

Appeal No. 2018-2239

United States Court of Appeals
for the
Federal Circuit

CUSTOMEDIA TECHNOLOGIES, LLC,

Appellant,

– v. –

DISH NETWORK CORPORATION, DISH NETWORK L.L.C.,

Appellees.

Appeal from the United States Patent and Trademark Office
Patent Trial and Appeal Board, Case No. CBM2017-00023

**APPELLANT’S COMBINED PETITION FOR REHEARING AND
REHEARING EN BANC**

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Dated: May 5, 2020

CERTIFICATE OF INTEREST

Counsel for Customedia Technologies, LLC, certifies the following:

1. The full name of every party represented by me is:

Customedia Technologies, LLC.

2. The name of the real party in interest represented by me is:

Customedia Technologies, LLC.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party represented by me are:

Texas Customedia LLC.

4. The names of all law firms and the partners or associates that appeared for the party now represented by me in the trial court or agency or are expected to appear in this court are:

The Mort Law Firm, PLLC: Raymond W. Mort, III,

Ross D. Snyder & Associates, Inc.: Ross Snyder,

Pillsbury Winthrop Shaw Pittman, LLP: Steven Tepera,

Kasha Law, LLC: John R. Kasha, Kelly L. Kasha, and

Reed & Scardino, LLP: Daniel Scardino.

5. Pursuant to Fed. Cir. R. 47.4, counsel for Customedia states that this case may directly affect or be directly affected by this Court's decision in the pending appeal:

Appeals before the Federal Circuit Court of Appeals

Customedia v. DISH Network Corporation, DISH Network L.L.C.,
Case Nos. 18-2240, 18-2310, 19-1000, 19-1002, 19-1003, 19-1027, and 19-
1029.

United States District Court actions involving the patent at issue

*Customedia Technologies, LLC v. DISH Network Corporation, and DISH
Network L.L.C.*, Civ. No. 2:16-CV-00129 (JRG), United States District
Court for the Eastern District of Texas (filed on February 10, 2016).

Dated: May 5, 2020



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STATEMENT OF RELATED CASES

Pursuant to Fed. Cir. R. 47.5(a), counsel for Customedia certifies that no other appeal from the same proceeding was previously before this Court or any other appellate court, whether under the same or a similar title.

Pursuant to Fed. Cir. R. 47.5(b), counsel for Customedia states that the Court's decision in this appeal may affect the following judicial and administrative matters:

Appeals before the Federal Circuit Court of Appeals

Customedia Technologies, LLC v. DISH Network Corporation, DISH Network L.L.C., Case Nos. 18-2240, 18-2310, 19-1000, 19-1002, 19-1003, 19-1027, and 19-1029.

United States District Court actions involving the patent at issue

Customedia Technologies, LLC v. DISH Network Corporation, DISH Network L.L.C., Civ. No. 2:16-CV-00129 (JRG), United States District Court for the Eastern District of Texas (filed on February 10, 2016).

STATEMENT OF COUNSEL

Based on my professional judgment, I believe the panel decision is contrary to the following decision of the Supreme Court of the United States or the precedents of this Court: *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014); *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343 (Fed. Cir. 2018); *SRI Int'l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295 (Fed. Cir. 2019); *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143 (Fed. Cir. 2019); *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, No. 2019-1835, 2020 WL 2071951 (Fed. Cir. Apr. 30, 2020).



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PRELIMINARY STATEMENT

The claims of U.S. Patent. No. 8,719,090 (“the ‘090 Patent”) require a set-top box (“STB”) to be structurally configured to reserve a storage section for storing specific broadcast data. Without available storage, a particular broadcast data delivery system can become inoperable and the network cannot provide the service to content providers (e.g., advertisers). The ‘090 Patent claims fix this problem by assuring there is always available storage for particular broadcast data by reserving storage for that specific data. Reserving storage improves the operational integrity of the system by preventing storage from being filled by other data, thus preventing the particular data delivery service from becoming inoperable. This configuration also provides benefits of increased speed and efficiency in accessing the particular, time-sensitive data. By creating these improvements, the claims provide an improvement to computer functionality.

Recent decisions by this Court demonstrate that the improvements of the ‘090 Patent are patent-eligible. *See Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1344–46 (Fed. Cir. 2018) (holding patent-eligible an improvement that reduced the risk of hacking by storing verification

information within BIOS memory); *see also SRI Int'l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1300–04 (Fed. Cir. 2019) (holding patent-eligible an improvement which prevented hacking a network via a threat-detection method); *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143, 1145–48, (Fed. Cir. 2019) (“*KPN*”) (holding patent-eligible an improvement which prevented systematic errors in data transmissions from being undetectable); *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, No. 2019-1835, 2020 WL 2071951 (Fed. Cir. Apr. 30, 2020) (holding patent-eligible an improvement which reduced latency in specific communications systems). The record here demonstrates that the claims provide a structural improvement which improves the operational integrity of the system, and improves access speed to retrieving specific data. Any one of these elements alone demonstrates that the claims are patent-eligible, and the Court’s decision here did not give proper weight or consideration to them.

Additionally, the Court acknowledged that the system is structurally configured to control and limit access to an advertising storage section such that it stores only advertising data. *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1362 n.3 (Fed. Cir.

2020). In effect, the Court accepted, adopted, and applied Customedia's construction to analyze eligibility—ultimately determining that it did not change the outcome of the Court's analysis. *See id.*

In sum, the Court here held that the claims at issue were directed to a patent-ineligible concept and did not weigh the substantial record supporting eligibility. The panel decision conflicts with the Supreme Court's decision in *Alice*, and this Court's decisions in *Ancora*, *SRI*, *KPN*, and *Uniloc*. Thus, consideration by the full Court is necessary to secure and maintain uniformity of the Court's decisions.

