# United States Court of Appeals
# for the Federal Circuit

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**CHEWY, INC.,**
*Plaintiff-Appellee*

**v.**

**INTERNATIONAL BUSINESS MACHINES CORPORATION,**
*Defendant-Appellant*

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2022-1756

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Appeal from the United States District Court for the Southern District of New York in No. 1:21-cv-01319-JSR, Judge Jed S. Rakoff.

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Decided: March 5, 2024

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JOSHUA LEE RASKIN, Greenberg Traurig LLP, New York, NY, argued for plaintiff-appellee. Also represented by JULIE PAMELA BOOKBINDER, VIMAL KAPADIA.

KARIM ZEDDAM OUSSAYEF, Desmarais LLP, New York, NY, argued for defendant-appellant. Also represented by JOHN M. DESMARAIS, TAMIR PACKIN.

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Before MOORE, *Chief Judge*, STOLL and CUNNINGHAM, *Circuit Judges*.

MOORE, *Chief Judge.*

International Business Machines Corp. (IBM) appeals the United States District Court for the Southern District of New York's grant of summary judgment of noninfringement of claims 1, 2, 12, 14, and 18 of U.S. Patent No. 7,072,849. IBM also appeals the district court's grant of summary judgment that claims 13, 15, 16, and 17 of U.S. Patent No. 7,076,443 are ineligible under 35 U.S.C. § 101. For the following reasons, we affirm in part, reverse in part, and remand for further proceedings.

BACKGROUND

IBM owns the '849 and '443 patents, which generally relate to improvements in web-based advertising. The '849 patent discloses improved methods for presenting advertisements to a user of an interactive service. '849 patent at 2:48–49. In the prior art, advertisements would be downloaded at the same time as applications. *Id.* at 2:20–26. This conventional method diminished service response time as it required application traffic to compete with advertising traffic for network communication services. *Id.* at 2:20–36. The claimed methods minimize advertising traffic's interference with the retrieval and presentation of application data by, *inter alia*, "storing and managing" advertising at the user reception system before it is requested by the user. *Id.* at 1:17–28, 3:5–23. The advertising may be "individualized to the respective users based on characterizations of the respective users as defined by the interaction history with the service and such other information as user demographics and locale." *Id.* at 10:19–23.

The '443 patent discloses improved systems and methods for targeting advertisements. '443 patent at 2:24–39. At the time of the invention, relevant advertisements would be identified based on user profiles or search queries. *See id.* at 1:29–62. These conventional approaches would identify outdated or narrowly limiting advertisements. *See id.* Recognizing these deficiencies, the claimed invention instead identifies advertisements based on search results.

*Id.* at 2:24–39.  For example, a user may search "washer machine" and get a search result for the "WashMax" machine.  *See* J.A. 2255 ¶ 31.  The claimed method would use the information contained in the "WashMax" search result to identify advertisements.  *See id.*

Chewy, Inc. sued IBM seeking a declaratory judgment of noninfringement of several IBM patents, including the '849 and '443 patents.  In response, IBM filed counterclaims alleging Chewy's website and mobile applications infringed the patents.  Following claim construction and discovery, the district court granted Chewy's motion for summary judgment of noninfringement of claims 1, 2, 12, 14, and 18 of the '849 patent.  *Chewy, Inc. v. Int'l Bus. Machs. Corp.*, 597 F. Supp. 3d 669, 679–83 (S.D.N.Y. 2022) (*Summary Judgment Decision*).  The district court also granted Chewy's motion for summary judgment that claims 13, 15, 16, and 17 of the '443 patent are ineligible under § 101.  *Id.* at 691–93.  IBM appeals both summary judgment rulings.  We have jurisdiction under 28 U.S.C. § 1295(a)(1).

## DISCUSSION

We review the district court's summary judgment rulings under the law of the regional circuit, here the Second Circuit.  *High Point Design LLC v. Buyers Direct, Inc.*, 730 F.3d 1301, 1311 (Fed. Cir. 2013).  The Second Circuit reviews the "district court's grant of summary judgment de novo, construing the evidence in the light most favorable to the nonmoving party and drawing all reasonable inferences in that party's favor." *Kuebel v. Black & Decker Inc.*, 643 F.3d 352, 358 (2d Cir. 2011).  Summary judgment is appropriate when "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a).

