

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TWITCH INTERACTIVE, INC.,
Petitioner,

v.

RAZDOG HOLDINGS LLC,
Patent Owner.

IPR2025-00307
Patent 9,729,658 B2

Before KEVIN C. TROCK, AARON W. MOORE, and
JASON M. REPKO, *Administrative Patent Judges*.

Opinion of the Board filed by *Administrative Patent Judge* Trock.

Opinion Dissenting filed by *Administrative Patent Judge* Moore.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Twitch Interactive, Inc. (“Petitioner”) filed a Petition, Paper 1 (“Pet.” or “Petition”), to institute an *inter partes* review of claims 1–18 (the “challenged claims”) of U.S. Patent No. 9,729,658 B2 (Ex. 1001, “the ’658 patent”). On March 28, 2025, the Board issued a notice extending the deadline for discretion briefing pursuant to the bifurcated discretionary denial review process that applies to proceedings with a patent owner preliminary response due after March 26, 2025.¹ Paper 10. On May 1, 2025, RazDog Holdings LLC (“Patent Owner”) timely filed a Preliminary Response, Paper 12 (“Prelim. Resp.”). Patent Owner filed a request for discretionary denial. Paper 11. Petitioner filed an opposition to Patent Owner’s request for discretionary denial. Paper 13. On May 16, 2025, the Acting Director issued a decision denying Patent Owner’s request for discretionary denial and referring the petition to the Board. Paper 18.

An *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has shown a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. Accordingly, we institute an *inter partes* review.

¹ See FAQs for Interim Processes for PTAB Workload Management, available at <https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management>

II. BACKGROUND

A. *Real Party in Interest*

Petitioner identifies itself, Amazon.com, Inc., and Amazon.com Services LLC as the real party-in-interest. Pet. 84. Patent Owner identifies itself as the real party in interest. Paper 9, 1.

B. *Related Proceedings*

Patent Owner identifies the following action as related to the '658 patent: *Razdog Holdings LLC, v. Twitch Interactive, Inc.*, 5:24-cv-3638-JSC (N.D. Cal). Paper 4, 1. Petitioner identifies the following district court actions as involving the '658 patent: *RazDog Holdings LLC v. Twitch Interactive, Inc.*, Case No. 24-cv-03638-JSC (N.D. Cal. filed June 17, 2024); *RazDog LLC v. Cook Brothers Inc.*, Case No. 1:19-cv-5703 (N.D. Ill. filed Aug. 25, 2019); *RazDog LLC v. Cooling Equipment Service, Inc.*, Case No. 1:19-cv-05704 (N.D. Ill. filed Aug. 25, 2019); *RazDog LLC v. Continental Salvage Com.*, Case No. 1:19-cv-4610 (N.D. Ill. filed June 9, 2019). Pet. 84.

C. *The '658 Patent (Ex. 1001)*

The '658 patent “relates to computer systems for managing web-based content data in a cloud-based computing environment” and, more particularly, “relates to computer systems for managing and migrating through web-based content data in a cloud-based computing environment from multiple content data sources through a single point of access and/or user interface from a remote computing device.” Ex. 1001, 1:28–35. Figure 1 of the '658 patent is reproduced below.

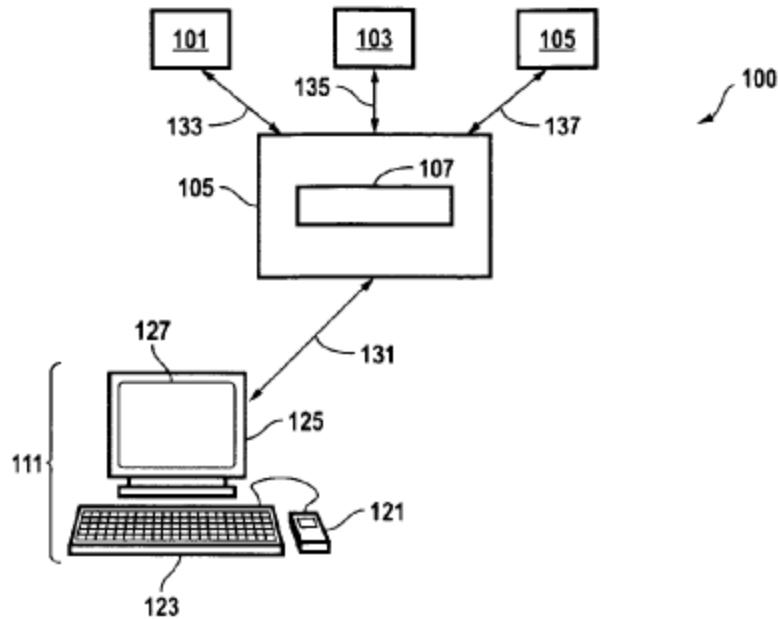


Figure 1, above, shows a schematic representation of a cloud-based computer system and architecture 100 for managing web-based content data. *Id.* at 4:35–37. The cloud-based computer system and architecture 100 includes a log-in server or master server 105 that acts a single point of access for a plurality of content data sources or service provider servers 101, 103, and 105. *Id.* at 4:37–41. The plurality of content data sources or service provider servers 101, 103, and 105 are in communication or linked to the log-in server or master server 105 via a communication network, such as the internet or intranet represented by the arrows 133, 135 and 137. *Id.* at 4:41–46. The log-in server or master server 105 supports a program to run and execute a master content application software, referred to as master application 107. *Id.* at 4:47–49.

D. Challenged Claims

Petitioner challenges claims 1–18 of the '658 patent. Pet. 1. Claims 1, 7, and 12 are independent. Claim 1 is directed to “[a] cloud-based computer system,” claim 7 is directed to “[a] computer system,” and claim

12 is directed to “[a] method of navigating content data or content applications from multiple servers of multiple content sources or service providers through a master web-page hosted and created on a cloud-based master server from a remote computer.” Ex. 1001, 6:50, 7:32, 8:6–10.