STATEMENT OF THE CASE

On March 6, 2020, the Court issued an opinion affirming the Patent Trial and Appeal Board's decisions as to the ineligibility of the claims 1-8, 17, and 23 of U.S. Patent No. 8,719,090 under 35 U.S.C. § 101. *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359 (Fed. Cir. 2020). In doing so, the Court did not analyze and give proper weight to substantial evidence in the record demonstrating the claims' structural improvement to the operational integrity of the system, and increased speed and efficiency in accessing particular, time-sensitive data. *See, e.g.*, Appx811-12, Appx1011-12, Appx1112-13, Appx2404, Appx9255. Thus, contrary to the Court's conclusion, the claims here constitute a patent-eligible improvement to computer functionality.

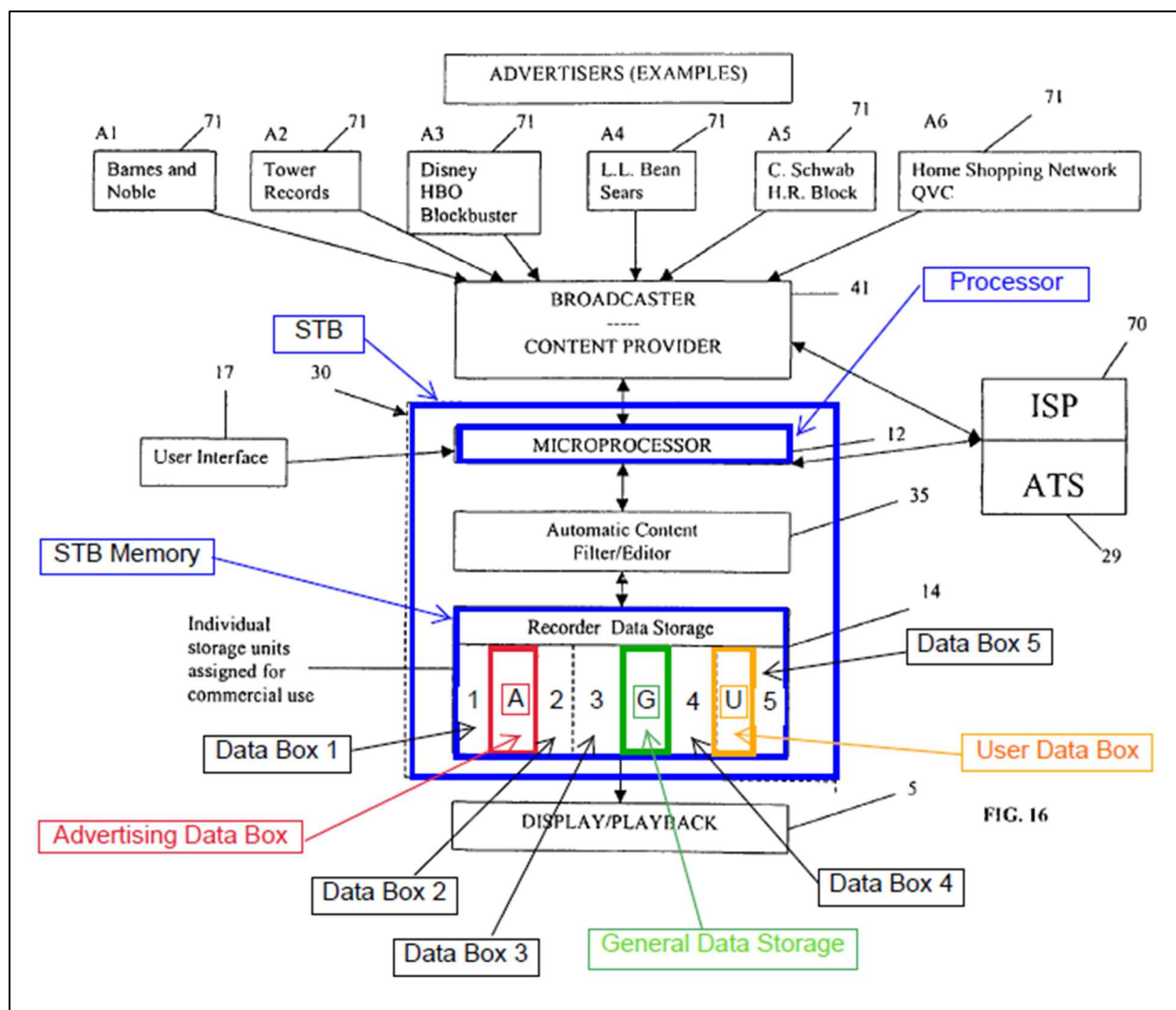
ARGUMENT

- I. **Consideration by the full Court is necessary to secure and maintain uniformity of the Court’s decisions**
 - A. **By providing a structural improvement to the operational integrity of the system—and also increasing the speed of accessing time-sensitive data—the claims at issue are directed to a patent-eligible improvement to computer functionality**

Computer systems have an inherently finite data storage capacity. In the present world of exponentially increasing information being transmitted to computer systems over many data feeds of varying types, a particular problem arises: managing sizeable amounts of data—of various formats—being fed to a system of finite capacity in order to meet the end user’s needs and desires. The claims of U.S. Patent. No. 8,719,090 (“the ’090 Patent”) solve this problem. The claims require a set-top box (“STB”) to be structurally configured to reserve a storage section for storing particular broadcast data (e.g., advertising data). According to the ’090 system, the STB is structurally configured to establish and control a portion of the STB’s memory capacity (called a “Data Box”) that is “set aside” as a reserved data storage section for storing particular data—and only that particular data. Without reserved storage, the

system's memory would fill up with other data, leaving no storage for specific data—causing a specific data delivery service to become inoperable. By assuring that there is always available storage for the particular data, the configuration of the '090 Patent improves the operational integrity of the system, and increases the speed and efficiency of accessing the time-sensitive broadcast data.

As illustrated below, the STB may include additional reserved data boxes for other purposes (e.g., a User Data Box, Data Box 1-5, and General Data Storage).



Appx317 (Fig. 16) (annotated to illustrate exemplary reservations of data boxes for different purposes). In the context of advertising data, the processor and software operate to store the non-advertising data in a separate section of memory (e.g., the “General Data Storage,” or Data Boxes 1-5), and to prevent non-advertising data from being stored in the reserved section for advertising data, as illustrated above and indicated below.