## I.    INFRINGEMENT OF THE '849 PATENT

### A.  Claims 1, 2, 14, and 18

IBM appeals the district court's grant of summary judgment of noninfringement with respect to claims 1, 2, 14, and 18 of the '849 patent. Claim 1 is representative and recites:

> 1.  A method for presenting advertising obtained from a computer network, the network including a multiplicity of user reception systems at which respective users can request applications, from the network, that include interactive services, the respective reception systems including a monitor at which at least the visual portion of the applications can be presented as one or more screens of display, the method comprising the steps of:
>
>> a. structuring applications so that they may be presented, through the network, at a first portion of one or more screens of display; and
>>
>> b. structuring advertising in a manner compatible to that of the applications so that it may be presented, through the network, at a second portion of one or more screens of display concurrently with applications, wherein structuring the advertising includes configuring the advertising as objects that include advertising data and;
>>
>> c. *selectively storing advertising objects at a store established at the reception system.*

'849 patent at 39:43–61 (emphasis added).

The district court granted summary judgment of noninfringement of claims 1, 2, 14, and 18 because no reasonable factfinder could find Chewy's website or mobile applications perform the selectively storing limitation recited in the claims. *Summary Judgment Decision*, 597 F.

Supp. 3d at 679–81.  IBM raises two challenges to the district court's grant of summary judgment.  First, IBM argues the district court improperly construed the selectively storing limitation.  Second, IBM argues, even if we accept the district court's construction, there are material factual disputes precluding summary judgment.

i

The district court construed "selectively storing advertising objects at a store established at the reception system" as "retrieving advertising objects and storing at a store established at the reception system in anticipation of display concurrently with the applications." *Chewy, Inc. v. Int'l Bus. Machs. Corp.*, 571 F. Supp. 3d 133, 141–43 (S.D.N.Y. 2021) (*Claim Construction Order*).  In other words, the advertising objects must be "pre-fetched." *Id.* IBM argues the proper construction does not require pre-fetching.  We agree with the district court's construction.

We review the district court's claim construction de novo, except for necessary subsidiary facts based on extrinsic evidence, which we review for clear error. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325–27 (2015). Claim terms are generally given their plain and ordinary meaning, which is the meaning one of ordinary skill in the art would ascribe to a term when read in the context of the claim, specification, and prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313–14 (Fed. Cir. 2005) (en banc).

The written description of the '849 patent supports the district court's construction.  The written description consistently describes the invention as including pre-fetching of advertising objects.  In the "Summary of Invention" section, the '849 patent provides:

> *[T]he method for presenting advertising in accordance with this invention* achieves the above-noted and other objects by featuring steps for presenting advertising concurrently with service applications at the user reception system; i.e., terminal. . . . [I]n

> accordance with *the method*, the user reception system at which the advertising is presented includes [a] *facility for storing and managing the advertising so that it can be pre-fetched* from the network and staged at the reception system in anticipation of being called for presentation.

'849 patent at 3:5–21 (emphases added). This pre-fetching "minimizes the potential for communication line interference between application and advertising traffic" present in the prior art and "makes the advertising available at the reception system so as not to delay presentation of the service applications." *Id.* at 3:21–24.

> The written description also provides:

> *In accordance with the method of the present invention*, Ad manager 442 is invoked by object interpreter 435 to return the object id of the next available advertisement to be displayed. Ad manager 442 maintains a queue of advertising object id's targeted to the specific user currently accessing interactive network 10. *Advertising objects are pre-fetched* from interactive system 10 from a personalized queue of advertising ids . . . .

*Id.* at 33:16–27; *see also id.* at 34:38–44 ("[T]wo very important response time problems have been solved by ad manager 442 *of the present invention*. The first is to eliminate from the new page response time the time it takes to retrieve an *advertising object* from the host system. *This is accomplished by using the aforementioned pre-fetching mechanism*."). In light of these repeated descriptions of the present invention, a skilled artisan would understand the claimed invention requires pre-fetching of advertising objects. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) ("When a patent . . . describes the features of the 'present invention' as a whole, this description limits the scope of the invention.").