Claim 1 is generally illustrative and reproduced below using Petitioner’s labelling designations. See Pet. ix.

1[pre] A cloud-based computer system comprising:

1[a] master server with a processor and memory, wherein the master server accessible over the internet/Intranet from remote computer devices by a user;

1[b1] a master application stored in the memory of the master server and that executes on the processor of the master server and that includes software coded for organizing content data and content applications from multiple content sources or service providers pre-selected by the user

1[b2] and streamed to the master server simultaneously in real time from their respective servers on a master web-page and are viewable from the remote computer devices through the master server on the master web-page,

1[b3] wherein the master application programs a processor on the remote computer devices to operate and execute a slide tool program for scrolling or paging through the content data or the content applications from the multiple content sources or service providers simultaneously and through the master server in real time from the master web-page and from the remote computer by operating the slide tool program from the remote computer; and

1[c1] a remote tool box feature application that allows the user to write code, select code or delete code to enable and disable tool features that control how sub-sets of the content data or the content applications from the multiple

content sources or service providers are received,
displayed or organized,

1[c2] wherein the master server collects analytics based
which tool features are enabled to target specific products,
services or information to the user.

Ex. 1001, 6:50–7:13.

E. Evidence

Petitioner relies upon the following evidence:

(1) U.S. Patent Application Publication No. US 2008/0086484 A1,
filed October 9, 2007, published April 10, 2008 (“Darnell”) (Ex. 1004);

(2) U.S. Patent Application Publication No. US 2007/0016609 A1,
filed July 12, 2005, published January 18, 2007 (“Kim”) (Ex. 1005);

(3) U.S. Patent No. US 8,640,052 B2, filed December 31, 2009,
issued January 28, 2014 (“Dasgupta”) (Ex. 1006);

(4) Declaration of Dr. Paul Martin, Ph.D. (Ex. 1002).

F. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–18 are unpatentable on the following
grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–5, 7–10	103 ²	Darnell, Kim
6, 12–18	103	Darnell, Kim, Dasgupta
1, 4–10	103	Dasgupta, Darnell
2, 3, 11	103	Dasgupta, Darnell, Kim

Pet. 2.

² According to Petitioner, the ’658 patent claims priority to provisional applications filed on February 22, 2011, and October 12, 2010, before the March 16, 2013, effective date of the § 103 provisions in the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29. Pet. 6. Patent Owner does not contest this. Prelim. Resp. 14. Accordingly, we cite to pre-AIA § 103.

III. ANALYSIS

A. *Legal Standards*

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time of the claimed invention. The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham*, 383 U.S. at 17–18. At this stage, neither party has presented evidence on the fourth *Graham* factor.

The Supreme Court has made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. Reaching this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. *Id.*

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

Petitioner describes a person of ordinary skill in the art as a person having “a bachelor’s degree in computer science and two years’ experience working in cloud computing or a similar field, or a master’s degree in computer science or similar field.” Pet. 7 (citing Ex. 1002 ¶¶ 1–55, 119–122).

Patent Owner describes a person of ordinary skill in the art as a person having “a bachelor’s degree in electrical engineering or computer science, and approximately 3 years of experience working with content management systems and graphical user interfaces; or a more advanced degree such a master’s or doctorate with proportionally less work experience.” Prelim. Resp. 14.

Petitioner and Patent Owner’s descriptions of a person of ordinary skill are similar, although Patent Owner’s proposal is slightly more experienced. Both appear to be reasonably consistent with the subject matter of the ’658 patent. For purposes of this decision, we adopt Petitioner’s description. This description is supported by the testimony of Petitioner’s declarant, Dr. Martin. See Ex. 1002 ¶ 121; *Sse Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

C. *Claim Interpretation*

For this *inter partes* review, the Board applies the same claim construction standard as that applied in federal courts. *See* 37 C.F.R. § 42.100(b) (2023). Under this standard, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (citations omitted). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Because the meaning of a claim term as understood by persons of skill in the art may not be immediately apparent, we may look to “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.” *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). These sources may include extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art. However, such extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317.

Only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

The only claim term that appears to be in dispute between the parties that is necessary to address at this stage of the proceeding is the term “real time,” which is recited in independent claims 1, 7, and 12.

Petitioner asserts that “[a]lthough the ’658 Patent does not define the term ‘real time,’ [a person of ordinary skill in the art] would have understood it in the context of the intrinsic record to include content from more than one source that is sent to the server as it becomes available,” and that “[a]ny argument by [Patent Owner] that a ‘stream’ of real-time content requires ongoing, continuous data transmission is inconsistent with the patent.” Pet. 27 n.9 (citing Ex. 1002 ¶ 178).

Patent Owner asserts that “[i]n general, terms in the ‘658 Patent claims are clear and do not require special construction,” and the “terms of the ‘658 Patent should be given their ordinary and customary meaning.” Prelim. Resp. 14.³ Patent Owner, however, disagrees with Petitioner’s interpretation and application of the term “real time.” According to Patent Owner, “Petitioner’s proposed construction is wholly inconsistent with the intrinsic record of the ‘658 Patent.” *Id.* at 15.⁴

³ Patent Owner notes, however, that “[t]he parties also dispute the construction of several other claim terms of the ’658 Patent, including ‘master server’ and ‘content data.’” Prelim. Resp. 21 (citing Ex. 2005, 2). But according to Patent Owner, “the specific construction of those terms do not bear on Patent Owner’s arguments in this Preliminary Response, the Board need not provide a specific construction of those terms in determining whether or not to institute this proceeding.” *Id.*

⁴ Petitioner requested, and was granted, supplemental briefing “to address Patent Owner’s arguments regarding claim construction of ‘real time’ in the [Preliminary Response].” Ex. 3001. Patent Owner was provided an opportunity to respond. *Id.*

Patent Owner argues that “[t]he intrinsic record of the ‘658 Patent consistently and repeatedly makes clear that **‘real time’ content must be provided to a user interface, i.e., a master webpage, not simply ‘sent to the server,’** as Petitioner contends.” *Id.* at 15–16 (emphasis by Patent Owner). Patent Owner argues that “[a]lthough each independent claim of the ‘658 Patent is worded slightly differently, each claim unquestionably requires that content data or content applications are viewable/displayed/streamed/navigated **‘in real time’ on a master webpage.**” *Id.* at 17 (emphasis by Patent Owner).