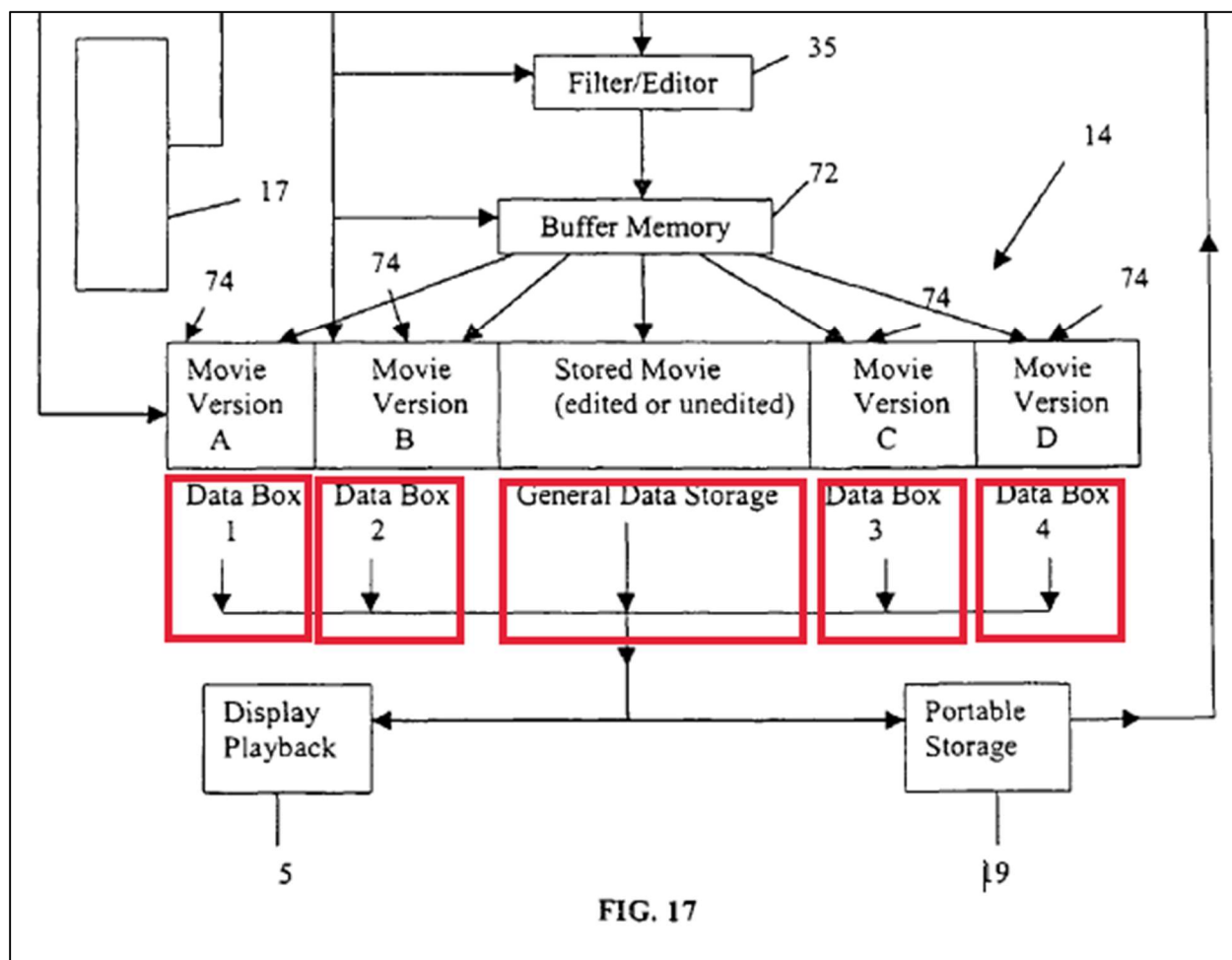


FIG. 17

Appx318 (annotated). As noted in the prosecution history:

[T]he programmable local receiver unit can include . . . individual storage sections designated specifically for storage of advertising data. . . . *the control of the advertising data storage sections* can be determined by preset criteria so that control can be either the content providers or through the [ATS] . . . with the monitoring *and control of these specific advertising data storage sections*, unique advertising programs can be set up. . . These advertising sections can be reserved . . . by particular entities . . . who then has control over the advertising provided.

Appx811; *see also* Appx1011 (indicating same).

As a result of the STB controlling the segregation of advertising data to its own dedicated portion of the STB's memory capacity, the claimed STB is configured to assure there is always protected and available memory capacity for storing targeted advertising data.

In [the prior art], all storage can be used for any type of data storage. For example, there may be times when all storage is used for movie programming leaving no storage left for advertising. In the aspect of applicant's system where specific advertising storage sections are provided, ***there is always storage provided for advertising data. . . [the] advertising storage section can be controlled in a manner so that selected advertising is always stored in the system and available from storage to the end user.***

Appx812; *see also* Appx1112 (indicating same).

By controlling and reserving this protected memory capacity "just for" advertising data, the claimed system prevents the targeted advertising service from becoming inoperable due to lack of storage capacity when the memory could otherwise fill up with non-advertising data. This configuration "allows for the expeditious transfer of data," increases the speed and efficiency of the system to reliably operate at "the

speed and efficiency available with existing electronic commerce systems,” and maximizes storage efficiency. Appx336 at 30:57-67, Appx323 at 3:47-50, Appx327-328 at 12:65-13:3, Appx333 at 23:45-50, Appx1113 (Demonstrating how prior art systems lacked the operational integrity of the '090 system and were vulnerable to running out of memory due to a lack of reserved storage, and how the '090 system can access data faster because of reserved storage).

1. Both the prosecution history record and DISH itself support that the claims require a positive structural limitation

Early in the prosecution of the '090 Claims, the Examiner rejected the claims under 35 U.S.C. § 101 as reciting non-functional limitations. In particular, the Examiner asserted “reservation,” as it was then claimed was “not functional because it is neither ‘tied to a particular apparatus’ nor ‘operable to change materials to ‘a different state or thing.’” Appx1202. The Examiner noted, however:

A reservation limitation could be structural if the system was limited to software doing the reservation, but the examiner could not find any such software disclosed in the published application (US 20050144641A1). Assuming it could be supported by the spec., such a limitation would overcome the rejection.