IBM argues these descriptions of "this invention," "the method," and "the present invention" do not limit the scope

of the entire invention. According to IBM, these passages describe only the invention claimed in unasserted dependent claims 9, 10, 22, and 23, which explicitly recite "pre-fetching."[1]

In support, IBM relies on *Absolute Software, Inc. v. Stealth Signal, Inc.*, where we explained the "use of the phrase 'present invention' or 'this invention' is not always so limiting, such as where the references to a certain limitation as being the 'invention' are not uniform, or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent." 659 F.3d 1121, 1136–37 (Fed. Cir. 2011) (collecting cases). These narrow exceptions referenced in *Absolute Software* are not applicable here. The '849 patent uniformly refers to the pre-fetching of advertising objects as an aspect of the invention as a whole. *See, e.g.*, '849 patent at 3:16–21, 33:16–27, 34:38–44. That dependent claims 9, 10, 22, and 23 recite "pre-fetching" does not negate these clear limiting disclosures. Patentees are free to use different terminology in different claims to define the invention. *See Hormone Rsch. Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1567 n.15 (Fed. Cir. 1990) ("It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent claims are involved."). The asserted claims 1, 2, 14, and 18 capture the concept of pre-fetching of advertising objects by reciting "selectively storing advertising objects," while dependent claims 9, 10, 22, and 23 capture this concept by reciting "pre-fetching."

IBM argues the selectively storing limitation does not require pre-fetching because the written description states: "RS [reception system] 400 includes a means to *selectively store objects according to a predetermined storage criterion*, thus enabling frequently used objects to be stored locally at the RS, and causing infrequently used objects to forfeit

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[1]     Claims 9 and 10 depend from unasserted independent claim 8, and claims 22 and 23 depend from unasserted independent claim 21.

their local storage location." '849 patent at 6:57–61 (emphasis added). This passage, however, refers to "objects" generally, not advertising objects specifically. *See id.* at Fig. 4c (depicting an advertising object as one object type). Whenever the '849 patent discusses storing advertising objects specifically, it requires pre-fetching. *See, e.g.*, *id.* at 33:21–27 ("*Advertising objects are pre-fetched* from interactive system 10 . . . ."), 33:63–65 ("*Advertising objects are pre-fetched*, so they are available in RS local store 440 when requested by object interpreter 435 as it builds a page."). While the patent may not require the general class of objects to be pre-fetched, it does require the specific subclass of advertising objects to be pre-fetched.

The prosecution history further supports the district court's construction. In an appeal brief filed during prosecution of the '849 patent, IBM stated, in a section titled "Summary of Claimed Subject Matter":

> To further reduce the likelihood of application presentation delay, the specification describes **selectively storing advertising objects at the user reception system** so that when advertising is to be presented, its data might be found available at the reception system without going back to the host. The method which is described provides for storing and managing advertising objects so that **advertising objects may be separately pre-fetched from the network** and cached at the reception system in anticipation of being called for presentation.

J.A. 4604–05 (emphases in original) (internal citations omitted). In other words, IBM explained that selectively storing advertising objects means advertising objects are pre-fetched.

In light of the intrinsic evidence, we conclude selectively storing advertising objects requires pre-fetching. We therefore affirm the district court's construction of the selectively storing limitation in claims 1, 2, 14, and 18.

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IBM argues, even if we adopt the district court's construction, the district court erred in granting summary judgment of noninfringement as to claims 1, 2, 14, and 18 because there is a factual dispute regarding whether Chewy's website and mobile applications selectively store advertising objects under this construction. Chewy's source code states Chewy "prefetches/preloads" such that "near of view images are preloaded lazily before they come into view." J.A. 13372; *see also* J.A. 10816 ¶ 30 (Dr. Schmidt testifying "the specific library Chewy utilizes confirms that Chewy prefetches advertising images"). According to IBM, this reference to pre-fetching meets the court's construction.