Patent Owner contends that “the specification and file history of the ‘658 Patent confirm that content must be available ‘in real time’ on the master webpage.” *Id.* at 18. Patent Owner points out that “the patent states that ‘[t]he master web-page is [] **‘dynamic’** in the sense that ***the master webpage displays streaming content data and content applications from the multiple content data sources in real time.***”” *Id.* (citing Ex. 1001, 2:56–59 (emphasis and alterations by Patent Owner). Patent Owner also asserts that “the file history repeatedly emphasizes that content is streamed in real time simultaneously to a user interface (*i.e.*, a master webpage) so that a user does not need to open additional websites to view the content.” Prelim. Resp. 18 (citing *e.g.*, Ex. 1003, 134–135). Patent Owner argues that “[a] system that requires users to open additional websites to view content cannot provide ‘real time’ content because such content is not available from the user interface in a manner that matches the human perception of time.” Prelim. Resp. 20.

Patent Owner advises that “the parties have offered proposed constructions of the term ‘real time’ in the parallel district court litigation.” *Id.* at 19. Patent Owner explains that “[i]n the parallel litigation, Petitioner

contends that the term ‘real time’ should be given its plain and ordinary meaning (notably different from its proposed construction of ‘real time’ in the Petition), without explaining that meaning.” *Id.* at 19–20 (citing Ex. 2005, 23; Pet. 27 n.9). Patent Owner advises that in the parallel litigation, its proposed plain meaning for “real time” is “matching the human perception of time or proceeding at approximately the same rate as physical or external process.” *Id.* 20 (citing Ex. 2005, 23).

In its Preliminary Reply, Petitioner emphasizes that the claim term “real time” is “not defined in the ’658 patent and nothing in the specification indicates an intent to narrow this term,” so “[t]he plain and ordinary meaning of this term should therefore control.” Prelim. Reply 1 (citing Pet. 27 n.9, 68 n.15).

Petitioner contends that

Claim 1 recites two “real time” requirements in 1[b2] and 1[b3]: **(1)** organizing content data and content applications...streamed to the master server simultaneously **in real time** from their respective servers on a master webpage and **(2)** scrolling or paging through the content data or the content applications from the multiple content sources or service providers simultaneously and through the master server **in real time** from the master web-page.

Prelim. Reply 1.

Petitioner points out that Dr. Martin explained that a person of ordinary skill in the art

would have understood these limitations “to...signify that the content from multiple sources is transmitted to the server when it becomes available, without significant delay between content sources.” EX1002, ¶178.1 Further, the content “is updated and displayed as soon as it becomes available” using, e.g., a “feed reader user interface, which includes a scroll bar allowing continuous, real-time access to updated content.” *Id.*, ¶¶182, 190.

Prelim. Reply 1–2.

Petitioner asserts that Dr. Martin’s testimony “is consistent with the ‘658 disclosures.” *Id.* at 2 (citing *e.g.*, Ex. 1001, 1:43–46, 4:1–6, 5:34–36 (content data includes networking and email data), 5:42–47 (master webpage includes search tool to download available content data), 6:18–27, cls. 2–3 (content source or provider includes social media and email); Ex. 1002 ¶¶ 179–181).

Petitioner argues that Patent Owner “seeks to add a third ‘real time’ requirement: content . . . **(3) is displayed on a master webpage in real time.**” Prelim. Reply 2. Petitioner contends that “[w]hen the claims are read in their entirety, they are fully consistent with requirements (1) and (2) above, but do not add (3).” *Id.* at 3. Petitioner argues that Patent Owner “conflates real-time *scrolling or paging through* content” . . . “with the real-time display of content on the webpage” when Patent Owner “incorrectly asserts each claim ‘requires that content data or content applications are viewable/displayed/streamed/navigated ‘in real time’ on a master webpage.’” *Id.* at 3–4 (quoting Prelim. Resp. 17). Petitioner points out that the terms “[s]treamed’ and ‘viewable’ are recited separately in the claims, and ‘navigate’ appears only in claim 12 while ‘displayed’ appears in 1[c1], 7[d], and 12[b3]—none of which are connected to ‘real time’” and that “[t]hese different claim terms should not be conflated.” *Id.* at 4.

Petitioner also points out that the term “[d]ynamic’ does not appear in the claims, nor does the language [Patent Owner] emphasizes.” *Id.* at 4–5. “Thus,” Petitioner argues, Patent Owner “improperly seeks to import a limitation from the specification.” *Id.* at 5.

In its Sur-reply, Patent Owner argues that “Petitioner attempts to obscure a fundamental flaw in the Petition—its misreading of the claims as

requiring only that content is streamed to the master server in real time (see Paper 1 at 27 n.9), rather than displayed in real time on the master webpage as the claims plainly require.” Sur-reply 1.

In support of its position, Patent Owner argues that “[t]he independent claims of the ‘658 Patent each explicitly require content to be ‘streamed’ (claims 1, 7), ‘scroll[ed] or pag[ed] through’ (claim 1), or ‘navigate[d]’ through (claim 12) ***in real time on a master webpage.***” *Id.* Patent Owner asserts that “[t]he intrinsic record confirms this interpretation,” because, for example, “the patent states that ‘[t]he master web-page is [] ***‘dynamic’*** in the sense that ***the master web-page displays streaming content data and content applications from the multiple content data sources in real time.***” *Id.* at 2 (citing Ex. 1001, 2:56–59 (emphasis by Patent Owner)).