Appx1202. (emphases added).¹

In the subsequent prosecution, Customedia demonstrated that the Claims require that:

The ***programmable*** local receiver unit [STB] ***is configured or structured to limit access to*** at least one of the storage sections of the memory to just advertising data. One of the storage sections is structurally set aside just for advertising data.

Appx1714.

A person skilled in the art at the time the application was filed would know that such ‘advertising data storage section’ would be ***controlled*** ‘to store only the specifically identified advertising data.’

Appx2117 (emphasis added).

After the lengthy prosecution, the Examiner recognized the support for Customedia’s invention and stated:

The examiner was perhaps slow to catch on, but eventually concluded that the ***inventor met his burden of redefining the term reserved*** by disclosing ‘leased’ and ‘purchased’ storage. Further support is provided by the disclosure that sections are reserved for the use of family

¹ As acknowledged by the Examiner in the Notice of Allowance, Customedia did identify support for software controlling the reservation limitation. See, e.g., Appx2404 at ¶ 11.

members (spec. para. [0084] and [0173]) and for advertisers (spec para. [0179] and [0186]).

Appx2404 (emphasis added).

Additionally, in the Notice of Allowance, the Examiner acknowledged being wrong regarding a pending rejection under 35 U.S.C. § 101. Appx2402 (“That logic is wrong for at least the ‘reserving step . . . Claims 60 and 61 are statutory.”) Moreover, DISH itself claimed the reservation limitation was narrow. Appx4032 (DISH asserting that the claims require “*more than a mere allocation of memory*” and citing the prosecution to support its position that the claims “recite[] *a structural limitation for the receiver*” and that “*the storage sections [are] structurally set aside for advertising data.*”) (emphasis added).

As acknowledged by both DISH and the Examiner, and as supported by the specification and the claim language, the claims require a positive structural limitation that controls the reserved advertising data storage section to establish and enforce the reservation scheme in order to assure there is protected memory capacity for always being able to store advertising data—no matter how much other non-advertising data is stored on the system. Further, the Court accepted, adopted, and

applied this construction to analyze eligibility—ultimately determining that it did not change the outcome of the Court’s analysis. *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1362 n.3 (Fed. Cir. 2020).

2. The claims improve the integrity of the system by assuring that a data delivery service always has data storage available to prevent the service from becoming inoperable

During prosecution, the claims were purposefully amended to address patentability concerns raised by the PTO under 35 U.S.C. § 101. Pursuant to an Examiner’s Amendment, the claims were amended to recite a processor as an element that performs the reserving operation for the reserved storage. As explained by the Examiner, this limitation “*improve[s] the functioning of the [general purpose] computer itself.*” Appx9255 (emphasis added), Appx9269-9272. Prior systems employed a “don’t care where—store anything anywhere” framework that did not exclude the storage of other data together with the particular broadcast data. Such systems diminish reliability when provisioning a network-based particular broadcast data delivery system because the storage of other data can fill up the available storage and prevent any storage of the particular broadcast data. Without available storage, a

particular broadcast data delivery system can become inoperable and the network cannot provide the service to content providers (e.g., advertisers). As shown above, the '090 Patent claims fix this problem by ensuring there is always some available storage for particular broadcast data by reserving storage for that specific data. Appx812, Appx1011 (“These advertising storage sections can be controlled in a manner so that selected advertising is *always* stored in the system and available quickly from storage to the end user.”) (emphasis added). In this way, the '090 Patent provides an improvement to computer functionality. Analogous to how vaccines improve health by preventing diseases, the claims of the '090 Patent improve the functioning of the system by *preventing* the inability to store specific data via *reserving* storage for that particular data. In other words, the '090 Patent improves the integrity of the system by preventing inoperability.

3. The claims increase both the speed of accessing the time-sensitive data and the efficiency of the system

In a Resubmission of Request for Reconsideration After Final, the then-applicant explained how prior art systems lacked dedicated storage sections in which to store advertising. Appx1113. As stated, “When the

advertising stored is to be retrieved, the advertising has to be searched for in the entire storage area, which may be **slower** than being able to retrieve such advertising from dedicated storage sections” Appx1113 (emphasis added). Here, the reserved storage configuration “allows for the expeditious transfer of data” because the system always has storage for advertising data, preventing retransmission of the data should the storage be filled and cause failure—thus also increasing efficiency. Appx336 at 30:57-67, Appx323 at 3:47-50, Appx327-328 at 12:65-13:3, Appx333 at 23:45-50.

As seen, the claims of the ’090 Patent are directed to an improvement to computer functionality. The claims—supported by the specification, the prosecution history record, and the Examiner’s statement—are not simply directed to “the abstract idea of using a computer to deliver targeted advertising to a user.” *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1362 (Fed. Cir. 2020). The claims are directed to assuring the system will always operate because it will always have memory to store specific broadcast data.

B. The panel decision conflicts with the Supreme Court’s decision in *Alice*

In *Alice*, the Court applied the two-step framework for distinguishing patents that claim ineligible subject matter set forth in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012). 573 U.S. 208, 217 (2014). This Court has declined to read *Alice* to “broadly hold that all improvements in computer-related technology are inherently abstract and, therefore, must be considered at step two.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Thus, it is relevant at step one “to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea[.]” *Id.*; accord. *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017); *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1315 (Fed. Cir. 2019) (“[W]e have explained that claims directed to ‘an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity,’ are patent-eligible.”) (quoting *Enfish*, 822 F.3d at 1336).

As seen above—unlike the claims at issue in *Alice*—the claims at issue here do “purport to improve the functioning of the computer itself.” *Alice*, 573 U.S. at 213. The claims here are “directed to an improvement

to computer functionality” *Enfish*, 822 F.3d at 1335. This was even acknowledged by the Examiner. Appx9255. Thus, the eligibility analysis here ends at *Alice* step one with a finding that the claims are directed to a patent-eligible improvement to computer functionality.