The district court, however, determined these references to "prefetching/preloading" in Chewy's source code "do[] not bear on whether it performs the function of 'prefetching' as it is used in the specification." *Summary Judgment Decision*, 597 F. Supp. 3d at 681 n.3. The district court clarified its construction "requires that the advertising objects be 'pre-fetched' in the sense that they are retrieved *before the user has requested the page* in connection with which they are to appear." *Id.* at 680 (emphasis added). Because the evidence showed the accused instrumentalities retrieve advertising objects *in response to a user requesting the relevant page*, the district court determined no reasonable factfinder could find Chewy selectively stores advertising objects. *Id.* at 679–81; *see also id.* at 680 ("[B]efore any purported advertising objects are cached, the user must first request them from Chewy's server.").

IBM argues the district court improperly narrowed its construction to carve out Chewy's pre-fetching functionality. We do not agree. Instead, the district court clarified that its construction of selectively storing does not include retrieving an advertising object on demand by the user. *See id.* at 680 ("[A]n object is not 'pre-fetched' when it is 'retrieved on demand' by the user, that is – an object is only

'pre-fetched' if it is retrieved and stored at the user's terminal 'before being requested by the user.'" (quoting *Claim Construction Order*, 571 F. Supp. 3d at 138, 143)).

This clarification is consistent with the written description of the '849 patent. The patent explains advertisements are retrieved and stored before the user requests a page such that relevant advertisements are available once the user requests the page. *See* '849 patent at 3:5–25, 33:16–27; *see also, e.g.*, *id.* at 33:63–65 ("Advertising objects are pre-fetched, so they are available in RS local store 440 when requested by object interpreter 435 as it builds a page."). Thus, when the user requests the page, the user's system does not need to download the advertisements from the network, which would slow down the retrieval and presentation of the requested content. *See id.* at 34:41–44 (noting the "pre-fetching mechanism" "eliminate[s] from the new page response time the time it takes to retrieve an advertising object from the host system").

It is undisputed Chewy retrieves advertisements in response to a user requesting a page. Because the claimed selectively storing limitation requires retrieving advertisements in anticipation of the user requesting the page in connection with which they are to appear, we conclude there is no material factual dispute as to whether Chewy performs this limitation. We affirm the district court's grant of summary judgment of noninfringement of claims 1, 2, 14, and 18 of the '849 patent.

## B.  Claim 12

IBM appeals the district court's grant of summary judgment of noninfringement with respect to claim 12 of the '849 patent. Claim 12, which depends from claim 8, recites:

> 8. A method for presenting advertising in a computer network, the network including a multiplicity of user reception systems at which respective users can request applications that include interactive services, the method comprising the steps of:

> a. compiling data concerning the respective users;
>
> b. *establishing characterizations for respective users based on the compiled data*; and
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> c. structuring advertising so that it may be selectively supplied to and retrieved at the reception systems for presentation to the respective users in accordance with the characterizations established for the respective reception system users, wherein structuring advertising includes supplying advertising data to the reception system and storing a predetermined amount of the advertising data in a store established at the respective reception systems.

12.  The method of claim 8 wherein the supplying of advertising data to the reception system for presentation includes the reception system requesting advertising data from the network when advertising data sought to be presented is unavailable at the reception system.

*Id.* at 40:24–40, 51–56 (emphasis added).

The district court granted summary judgment of non-infringement of claim 12 because it determined no reasonable factfinder could find Chewy's website or mobile applications "establish[] characterizations for respective users based on the compiled data." *Summary Judgment Decision*, 597 F. Supp. 3d at 682–83.  This limitation, as construed by the district court, requires delivering advertisements to a user based on user-specific targeting criteria, such as the user's interaction history or demographics. *See id.* at 682 (construing "characterizations" as "targeting criteria for users as defined by interaction history with the service  and/or  such  other  information  as  user

demographics and locale").[2]  The court found no genuine dispute as to the fact that Chewy's instrumentalities do not perform this limitation because the record undisputedly showed they deliver advertisements based on the page the user is currently viewing, regardless of the individual user's interaction history or demographics.  *Id.* at 682–83.

IBM argues there is a genuine dispute of material fact as to whether Chewy "establish[es] characterizations for respective users," precluding summary judgment.  We agree.

