing device;
creating a repair context for the repair frame on the computing device, and populating the repair frame with configuration data;
binding one or more data values to the one or more inputs of one of the steps within the repair context;
processing the bound data values of the one or more inputs of the step within the repair context;
executing the step's operation;
extracting the one or more outputs of step within the context; and
selecting a transition to transition to another step within the context, based at least in part on the extracted one or more outputs.

APPENDIX B

HP'S PROPOSED CONSTRUCTIONS

U.S. PATENT 8,224,683

Term	HP's Proposed Construction
monitoring server	A server specifically configured to monitor tickets in the database, determine when times for actions are approaching, and send alerts to the help desk client alerting the help desk user that a time to take a specified action is approaching
database	A structured set of data specifically configured to store tickets and information regarding ticket types, ticket severities based on the contract, and corresponding contractually required times for actions to be performed for each of the ticket types and ticket severities
help desk client	A client used by a help desk user specifically configured to display active tickets to the help desk user and provide alerts received from the monitoring server to the help desk user

U.S. PATENT 6,321,229

Term	HP's Proposed Construction
container definition node	Data structure having one or more attributes for accessing an information repository and related to creating a hierarchy of information
derived container	Data structure capable of executing a query based on an attribute from one or more corresponding container definition nodes

U.S. PATENT 7,890,802

Term	HP's Proposed Construction
repair workflow	A repair workflow is a set of instructions used by the system to resolve incidents. The repair workflow is constructed from steps, operations, and transitions.
operation	<p>An operation is a unit of work to be performed in context of a repair workflow. Operations contain inputs, results, and responses.</p> <ul style="list-style-type: none">• Inputs define the necessary information required to perform a task.• Results are the information produced by executing the task.• Responses define a finite set of possible outcomes from the execution of the operation. <p>Steps and transitions use responses to link operations together in a repair workflow.</p>
step	A step is an invocation of an operation in the context of a repair workflow. The step has a reference to the operation that it invokes. The step defines how the inputs of the operation are supplied data values at the time of repair matching of each input with a binding.
response	A response defines a finite set of possible outcomes from the execution of the operation. Steps and transitions use responses to link

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	operations together in a repair workflow.
U.S. PATENT 7,610,512	
Term	HP's Proposed Construction
repair workflow	A repair workflow is a set of instructions used by the system to resolve incidents. The repair workflow is constructed from steps, operations, and transitions.
operation	An operation is a unit of work to be performed in context of a repair workflow. Operations contain inputs, results, and responses. <ul style="list-style-type: none"> • Inputs define the necessary information required to perform a task. • Results are the information produced by executing the task. • Responses define a finite set of possible outcomes from the execution of the operation. Steps and transitions use responses to link operations together in a repair workflow.
step	A step is an invocation of an operation in the context of a repair workflow. The step has a reference to the operation that it invokes. The step defines how the inputs of the operation are supplied data values at the time of repair matching of each input with a binding.
transition	A transition links various steps together. The transition has a source step and a destination step and a link to an operation response called the 'transition trigger.' A step has only one transition for each response that is defined by its operation. After a step executes its operation at repair time, the response is used to select the transition to go to the next step.
binding	A binding defines a mapping of data values to the inputs of an operation in the context of a step within a repair workflow. Various types of bindings exist, with each having a unique method of supplying values to operation inputs.
repair run	An execution of a repair workflow.
repair context	A set of key-value pairs containing data values discovered during a repair run can be pushed into a repair context. The subsequent steps of the repair run use the data values stored in the repair context.
repair frame	A frame of execution in a repair is referred to as a repair frame. Each repair workflow is assigned a repair frame during execution. A frame stack is created during repair execution. Repairs [that] contain subflows will have a frame for each subflow. During execution, the flow of control will 'step into' and 'step out' of frames as repair steps are executed.