C. The panel decision conflicts with this Court’s decisions in *Ancora*, *SRI*, *KPN*, and *Uniloc*

Ancora, *SRI*, and *KPN* establish that claims which improve the integrity of the system—not simply positive improvements in computer capabilities—are non-abstract. To analogize, one can improve an M1 Abrams main battle tank by substituting a more powerful engine to increase the tank’s speed. Such a change would improve the tank by increasing tactical mobility. Alternatively, one can fit the tank with reactive armor to prevent structural piercing by otherwise catastrophic hits. This would improve the tank by improving its integrity. A classic example of such an improvement is vaccination. A vaccine does not improve health by curing an illness; it improves health by preventing disease—i.e., improving the body’s integrity. *Ancora*, *SRI*, and *KPN* all fall into this integrity-improving category.

1. The claims in *Ancora*, *SRI*, and *KPN* improved the integrity of their respective systems

In *Ancora*, this Court held patent-eligible claims directed to a non-abstract improvement to computer security. 908 F.3d at 1347–49. The claims addressed a technological problem with computers—vulnerability of license-authorization software to hacking—by relying on “specific and unique characteristics of certain aspects of the BIOS” used in a new way. *Id.* at 1349. The claimed method did not improve the efficiency or speed of the computer system. *See id.* at 1344–46. Nor did the claimed method structurally improve the computer system. *See id.* The claimed method simply stored verification information within existing computer memory inherently harder to hack. *Id.* at 1345. In other words, the claimed method was not an improvement by which a computer could actively detect and stop hacking. The claimed method was a patent-eligible improvement that resulted in “a beneficial reduction of the risk of hacking”—improving the integrity of the system. *Id.* at 1349.

In *SRI*, this Court held eligible claims directed to “using a specific technique . . . to solve a technological problem arising in computer networks: identifying hackers or potential intruders into the

network.” 930 F.3d at 1303–04. The claims at issue also did not enable the underlying computer system to operate more quickly or efficiently. *See id.* at 1300–04. The claims provided a “network *defense* system” which could detect hackers. *Id.* at 1303 (emphasis added). The defense system provided no structural improvements to the network to achieve this benefit. *See id.* Rather, the method was a technique which could *prevent* hacking by identifying threats to the network—improving the integrity of the network. *Id.*

In *KPN*, this Court held patent-eligible claims “directed to a non-abstract improvement in an existing technological process (i.e., error checking in data transmissions).” 942 F.3d at 1150. The claimed invention “employ[ed] a new way of generating check data that enable[d] the detection of persistent systematic errors . . . that prior art systems were previously not equipped to detect.” *Id.* at 1151. The claimed device did not improve the speed or efficiency of the system that produced the check data. *See id.* at 1145–48. The claimed device only reduced the likelihood that “defective check data [would] be generated for successive data blocks such that a given systematic error would continue to escape detection” by varying the original data supplied to a check data generator

through modifying a permutation in time. *Id.* at 1148, 1151. The claimed device did not improve the system's capabilities to produce data that could be transmitted without error. *See id.* at 1145–48. The claimed device was a patent-eligible improvement that simply prevented systematic errors from being undetectable—improving the integrity of the system. *Id.* at 1150.

2. Like the claims in *Ancora*, *SRI*, and *KPN*, the claims here improve the functioning of the computer system by improving the operational integrity of the system

Like *Ancora*, *SRI*, and *KPN*, the claims here improve the integrity of the system. As seen above, the claims of the '090 Patent improve the functioning of a computer system by preventing the inability to store particular data via reserving storage for that specific data—i.e., improving the integrity of the system by preventing inoperability of the particular service as a result of lack of available storage. Additionally, the claims of the '090 Patent go a step further than the claims in *Ancora*, *SRI*, and *KPN*. In those cases, the claims only lowered the risk of their respective problems occurring. In *Ancora*, the computer could still use unauthorized software. *See* 908 F.3d at 1344-46. In *SRI*, the claims only detected suspicious activity and the network remained hackable. *See* 930

F.3d at 1303–04. In *KPN*, interference could still damage data transmission and cause systematic errors. *See* 942 F.3d at 1145–48. Here, the claims of the '090 Patent reserve storage and *eliminate* the identified data-management problem by ensuring that particular data is always stored in the system. Additionally—unlike the claims in *Ancora*, *SRI*, and *KPN*—the claims here improve the speed and efficiency of the system. Appx336 at 30:57-67, Appx323 at 3:47-50, Appx327-328 at 12:65-13:3, Appx333 at 23:45-50, Appx1113 (Explaining how prior art systems lacked dedicated storage systems and how the '090 system is faster at accessing data).

While this Court held the claimed improvements in *Ancora*, *SRI*, and *KPN* to be directed to patent-eligible subject matter, the Court here held the similar claimed improvement to be directed to an abstract idea. This conflict requires the full Court's consideration to secure and maintain uniformity of the Court's decisions.

3. The Court's recent decision in *Uniloc* requires a rehearing of the present case

In *Uniloc*, this Court held patent-eligible claims directed to “the reduction of latency experienced by parked secondary stations in communications systems”—a patent-eligible improvement to computer

functionality. 2020 WL 2071951, at *4. The claimed invention eliminated or reduced the delay present in conventional alternating systems by adding a data field for polling secondary stations. *Id.* While the claims at issue did not mention this reduction in latency, the Court noted that “[c]laims need not articulate the advantages of the claimed combinations to be eligible.” *Id.*

Like the claimed invention in *Uniloc*, the claimed system here improves upon prior systems that were slower in accessing data. Appx1113 (showing the '090 system is faster at accessing data). *Uniloc* also shows that such an improvement need not be sizeable, as the claims only reduced delay by tens of seconds. 2020 WL 2071951, at *1. The claims simply must be directed to *an* improvement to computer functionality. Within the context of the '090 Patent, a delay can occur by attempting data retrieval from an inoperable system—a problem which the claims eliminate. *See supra* Section I.A.2. “Reducing latency” is simply another way of saying, “improving speed of access to,” which the '090 claims provide. *See supra* Section I.A.3. The conflict between the Court’s holding in *Uniloc* and the panel decision here requires the full

Court's attention to secure and maintain uniformity of the Court's decisions.