IBM first points to Chewy's privacy policy as creating a genuine factual dispute.  Chewy's privacy policy informs users that Chewy uses "what ads *you* see, what ads *you* interact with, and other actions *you* take on our Services" to "provide *you*" with "*personalized or targeted ads . . .* based on information from activities such as *browsing or purchasing.*"  J.A. 14509 (emphases added); *see* J.A. 9267–69 ¶ 199 (Schmidt Decl.).  The district court found this evidence does not support a finding that Chewy uses the claimed characterization-based targeting.  *Summary Judgment Decision*, 597 F. Supp. 3d at 683.  According to the district court, "the information collection and use described in the privacy policy is wholly consistent with the . . . method of delivering advertisement related to particular product pages."  *Id.*  This reasoning, however, fails to draw all reasonable inferences in the nonmoving party's (IBM's) favor.  *See Kuebel*, 643 F.3d at 358.

When viewed through the proper lens, the privacy policy supports a finding that Chewy delivers advertisements based on the individual user's interaction history.  The privacy policy explains that Chewy collects information about a specific user's browsing and purchasing history and uses that information to provide users with "personalized or targeted ads."  J.A. 14509.  Accordingly, we conclude the privacy policy creates a genuine issue of material fact

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[2]  The parties do not challenge this construction on appeal.

regarding whether Chewy "establish[es] characterizations for respective users."

While the privacy policy alone is sufficient to preclude summary judgment, IBM also points to a Chewy internal document describing Chewy's "Currently Launched Strategies" to show Chewy uses individualized targeting criteria. This document explains one of Chewy's strategies "recommends products from a Pet Parent[']s order history based on the likelihood it is the right time to re-purchase," which "becomes more focused on the specific Pet Parent as they repurchase at their own intervals." J.A. 14204. In other words, Chewy delivers an advertisement to repurchase an item based on the customer's (i.e., Pet Parent's) previous order history.

Chewy raises three arguments in response to the "Currently Launched Strategies" document. First, Chewy argues IBM did not cite this document in its summary judgment briefing below. We find the relevant documents show otherwise. In its summary judgment opposition brief, J.A. 8563, IBM cited paragraphs 78–84 of its Rule 56.1 Statement, J.A. 14831–32. These paragraphs in turn repeatedly cited to Exhibit 93, the same "Currently Launched Strategies" document IBM cites on appeal. J.A. 14832 ¶¶ 81–84 (citing J.A. 14204 (Ex. 93)). This document was thus before the district court as part of the summary judgment record.

Second, Chewy argues this document does not describe the use of targeting criteria specific and individualized to the respective user because all users that previously bought the item would receive the same advertisement to repurchase that item. We are not persuaded. The fact that all customers who previously bought an item would receive the same advertisement does not mean the advertisement was not based on the individual user's interaction history.

Third, Chewy argues there is no evidence showing *how* this feature works. Chewy criticizes IBM for not relying on any portion of Chewy's source code to show which

advertisements are displayed based on individualized targeting criteria. According to Chewy, this shows no such code exists. *See* J.A. 11455 ¶ 85 (Almeroth Decl.). We do not agree. At summary judgment, IBM may establish a genuine factual dispute "by relying upon its documentary evidence, without necessarily identifying the precise location of the allegedly infringing code." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 761 F.3d 1329, 1343 (Fed. Cir. 2014). Chewy's "Currently Launched Strategies" document sufficiently describes the accused functionality to create a genuine dispute of fact. This document explains Chewy delivers advertisements to specific customers to repurchase items based on their previous order history. J.A. 14204. This supports a finding that Chewy delivers advertisements based on the individual user's interaction history, as claimed.

In light of Chewy's privacy policy and "Currently Launched Strategies" document, there is a genuine dispute of material fact regarding whether Chewy "establish[es] characterizations for respective users." We therefore reverse the district court's grant of summary judgment of noninfringement of claim 12 of the '849 patent and remand for further proceedings.