We note that the ‘658 patent does not expressly define the claim terms “*real time*” or “*simultaneously*” in the Specification. The parties appear to take the position that the terms of the claims should be given their ordinary and customary meanings. *See, e.g.*, Pet. 7 (“Claims should be construed ‘in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.’”) (citing 37 C.F.R. §42.100(b); *Phillips*, 415 F.3d at 1303); Prelim. Resp. 14–15 (“for purposes of this Preliminary Response, terms of the ‘658 Patent should be given their ordinary and customary meaning as would be understood by a POSA in light of the intrinsic record.”) (citing *Phillips* at 1313); *id.* at 15 (“the Board need not provide an explicit construction of the term ‘real time’ for purposes of determining whether or not to institute IPR.”).

Here, Dr. Martin testifies that a person of ordinary skill in the art would have understood the terms “simultaneously” or “real time” as they are

used in the context of the '658 patent to mean “that the content from more than one source is sent to the server when it is available. In other words, these terms signify that the content from multiple sources is transmitted to the server when it becomes available, without significant delay between content sources.” Ex. 1002 ¶¶ 178, 182 (“content from multiple sources is updated and displayed as soon as it becomes available”).

Patent Owner indicates that “the file history repeatedly emphasizes that content is streamed in real time simultaneously to a user interface (*i.e.*, a master webpage) *so that a user does not need to open additional websites to view the content.*” Prelim. Resp. 18 (emphasis added). Patent Owner also advises that in the parallel litigation, its proposed plain meaning for “real time” is “matching the human perception of time or proceeding at approximately the same rate as physical or external process.” *Id.* at 20 (citing Ex. 2005, 23).

Based on the current record, we credit Dr. Martin’s testimony and preliminarily determine that the ordinary and customary meaning of the term “real time” as it is used in the context of the '658 patent means to provide or transmit content when it is available without significant delay. This, however, does not resolve the issue of whether, as Petitioner contends, the claims require that content must be streamed in “real time” to just a “master server,” or as Patent Owner contends, content must also be streamed in “real time” to a “master webpage.”

Based on the current record, we preliminarily agree with Petitioner that a person of ordinary skill in the art considering the claims and the intrinsic record of the '658 patent in its entirety, would understand that the use of the term “real time” in the '658 patent claims means: 1) streaming content data and content applications to the master server simultaneously in

real time from their respective servers (claim 1[b2]); 2) scrolling or paging through the content data or the content applications . . . simultaneously and through the master server in real time (claim 1[b3]; 3) content data or content applications are simultaneously streamed to the master server . . . over the internet in real time (claim 7[c]); and 4) navigating through the content data or content applications . . . in real time from the remote computer (claim 12[b2]).

Our preliminary determination is based upon 1) the claim language itself; 2) the intrinsic record; and 3) other evidence of record including the testimony of Dr. Martin. For example, claim 1 recites in pertinent part: “*organizing content data and content applications from multiple content sources or service providers pre-selected by the user and streamed to the master server simultaneously in real time from their respective servers on a master web-page.*” Ex. 1001, 6:56–61 (emphasis added). Our reading of claim 1 is that the phrase “*simultaneously in real time*” directly modifies the immediately preceding clause “*streamed to the master server*” and not the succeeding clause “*on a master web-page*” as Patent Owner apparently argues.

This understanding is further supported by the use of the phrase “*real time*” in other claims, for example, claim 7, which recites in part “*wherein the content data or content applications are simultaneously streamed to the master server from servers of multiple content data sources or service providers over the internet in real time.*” *Id.* at 7:40–43 (emphasis added).

The testimony of Dr. Martin is consistent with this understanding of the claims and the use of phrase “*real time.*” For example, Dr. Martin testifies that

[t]he '658 patent does not define “simultaneously” or “real time” in the specification; however, a POSITA would have understood that, in the context of the '658 patent specification and file history, these terms to mean that the content from more than one source is sent to the server when it is available. In other words, these terms signify that the content from multiple sources is transmitted to the server when it becomes available, without significant delay between content sources.

Ex. 1002 ¶ 178.

Patent Owner, however, argues that “the patent states that ‘[t]he master web-page is [] ‘*dynamic*’ in the sense that ***the master web-page displays streaming content data and content applications from the multiple content data sources in real time.***” Prelim. Resp. 18 (citing Ex. 1001, 2:56–59 (emphasis and alterations by Patent Owner). But, as Petitioner points out, the '658 patent claims do not recite the term “dynamic,” and it would be inappropriate at this point to simply import this description of the term “dynamic” as a limitation into the claims. “Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.” *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004). “If everything in the specification were required to be read into the claims . . . there would be no need for claims.” *SRI International v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985).

Moreover, “[u]nsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony.” *Invitrogen Corp. v. Clontech Lab., Inc.*, 429 F.3d 1052, 1068 (Fed. Cir. 2005). Patent Owner’s attorney argument that “each claim unquestionably requires that content data or content applications are

viewable/displayed/streamed/navigated ‘*in real time*’ on a master webpage” (Prelim. Resp. 17) is not evidence or explanation in support of a conclusion. *See Icon Health & Fitness, Inc. v. Strava Inc.*, 849 F.3d 1034, 1046 (Fed. Cir. 2017). At this stage of the proceeding, Patent Owner has not provided declaration testimony to support its assertions. As a result, Patent Owner’s assertions are founded mostly on attorney argument, and the testimonial evidence of Dr. Martin presently stands unrebutted.

Based on the evidentiary record currently before us, we determine that Petitioner has made a sufficient showing, for purposes of institution, that one of ordinary skill in the art considering the ’658 patent in its entirety, would understand that the use of the term “real time” in the ’658 patent claims means that content and applications are streamed to a master server from its respective sources as soon as it is available and without significant delay to a user. This is a preliminary determination based on the current record before us and is subject to change upon development and consideration of a complete evidentiary record at trial.

D. Patentability Challenges

Petitioner presents four grounds challenging the patentability of particular claims of the ’658 patent under 35 U.S.C. § 103. Petitioner challenges claims 1–5 and 7–10 based on the combined teachings of Darnell and Kim (Ground 1A); claims 6 and 12–18 based on the combined teachings of Darnell, Kim, and Dasgupta (Ground 1B); claims 1 and 4–10 based on the combined teachings of Dasgupta and Darnell (Ground 2A); and claims 2, 3, and 11 based on the combined teachings of Dasgupta, Darnell, and Kim (Ground 2B). Pet. 2.