CONCLUSION

En banc rehearing should be granted.

Respectfully submitted,

Dated: May 5, 2020



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ADDENDUM

**United States Court of Appeals
for the Federal Circuit**

CUSTOMEDIA TECHNOLOGIES, LLC,
Appellant

v.

**DISH NETWORK CORPORATION, DISH NETWORK
LLC,**
Appellees

2018-2239

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. CBM2017-
00023.

CUSTOMEDIA TECHNOLOGIES, LLC,
Appellant

v.

**DISH NETWORK CORPORATION, DISH NETWORK
LLC,**
Appellees

2019-1000

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. CBM2017-00032.

Decided: March 6, 2020

RAYMOND WILLIAM MORT, III, The Mort Law Firm, PLLC, Austin, TX, argued for appellant.

ELIOT DAMON WILLIAMS, Baker Botts LLP, Palo Alto, CA, argued for appellees. Also represented by GEORGE HOPKINS GUY, III; ALI DHANANI, MICHAEL HAWES, Houston, TX.

Before PROST, *Chief Judge*, DYK and MOORE, *Circuit Judges*.

MOORE, *Circuit Judge*.

Customedia Technologies, LLC appeals the Patent Trial and Appeal Board's final written decisions holding claims 1–6, 8, 17, and 23 of U.S. Patent No. 8,719,090 and claims 1–4, 6–7, 16–19, 23–24, 26–28, 32–36, and 41 of U.S. Patent No. 9,053,494 ineligible under 35 U.S.C. § 101 and finding claims 1 and 5 of the '090 patent unpatentable under 35 U.S.C. § 102. Because the claims are ineligible under § 101, we affirm the Board's determinations. We do not reach the Board's § 102 findings.

BACKGROUND

The '090 and '494 patents, which share a specification, disclose comprehensive data management and processing systems. '090 Patent at 3:3–7, 17–21. According to the specification, these systems comprise a remote Account-Transaction Server (ATS) and a local host Data

Management System and Audio/Video Processor Recorder-player (VPR/DMS), e.g., a cable set-top box. *Id.* at 4:15–19, 21:44–49. Broadcasters and other content providers transmit advertising data via the ATS to a local VPR/DMS. *Id.* at 31:1–6. The advertising data may then be selectively recorded in programmable storage sections in the VPR/DMS according to a user’s preferences. *Id.* at 31:3–6, 32:7–21. These storage sections may be “reserved, rented, leased or purchased from end user[s], content providers, broadcasters, cable/satellite distributor, or other data communications companies administering the data products and services.” *Id.* at 31:44–49, 60–64. For example, a cable distributor may provide customers with a cable set-top box with built-in storage sections that may be leased or sold to advertisers. *Id.* at 31:64–32:4. Claim 1 of the ’090 patent recites:

1. A data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers, the system comprising:

a remote account transaction server for providing multimedia data products to an end user, at least one of the multimedia data products being specifically identified advertising data; and

a programmable local receiver unit for interfacing with the remote account transaction server to receive one or more of the multimedia data products and for processing and automatically recording the multimedia data products, said programmable local receiver unit including at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data, said at least one advertising data storage section being monitored and controlled by said remote account transaction server and such that said specifically identified

advertising data is delivered by said remote account transaction server and stored in said at least one individually controlled and reserved advertising data storage section.

'090 patent at Claim 1.

Dish Network Corporation and Dish Network LLC (collectively, DISH) petitioned for review of claims 1–8, 17, and 23 of the '090 patent and claims 1–7, 16–19, 23–28, 32–36, 39, 41, and 43 of the '494 patent pursuant to the Transitional Program for Covered Business Method Patents (CBM review). Leahy-Smith Am. Invents Act, Pub. L. No. 112-29, § 18(a) 125 Stat. 284, 329–31 (2011) (AIA). The Board instituted CBM review in each case and issued final written decisions holding claims 1–8, 17, and 23 of the '090 patent and claims 1–4, 6–7, 16–19, 23–24, 26–28, 32–36, and 41 of the '494 patent ineligible under 35 U.S.C. § 101. In addition to holding the claims ineligible under § 101, the Board found claims 1, 5, and 7 of the '090 patent unpatentable under 35 U.S.C. § 102 and claim 7 of the '090 patent unpatentable under 35 U.S.C. § 112. The Board held that DISH failed to prove that alternatively, claims 1–8, 17, and 23 of the '090 patent are unpatentable under 35 U.S.C. § 103 as obvious over U.S. Patent Nos. 5,774,170 (Hite) and 4,607,346 (Hill). Customedia timely appealed the Board's determinations under §§ 101 and 102.¹ DISH cross-appealed the Board's determinations under §103.² We have

¹ Customedia does not appeal the Board's determination that claim 7 of the '090 patent is ineligible under § 101. Customedia also does not appeal the Board's findings that claim 7 of the '090 patent was unpatentable under §§ 102 and 112.

² DISH's cross-appeal was voluntarily dismissed on February 6, 2019. *Customedia Techs., LLC v. DISH Network Corp., DISH Network LLC*, Appeal No. 18-2309, D.I. 4.

jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board’s legal conclusions de novo and its factual findings for substantial evidence. *Samsung Elecs. Co. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373, 1380 (Fed. Cir. 2019). Eligibility under 35 U.S.C. § 101 is a question of law, based on underlying facts. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018).

Section 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof,” may obtain a patent. 35 U.S.C. § 101. The Supreme Court has held that “[l]aws of nature, natural phenomena, and abstract ideas are not patent eligible.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). We follow the Supreme Court’s two-step framework for determining patent-eligibility under § 101. *Id.* at 217. First, we determine whether the claims are directed to a “patent-ineligible concept,” such as an abstract idea. *Id.* If so, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)).