## II.    ELIGIBILITY OF THE '443 PATENT

IBM appeals the district court's grant of summary judgment that claims 13, 15, 16, and 17 of the '443 patent are ineligible under 35 U.S.C. § 101. Claim 13, which depends from unasserted claims 1 and 5, recites:

> 1.  A method of targeting at least one associated advertisement from an Internet search having access to an *information repository* by a user, comprising:
>
>> identifying at least one search result item from a search result of said Internet search by said user;

searching for said at least one associated advertisement within *said repository* using said at least one search result item;

identifying said at least one associated advertisement from *said repository* having at least one word that matches said at least one search result item; and

correlating said at least one associated advertisement with said at least one search result item.

5.  The method of claim 1 further comprising:

designating said at least one search result item matched to said at least one associated advertisement for subsequent selection by a user.

13.  The method of claim 5 further comprising *performing an off-line batch process for each of said at least one search result item, wherein said batch process identifies said at least one associated advertisement for said at least one search result item.*

'443 patent at 8:5–17, 27–30, 52–56 (emphases added).

Independent claim 15 and dependent claims 16 and 17 recite:

15.  A method for providing related advertisements for search result items from a search of an *information repository*, comprising:

matching said search result items to said related advertisements;

designating each of said search result items that have said related advertisements matched therewith;

providing a corresponding graphical user interface for each of said search result

items so designated for subsequent user selection;

searching and retrieving said related advertisements for one of said search result items when said corresponding graphical user interface is selected by a user; and,

formatting and displaying said related advertisements upon selection.

16.  The method of claim 15 further comprising *assigning an identifier for said user when said user submits a query to said information repository*.

17.  The method of claim 15 wherein said related advertisements comprise related product advertisements.

*Id.* at 8:61–9:13 (emphases added).

Patent eligibility is ultimately a question of law we review de novo.  *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018).  Eligibility may depend on underlying issues of fact.  *Id.*  To determine patent eligibility, we apply the Supreme Court's two-step *Alice* framework.  *See Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217–18 (2014).  At step one, we determine whether the claims are "directed to a patent-ineligible concept," such as an abstract idea.  *Id.*  If so, at step two we "examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application."  *Id.* at 221 (quoting *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 72, 79–80 (2012)).  Specifically, we determine whether the claim elements, individually and as an ordered combination, contain an inventive concept, which is more than merely implementing an abstract idea using "well-understood, routine, [and] conventional activities previously known to the industry." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347–48

(Fed. Cir. 2014) (alteration in original) (quoting *Alice*, 573 U.S. at 225).

<p style="text-align:center">A</p>

The district court held at *Alice* step one the asserted claims are directed to the abstract idea of identifying advertisements based on search results. *Summary Judgment Decision*, 597 F. Supp. 3d at 691–92. IBM argues the claims are instead directed to a patent-eligible improvement in online advertising: obtaining search results from a user's search query and using those search results to identify targeted advertisements. We agree with the district court.

The claims broadly recite correlating advertisements with search results using a generic process. For example, claim 13 recites a method of associating advertisements with search results by identifying at least one search result item from a user's Internet search; searching for and identifying an associated advertisement in an information repository that matches the search result item; and correlating the search result item and associated advertisement using an off-line batch process. '443 patent at 8:5–17, 27–30, 52–56. Similarly, claim 15 recites a method for providing related advertisements by matching the search results to related advertisements; providing a graphical user interface (GUI) for each search result; and searching, retrieving, and displaying related advertisements for each search result when selected by a user on the GUI. *Id.* at 8:61–9:8.

We have held claims to targeted advertising were directed to an abstract idea at *Alice* step one. *See Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1362–65 (Fed. Cir. 2020) (holding claims "are directed to the abstract idea of using a computer to deliver targeted advertising to a user"); *see also Intell. Ventures I LLC v. Cap. One Bank (USA)*, 792 F.3d 1363, 1369–70 (Fed. Cir. 2015) (holding "tailoring information based on [provided] data" is an abstract idea). Correlating advertisements with

search results is a type of targeted advertising and is thus abstract.