1. Relevant Prior Art

a) Darnell (Ex. 1004)

Darnell is a U.S. Patent Application Publication that published on April 10, 2008, which is before the earliest priority date of the '658 patent. Ex. 1001, code (60); Ex. 1004, codes (43), (22). Petitioner asserts that Darnell is “prior art under at least 35 U.S.C. § 102(b).” Pet. 1.

Darnell relates “generally to content syndication, and more particularly, to a content feed user interface with multiple modes for viewing content feed items.” Ex. 1004 ¶ 7.

Darnell’s Figure 1 is reproduced below:

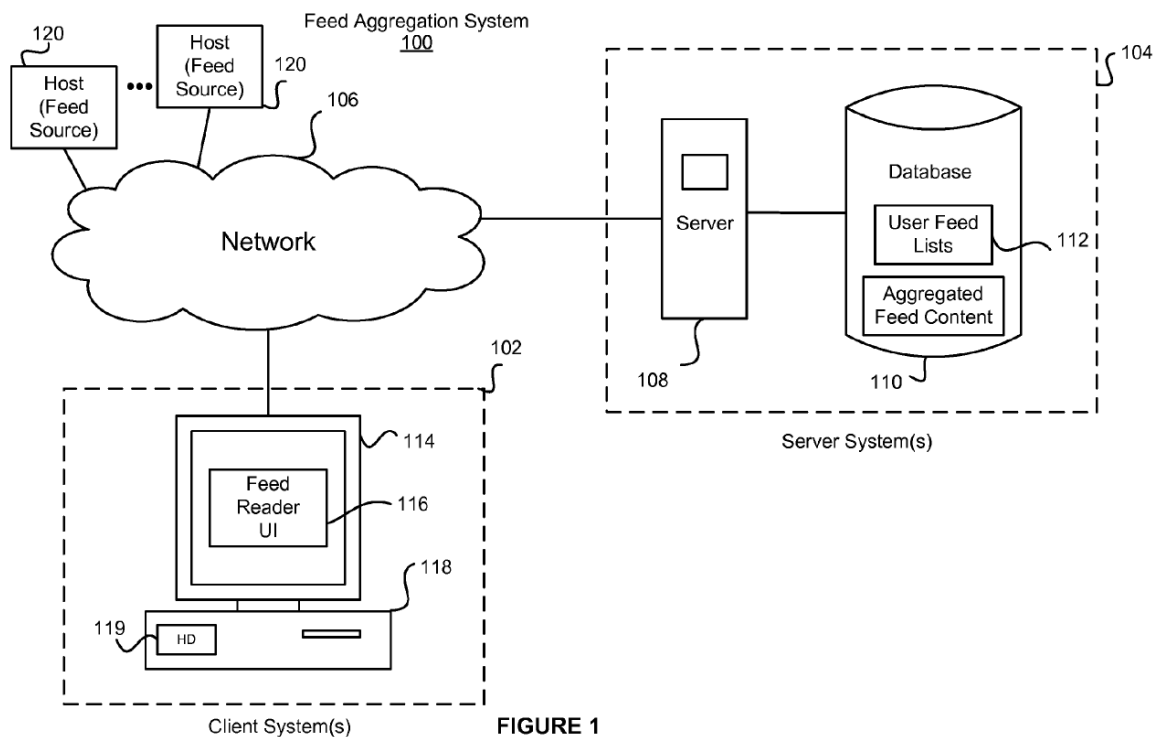


FIGURE 1

Darnell’s Figure 1, above, is a block diagram illustrating a content feed aggregation system. *Id.* ¶ 32. The content feed aggregation system 100 includes a server system 104 that is coupled to one or more client systems 102 and to one or more hosts 120 (or “feed sources”) by a network 106. *Id.* The server system 104 includes a server 108 and a database 110 and

accesses content feeds from the feed sources 120. *Id.* ¶ 33. Server 108 (sometimes called a front end server) serves as a front-end for the server system 104 and retrieves the content feeds from the feed sources 120, and also provides an interface between the server system 104 and the client systems 102. *Id.* Darnell discloses that, in some embodiments, the functions of server 108 may be divided or allocated among two or more servers. *Id.*

b) Kim (Ex. 1005)

Kim is a U.S. Patent Application Publication that published on January 18, 2007, which is before the earliest priority date of the '658 patent. Ex. 1001, code (60); Ex. 1005, codes (43), (22). Petitioner asserts that Kim is “prior art under at least 35 U.S.C. § 102(b).” Pet. 2.

Kim describes tools that present content in a user interface tailored to traits of the content. Ex. 1005 ¶ 18. Kim describes that in one embodiment, the tools organize content items into groups based on the content items having a common trait and enable a user to select content items by their group. *Id.* Responsive to the user’s selection of a group, the tools can present content, render enclosures, and alter traits of content items in the selected group. *Id.*

Kim’s Figure 1 is reproduced below:

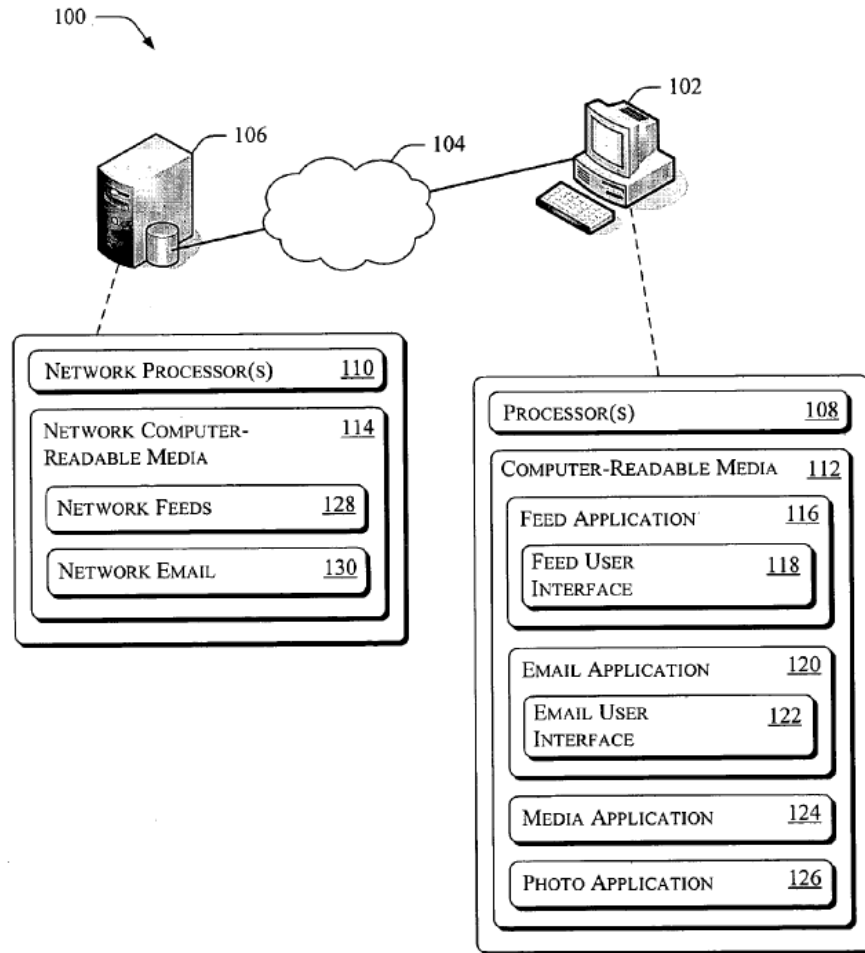


FIG. 1

Kim's Figure 1, above, illustrates an operating environment 100 comprising a computer 102, a communication network 104, and a network computer 106. *Id.* ¶ 20. Computer-readable media 112 comprises instructions that implement a feed application 116 having a feed user interface 118, an email application 120 having an email user interface 122, a media application 124, and a photo application 126. *Id.* ¶ 21. Network computer-readable media 114 comprises the network feeds and network email, both of which are capable of sending content across network 104 to computer 102. *Id.* ¶ 22.

c) Dasgupta (Ex. 1006)

Dasgupta is a U.S. Patent that issued on January 28, 2014, from an application filed on December 31, 2009, which is before the earliest priority date of the '658 patent. Ex. 1001, code (60); Ex. 1006, codes (45), (22). Petitioner asserts that Dasgupta is “prior art under at least 35 U.S.C. §102(e).” Pet. 2.

Dasgupta describes “user interfaces and user interface enhancements for media content access systems and methods.” Ex. 1006, 1:64–65.

Dasgupta’s Figure 1 is reproduced below:

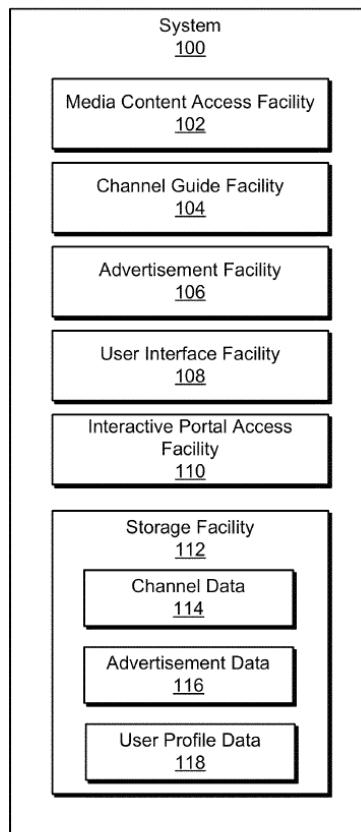


Fig. 1

Dasgupta's Figure 1, above, illustrates an exemplary media content access system 100 that may be configured to access and present media content, as well as to generate and provide one or more GUIs for viewing and utilization by a user (e.g., an end user such as a subscriber to one or more services accessible by system 100). *Id.* at 2:64–3:3. Dasgupta discloses that system 100 may include a media content access facility 102, a channel guide facility 104, an advertisement facility 106, a user interface facility 108, an interactive portal access facility 110, and a storage facility 112 selectively and communicatively coupled to one another. *Id.* at 3:4–8.

E. Obviousness over Darnell and Kim (Ground 1A)

For Ground 1A, Petitioner contends that claims 1–5 and 7–10 are unpatentable under 35 U.S.C. § 103 as obvious over Darnell and Kim. Pet. 9–44.

We begin our analysis by considering Petitioner's rationale for combining the teachings of Darnell and Kim, which is not substantively challenged by Patent Owner.

1. Rationale to Combine Darnell and Kim

Petitioner contends that “Darnell and Kim address similar problems of aggregating and presenting multiple feed sources to users.” Pet. 13 (citing Ex. 1002 ¶ 146). Petitioner notes, for example, that “Darnell addresses ‘[l]ooking through a dense list of content items to locate items of interest,’ which is cumbersome for users,” and Kim “similarly addresses the problem of viewing multiple pieces of fragmented content from news sources, blog entries, email, and the like in a ‘consuming experience having significant drawbacks.’” Pat. 13–14 (citing Ex. 1002 ¶ 146; Ex. 1004 ¶ 9; Ex. 1005 ¶ 1).

Petitioner asserts that a person of ordinary skill in the art

would have understood Kim’s teachings for aggregating news, blog entries, and email in a network computer and sending the feeds to a remote computer for display in a UI to be suitable for use with Darnell’s feed reader architecture, in which content feed sources are aggregated on a remote server instead of at the user device.

Pet. 14 (citing Ex. 1005 ¶¶ 20–24; Ex. 1002 ¶ 146).