I. *Alice* Step One

At *Alice* step one, we must determine whether the claims are directed to an abstract idea. *Alice*, 573 U.S. at 217. For example, in *Bilski v. Kappos*, the Supreme Court held ineligible claims directed to the concept of risk hedging, an abstract idea it described as “a fundamental economic practice long prevalent in our system of commerce.” 561 U.S. 593, 611 (2010). And in *Alice*, the Supreme Court made clear that the invocation of a computer does not

necessarily transform an abstract idea into a patent-eligible invention. 573 U.S. at 223. There, the Supreme Court held ineligible claims directed to a method of exchanging financial obligations using a computer system as a third-party intermediary. *Id.* at 218–21. The Court explained that the claims were merely implemented “using some unspecified, generic computer” and did not “purport to improve the functioning of the computer itself.” *Id.* at 225–26. Not infrequently, patentees, like Customedia, latch on to this language from *Alice* and claim that their claims do “improve the functioning of the computer itself.” Here, for instance, Customedia argues that its claims are eligible because they “provide for improvements to the operation and functioning of computer systems.” Appellant’s Br. 71, Nos. 18-2239, -2309. We do not agree. The claims at issue here are directed to the abstract idea of using a computer to deliver targeted advertising to a user, not to an improvement in the functioning of a computer.

Claim 1 of the ’090 patent recites a “data delivery system for providing automatic delivery of . . . specifically identified advertising data.” ’090 patent at Claim 1. The advertising data is received and processed by a “programmable local receiver unit,” which includes at least one “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.”³ *Id.* Customedia argues that by

³ In its final written decision, the Board stated that the “reserved advertising data storage section” limitation does “not require an advertising data storage section that actively precludes or excludes anything other than the specifically identified advertising data” or “any specific structure, such as separate portions that are allocated to a user or a data supplier.” J.A. 7–8, 48. Customedia challenges this construction on appeal, arguing that the

providing a reserved and dedicated section of storage, the claimed invention improves the data delivery system's ability to store advertising data, transfer data at improved speeds and efficiencies, and prevent system inoperability due to insufficient storage. In short, by dedicating a section of the computer's memory to advertising data, the claimed invention ensures memory is available for at least some advertising data. This does not, however, improve the functionality of the computer itself. Even if we accept Customedia's assertions, the claimed invention merely improves the abstract concept of delivering targeted advertising using a computer only as a tool. This is not what the Supreme Court meant by improving the functioning of the computer itself nor is it consistent with our precedent applying this concept.

In *Enfish, LLC v. Microsoft Corp.*, for example, we held patent eligible claims reciting a self-referential database that improved the way computers stored and retrieved data in memory. 822 F.3d 1327, 1337–39 (Fed. Cir. 2016). We concluded the claims did not invoke a computer merely as a tool, but rather improved the way the computer itself operated and handled data, allowing more efficient launching and adaptation of databases. *Id.* at 1336–37. We therefore held that the “plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” *Id.* at 1336. As in *Enfish*, we held

programmable local receiver unit is structurally configured, via a processor and software, to control and limit access to the advertising data storage section such that it stores only advertising data. Appellant's Br. 13–25, Nos. 18-2239, -2309; Appellant's Reply Br. 6–7, 16–17, No. 18-2239. Because Customedia's proposed construction does not change the eligibility of the claims under § 101, we do not reach the merits of its claim construction arguments.

patent eligible claims in *Visual Memory LLC v. NVIDIA Corp.* that were directed to “an improved computer memory system.” 867 F.3d 1253, 1259–60 (Fed. Cir. 2017). We noted that the claims “focus[ed] on a ‘specific asserted improvement in computer capabilities,’” namely the accommodation of different types of processors without compromising performance, “instead of ‘on a process that qualifies as an abstract idea for which computers are invoked merely as a tool.’” *Id.* (quoting *Enfish*, 822 F.3d at 1336). More recently in *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, we evaluated claims directed to a system for generating check data that enabled the detection of persistent systematic errors that prior art systems could not detect. 942 F.3d 1143, 1151 (Fed. Cir. 2019). In holding the claims patent eligible, we stated that the claimed invention “improve[d] the functioning of the overall technological process of detecting systematic errors in data transmissions.” *Id.* at 1151–52.

To be a patent-eligible improvement to computer functionality, we have required the claims to be directed to an improvement in the functionality of the computer or network platform itself. In *Ancora Techs. Inc. v. HTC America, Inc.*, for example, we held that claims directed to storing a verification structure in computer memory were directed to a non-abstract improvement in computer functionality because they improved computer security. 908 F.3d 1343, 1347–49 (Fed. Cir. 2018). We determined the claims addressed the “vulnerability of license-authorization software to hacking” and were thus “directed to a solution to a computer-functionality problem.” *Id.* at 1349. Likewise, in *Finjan, Inc. v. Blue Coat System, Inc.*, we held that claims to a “behavior-based virus scan” provided greater computer security and were thus directed to a patent-eligible improvement in computer functionality. 879 F.3d 1299, 1304–06 (Fed. Cir. 2018). In *Data Engine Techs. LLC v. Google LLC*, we held patent eligible claims reciting “a specific method for navigating through three-

dimensional electronic spreadsheets” because the claimed invention “improv[ed] computers’ functionality as a tool able to instantly access all parts of complex three-dimensional electronic spreadsheets.” 906 F.3d 999, 1007–08 (Fed. Cir. 2018); *see also Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1359–63 (Fed. Cir. 2018) (holding patent eligible claims reciting an improved user interface for electronic devices that improved the efficiency of the electronic device, particularly those with small screens”). And in *SRI Int’l, Inc. v. Cisco Sys. Inc.*, we held patent eligible claims directed to an improved method of network security “using network monitors to detect suspicious network activity . . . generating reports of that suspicious activity, and integrating those reports using hierarchical monitors.” 930 F.3d 1295, 1303 (Fed. Cir. 2019). We concluded that the “focus of the claims was on the specific asserted improvement in computer capabilities,” namely “providing a network defense system that monitors network traffic in real-time to automatically detect large-scale attacks.” *Id.* at 1303–04.