IBM nevertheless argues these claims recite a specific solution to unique technical problems arising from advertising over a computer network, such as advertisements being limited to the user's search query. According to IBM, the claimed method of identifying advertisements based on search results, rather than search queries, improves the specificity and relevancy of online advertisements. *See* '443 patent at 5:20–21 ("These search results provide a more narrowly defined basis for selecting target advertisements for each user."). IBM argues this specific improvement is analogous to the claimed improvement in *Packet Intelligence LLC v. NetScout Systems, Inc.*, 965 F.3d 1299 (Fed. Cir. 2020). There, we held eligible claims directed to "a specific improvement in computer technology: a more granular, nuanced, and useful classification of network traffic." *Id.* at 1309–10.

Unlike the claims in *Packet Intelligence*, the '443 patent claims are not directed to any challenges unique to computer networks, or specific improvements to the functionality of the computer itself. The claims merely recite the concept of identifying advertisements based on search results, without any specificity as to how this is accomplished. Even accepting that the claimed invention improves the specificity and relevancy of online advertisements, this "is at most an improvement to the abstract concept of targeted advertising wherein a computer is merely used as a tool." *Customedia*, 951 F.3d at 1365.

We conclude claims 13, 15, 16, and 17 are directed to the abstract idea of identifying advertisements based on search results at *Alice* step one. We therefore proceed to *Alice* step two.

B

The district court determined the claims fail to recite an inventive concept at *Alice* step two. *Summary Judgment Decision*, 597 F. Supp. 3d at 692–93. IBM argues the

asserted claims contain three distinct inventive concepts. First, IBM argues claims 13 and 15 recite an inventive repository configured to associate search results with advertisements. Second, IBM argues claim 13 recites using offline batch processing in an unconventional way. Third, IBM argues claim 16 recites refining the targeting criteria by assigning session identifiers when the user enters a search query. We conclude none of these claim elements, individually or as an ordered combination, constitute an inventive concept sufficient to transform the claimed abstract idea of identifying advertisements based on search results into patent-eligible subject matter.

i

IBM first argues claims 13 and 15 comprise an inventive information repository specifically configured to correlate advertisements with search results. Claim 13 recites "searching for said at least one associated advertisement within *said repository* using said at least one search result item" and "identifying said at least one associated advertisement from *said repository* having at least one word that matches said at least one search result item." '443 patent at 8:10–15 (emphases added). Similarly, claim 15 recites "matching said search result items to said related advertisements," *id.* at 8:64–65, which the district court construed as "identifying said related advertisements from *said information repository* having a word that matches a keyword from said search result items." *Summary Judgment Decision*, 597 F. Supp. 3d at 678 (emphasis added). Simply put, the claims recite an information repository (i.e., database) of search results and associated advertisements. *See* '443 patent at 6:18–21 ("The primary purpose of product database 110 is [to] provide a repository for potentially matching product advertisements for the search results.").

Using a generic database to store the information used in correlating advertisements with search results is not an inventive concept. While IBM argues the claimed repository is specialized, this is not supported by the '443 patent.

Instead, the patent broadly refers to an "information repository" with no further details. *See id.* at 2:23–49; *see also id.* at 5:24–26 ("The search is to an information repository generally, and more specifically, to a server or wide area network."). "The concept of data collection, recognition, and storage is undisputedly well-known. Indeed, humans have always performed these functions." *Content Extraction*, 776 F.3d at 1347. The claimed use of a conventional repository for storing advertisements and associated search results in a well-known way is insufficient to transform the abstract idea into patent-eligible subject matter.

ii

IBM next argues claim 13 contains the inventive concept of using off-line batch processing in an unconventional way—with a repository that associates search results with advertisements. Claim 13 recites "performing an *off-line batch process* for each of said at least one search result item, wherein *said batch process identifies said at least one associated advertisement for said at least one search result item.*" '443 patent at 8:52–56 (emphases added). According to IBM's expert Dr. Schmidt, the prior art methods of identifying advertisements based on search queries or user profiles could not use off-line batch processing in an efficient manner. J.A. 10472–74 ¶¶ 79–82. On the other hand, the claimed method of identifying advertisements based on search results allows for the use of off-line batch processing to increase processing efficiency. *Id.*