Petitioner asserts that a person of ordinary skill in the art

would have also been motivated to implement Kim’s identification of “traits” and the organization of the UI based on those traits in Darnell’s feed aggregation system. *Id.*, ¶147. POSITAs would have been further motivated to implement Kim’s feed application, email application, media application, and photo application using Darnell’s server system 104 rather than on user devices, because doing so would allow users to access personalized content feeds on any device (e.g., phone, computer, tablet, etc.) instead of only on a single device.

Pet. 14–15 (citing Ex. 1002 ¶¶ 147–150).

Petitioner also asserts that a person of ordinary skill in the art

would have further understood Darnell’s and Kim’s compatibility because they disclose content feed aggregators with a similar user experience—aggregating multiple content feeds from different sources into a unified UI displayed on user devices. Darnell, Abstract, ¶¶ 8, 11–14, 30–32, 37–38, Fig. 1; Kim, Abstract, ¶¶ 20–23, 37, Fig. 1; Martin, ¶¶ 151–152. Thus, POSITAs would have been motivated to implement Kim’s additional feed types and feed processing on a server instead of user devices based on Darnell’s teachings.

Pet. 15 (citing Ex. 1002 ¶¶ 149–152).

Petitioner also argues that a person of ordinary skill in the art

would have had a reasonable expectation of success using Kim’s traits and usage history to control how Darnell displays feeds based on scores because Kim shows that using such a technique to organize displayed feeds was well within the skill of POSITAs. Martin, ¶213. Furthermore, organizing and presenting

content to users based on previous viewing of the content would have been a straightforward application of known, conventional content aggregation methods used according to their known functions to yield predictable results. *Id.*

Pet. 17.

Petitioner concludes that

[a]pplying Kim’s teachings to Darnell would have been nothing more than applying Kim’s known technique of detailed, trait-oriented organization of multiple feeds to improve Darnell’s remote content feed aggregation systems in the same manner. And using Kim’s organization of feeds based on user history and relevance would have improved Darnell’s system by tailoring content presentation to individual user preferences, making frequently accessed or popular feeds readily available.

Pet. 18 (citing Ex. 1005 ¶¶ 68–70; Ex. 1002 ¶¶ 226–231).

Patent Owner does not dispute Petitioner’s evidence and arguments concerning a rationale to combine the teachings of Darnell and Kim. Petitioner’s rationale for combining the teachings of Darnell and Kim is supported by the testimony of Dr. Martin. *See* Ex. 1002 ¶¶ 146–153. Based on the evidence and arguments presented, we find that Petitioner has established, for purposes of institution, that a person of ordinary skill in the art at the time of the claimed invention would have had a reason to combine the teachings of Darnell and Kim in the manner described in the Petition and would have had a reasonable expectation of success in doing so.

2. *Analysis of Independent Claim 1*

We now consider the evidence and arguments of the parties directed to independent claim 1. Petitioner first contends that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Darnell and Kim. *See* Pet. 2, 18–37. Patent Owner disputes Petitioner’s evidence and arguments relating to the “real time” limitations of claim 1, namely,

limitations 1[b1], 1[b2], and 1[b3]. See Prelim. Resp. 30–40. We consider these disputed limitations first and start with Petitioner’s contentions followed by Patent Owner’s contentions.

a) *Limitation 1[b1]*

Limitation 1[b1] recites:

a master application stored in the memory of the master server and that executes on the processor of the master server and that includes software coded for organizing content data and content applications from multiple content sources or service providers pre-selected by the user.

Ex. 1001, 6:54–59; see also Pet. ix.

For this limitation, Petitioner asserts that “Darnell discloses or suggests this limitation.” Pet. 22 (citing Ex. 1002 ¶¶ 166–177). Petitioner explains that “Darnell’s server system 104 (*master server*) includes memory 504 (*the memory*) for storing programs, modules and data structures that correspond to different sets of instructions, as shown in [Darnell’s] Figure 5.” Pet. 22 (citing Ex. 1004 ¶¶ 71–80, Fig. 5; Ex. 1002 ¶ 166). Darnell’s Figure 5 annotated by Petitioner, is shown below.