We have held that it is not enough, however, to merely improve a fundamental practice or abstract process by invoking a computer merely as a tool. For example, in *Affinity Labs. of Texas, LLC v. DIRECTV, LLC*, we held that claims to a method of providing out-of-region access to regional broadcasts were directed to an abstract idea. 838 F.3d 1253, 1258 (Fed. Cir. 2016). We determined the claims were not a patent-eligible improvement in computer functionality because they simply used cellular telephones “as tools in the aid of a process focused on an abstract idea.” *Id.* at 1262; *see also In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (holding ineligible claims reciting concrete physical components merely as “a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner”). Likewise, in *Intellectual Ventures I LLC v. Capital One Bank (USA)*, we held that claims reciting a system for

providing web pages tailored to an individual user were directed to an abstract idea. 792 F.3d 1363, 1369–70 (Fed. Cir. 2015). We held that “claiming the improved speed or efficiency inherent with applying the abstract idea on a computer” was insufficient to render the claims patent eligible as an improvement to computer functionality. *Id.* at 1367, 1370; *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014) (holding that displaying an advertisement in exchange for access to copyrighted material is an abstract idea). And in *SAP Am., Inc. v. InvestPic, LLC*, we held patent ineligible claims directed to “selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis.” 898 F.3d 1161, 1167–68 (Fed. Cir. 2018). We determined the claims were focused not on a physical-realm improvement to computers as tools but rather an improvement in wholly abstract ideas. *Id.* at 1168.

We have also held that improving a user’s experience while using a computer application is not, without more, sufficient to render the claims directed to an improvement in computer functionality. For example, in *Trading Techs. I*, we held patent ineligible claims directed to a computer-based method for facilitating the placement of a trader’s order. *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1084, 1092–93 (Fed. Cir. 2019) (*Trading Techs. I*). Although the claimed display purportedly “assist[ed] traders in processing information more quickly,” we held that this purported improvement in user experience did not “improve the functioning of the computer, make it operate more efficiently, or solve any technological problem.” *Id.*; *see also Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1381, 1384–85 (Fed. Cir. 2019) (*Trading Techs. II*) (holding that claims “focused on providing information to traders in a way that helps them process information more quickly” did not constitute a patent-eligible improvement to computer functionality).

In sum, “software can make non-abstract improvements to computer technology just as hardware improvements can.” *Enfish*, 822 F.3d at 1335. But to be directed to a patent-eligible improvement to computer functionality, the claims must be directed to an improvement to the functionality of the computer or network platform itself. *See, e.g., id.* 1336–39; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014). Thus, this inquiry “often turns on whether the claims focus on ‘the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an “abstract idea” for which computers are invoked merely as a tool.’” *Finjan*, 879 F.3d at 1303 (quoting *Enfish*, 822 F.3d at 1335–36).

Against this background, we agree with the Board that the claims here are not directed to a patent-eligible improvement to computer functionality. The claims of the ’090 and ’494 patents do not enable computers to operate more quickly or efficiently, nor do they solve any technological problem. They merely recite reserving memory to ensure storage space is available for at least some advertising data. The specification is silent as to any specific structural or inventive improvements in computer functionality related to this claimed system. *See, e.g.,* ’090 patent at 30:57–67, 3:47–50. The only improvements identified in the specification are generic speed and efficiency improvements inherent in applying the use of a computer to any task. Therefore, the claimed invention is at most an improvement to the abstract concept of targeted advertising wherein a computer is merely used as a tool. This is not an improvement in the functioning of the computer itself.

II. *Alice* Step Two

At *Alice* step two, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 218, (quoting *Mayo*, 566 U.S. at 78–79).

Step two “looks more precisely at what the claim elements add” to determine if “they identify an inventive concept in the application of the ineligible matter to which . . . the claim is directed.” *SAP*, 898 F.3d at 1167.

At step two, the Board held that the elements of the claims, considered individually and as an ordered combination, fail to recite an inventive concept. We agree. Aside from the abstract idea of delivering targeted advertising, the claims recite only generic computer components, including a programmable receiver unit, a storage device, a remote server and a processor. *See, e.g.*, ’090 patent at Claim 1. The specification acknowledges that the storage device “may be any storage device for audio/video information known in the art” and the receiver unit may include “any digital or analog signal receiver and/or transmitter capable of accepting a signal transmitting any kind of digital or broadcast information.” *Id.* at 15:4–6, 24:26–34. Such generic and functional hardware is insufficient to render eligible claims directed to an abstract idea. *Alice*, 573 U.S. at 226.

Customedia argues that the claims are eligible under *Alice* step two because the use of a programmable receiver to dedicate a section of storage for storing only “specifically identified advertising data” was innovative over prior art approaches. However, the invocation of “already-available computers that are not themselves plausibly asserted to be an advance . . . amounts to a recitation of what is well-understood, routine, and conventional.” *SAP*, 898 F.3d at 1170. The ’090 and ’494 patent claims’ invocation of a conventional receiver is insufficient to supply the required inventive concept. Thus, we conclude the Board did not err in holding the claims of the ’090 and ’494 patents ineligible under § 101.

CONCLUSION

We have considered Customedia’s remaining arguments and find them unpersuasive. For the foregoing

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reasons, we conclude that claims 1–6, 8, 17, and 23 of the '090 patent and claims 1–4, 6–7, 16–19, 23–24, 26–28, 32–36, and 41 of the '494 patent are ineligible under § 101 and therefore affirm the Board's decisions.

AFFIRMED

CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of May 2020, I electronically filed the foregoing document with the Clerk of the United States Court of Appeals for the Federal Circuit using the CM/ECF System, which will send notice of such filing to all registered CM/ECF users.

Dated: May 5, 2020



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CERTIFICATE OF COMPLIANCE

The undersigned certifies that this brief complies with the type-volume limitations of Fed. R. App. P. 35(b)(2)(A). This brief contains 3,740 words as calculated by the “Word Count” feature of Microsoft Word 2010, the word processing program used to create it.

The undersigned further certifies that this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6). This brief has been prepared in a proportionally spaced typeface using Microsoft Word in Century Schoolbook 14 point font.

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