Even accepting this as true, we conclude the use of off-line batch processing in combination with a repository that associates search results with advertisements is not an inventive concept. It is undisputed off-line batch processing was conventional at the time of invention. *See* J.A. 10472 ¶ 79. The '443 patent does not suggest the claimed invention uses off-line batch processing in an unconventional manner. *See* '443 patent at 6:66–7:5 ("[T]he product matching manager 140 may be adapted to perform an off-line batch process for each search result item in the search engine repository."). The claimed invention uses

conventional off-line batch processing to more efficiently implement the abstract idea of identifying advertisements based on search results. *See* Appellant's Opening Br. at 52–53 (arguing the use of off-line batch processing "improve[s] the speed of websites" and "increase[s] processing efficiency"). This is insufficient to transform claim 13 into patent-eligible subject matter. We have repeatedly held "claiming the improved speed or efficiency inherent with applying the abstract idea on a computer [does not] provide a sufficient inventive concept." *Intell. Ventures*, 792 F.3d at 1367.

### iii

IBM argues claim 16 recites the inventive concept of assigning a session value in an unconventional way and at an unconventional time. Claim 16 recites "assigning an identifier for said user when said user submits a query to said information repository." '443 patent at 9:9–11. The district court construed "identifier for said user" as a "session value that is used to associate user queries to search result item selections." *Claim Construction Order*, 571 F. Supp. 3d at 153–54. According to Dr. Schmidt, assigning a session value to associate user queries to search results is a more precise method of identifying users as compared to the prior art method of aggregating all user activity across multiple sessions. J.A. 10476–78 ¶¶ 89–92. Dr. Schmidt further opines that assigning a session value at the time a user submits a search query, rather than attempting to recreate a user's session after it has ended, requires "less processing . . . on the backend" because the association of queries and search results has already been created. J.A. 10476 ¶ 91.

We conclude the claimed use of session values, individually or in combination with the remaining elements of claim 16, is not a sufficient inventive concept. The '443 patent generally discloses assigning a session value to associate search queries and search results but provides no additional detail as to how this is done in an unconventional way. '443 patent at 6:24–27 ("Each user performing

a query is assigned a user session identifier. This session identifier is used to associate user queries to search result items selections, i.e., product selections."). Claim 16 simply recites using a user session identifier to implement the abstract idea of correlating advertisements with search results, which is not an inventive concept. *See Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 911–12 (Fed. Cir. 2017) (holding the use of a "unique, sender-generated identifier" is not a sufficient inventive concept at *Alice* step two). While Dr. Schmidt testifies the claimed use of session values is more precise and requires less processing on the backend, this alone is insufficient to transform the abstract idea into a patent-eligible concept. *See Intell. Ventures*, 792 F.3d at 1367.

iv

IBM argues the claims recite an inventive concept as an ordered combination because the claims describe a specific method of using search results in targeted advertising. We do not agree. The claims recite the generic process of obtaining search results from a search query and using the search results to identify advertisements. *See, e.g.*, '443 patent at 8:5–17, 27–30, 52–56. The claims do not recite any specific implementation of the abstract concept of using search results to identify relevant advertisements and thus do not contain an inventive concept. *But see Weisner v. Google, LLC*, 51 F.4th 1073, 1086 (Fed Cir. 2022) (holding claim "plausibly captures an inventive concept in the form of a specific technique for using physical location history data to improve computerized search results").

We conclude claims 13, 15, 16, and 17 do not contain an inventive concept sufficient to transform the claimed abstract idea into patent-eligible subject matter. Accordingly, we affirm the district court's grant of summary judgment that claims 13, 15, 16, and 17 of the '443 patent are ineligible under § 101.

## CONCLUSION

We have considered the parties' remaining arguments and find them unpersuasive.  We affirm the district court's grant of summary judgment of noninfringement of claims 1, 2, 14, and 18 of the '849 patent.  We reverse the district court's grant of summary judgment of noninfringement of claim 12 of the '849 patent and remand for further proceedings.  We affirm the district court's grant of summary judgment that claims 13, 15, 16, and 17 of the '443 patent are ineligible under § 101.

### AFFIRMED IN PART, REVERSED IN PART, AND REMANDED

## COSTS

No costs.