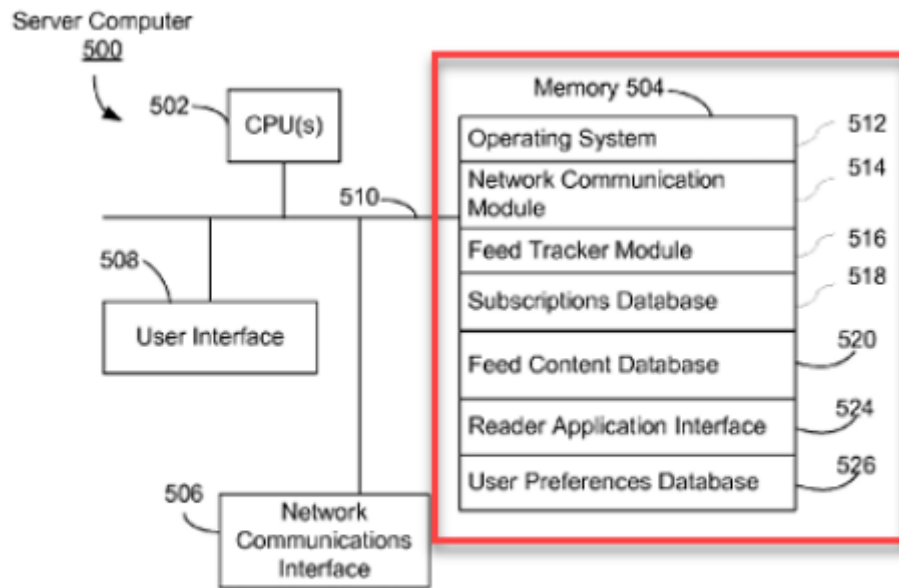


Figure 5

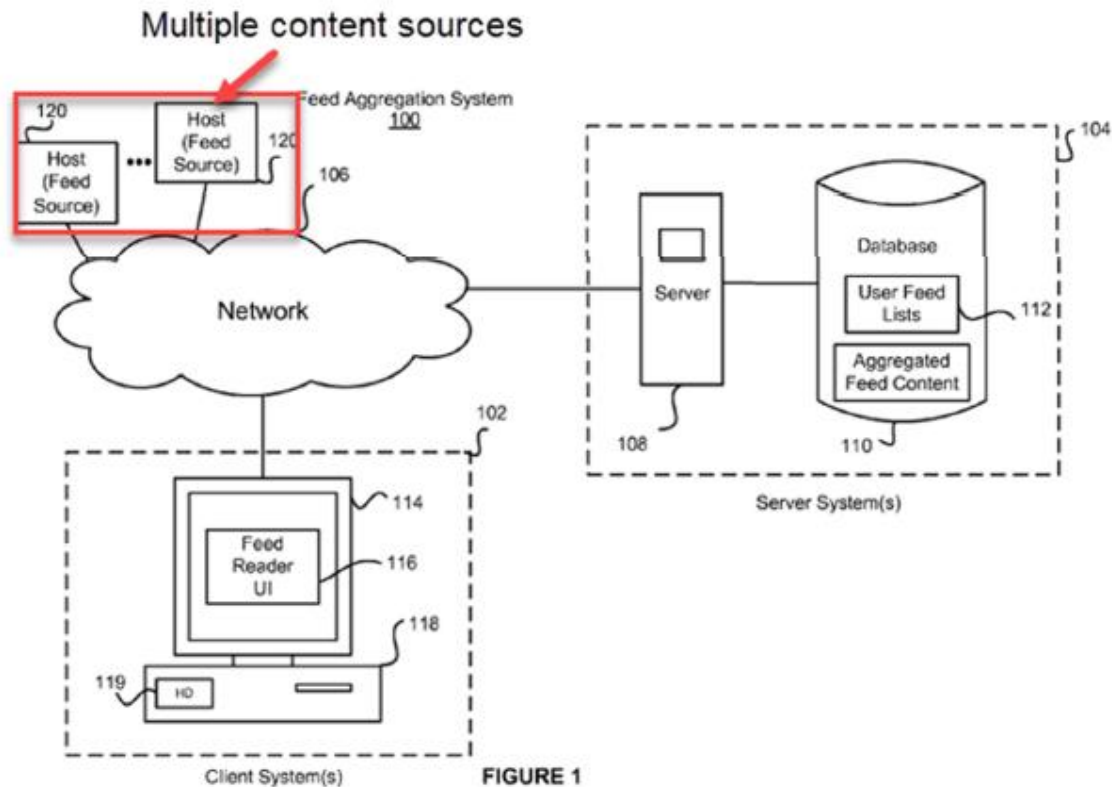
Darnell's Figure 5 is a block diagram illustrating Server Computer 500 comprising CPU(s) 502, Memory 504 (annotated with red rectangle), Network Communications Interface 506, and User Interface 508. Memory 504 comprises Feed Content Database 520, which "stor[es] content items from content feeds and user information about content items." Ex. 1004 ¶ 76. Petitioner points out that such content "may be any machine-readable data, including but not limited to web pages, images, digital audio, digital video, Portable Document Format (PDF) documents, and so forth." Pet. 22–23 (citing Ex. 1004 ¶ 36). Petitioner explains that "a content item (*content data*) 'may include the content associated with the item itself..., a title..., and/or a description of the content, a network location or locator (e.g., URL) of the content, or any combination thereof.'" *Id.* at 23. According to Petitioner, "[c]ontent items are received at the server and stored in a database before being sent to the user through the feed reader interface." *Id.* (citing Ex. 1004 ¶¶ 33 ("Server 108, sometimes called a front end server,

retrieves the content feeds from the feed sources 120, and also provides an interface between the server system 104 and the client systems 102.”), 34 (“The server system 104 stores content items in the content feeds in the database 110.”), 40, 76, 81, 114; Ex. 1002 ¶ 167).

Darnell’s Figure 5 also illustrates Subscriptions Database 518 as part Memory 504, which, according to Petitioner, “stor[es] information about the content feed subscriptions of users of the system.” Pet. 23 (citing Ex. 1004 ¶ 75). Also illustrated as part of Memory 504 is Reader Application Interface 524 for “exchanging information with the feed reader modules in one or more client computers,” and User Preferences Database 526 for “storing user-specific information, including user preferences with regard to the user interface.” *Id.* (quoting Ex. 1004 ¶¶ 77–78). Darnell’s Server Memory 504 also includes Operating System 512 for running programs. *Id.* (citing Ex. 1004 ¶ 72).

According to Petitioner, a person of ordinary skill in the art “would have understood Darnell’s modules and data structures on the server collectively are *a master application* that resides in memory 504 (*memory*) of server system 104 (*master server*) and executes on the CPU 502 (*processor*). *Id.* (citing Ex. 1002 ¶ 168).

Petitioner also provides Darnell’s annotated Figure 1, shown below.



Darnell’s Figure 1 is a block diagram illustrating Feed Aggregation System 100 having “multiple feed sources 120 [annotated with red rectangle] (*multiple content sources or service providers*), and “[a] content feed (or channel)...provides a list of content items that are present, recently added, or recently updated at a feed source 120.” Pet. 24–25 (citing Ex. 1004 ¶ 36, Fig. 1; Ex. 1002 ¶¶ 169–170). Petitioner points out that “[a] user interfaces with the server system 104 and views content items at a client system or device 102” via “a feed reader user interface 116 that may be presented on the display 114,” as “a web-based user interface,” and that allows the user to “create a list of feed subscriptions” (*preselected by the user*). Pet. 24 (citing Ex. 1004 ¶¶ 39–41; Ex. 1002 ¶¶ 169–170).

Petitioner explains that “[f]eed reader UI 116 presents an ‘ordered list’ of content items in compact or expanded format (*content applications*) organized by timestamp or by ‘a score that takes into account both the

content of the items and the timestamps of the items’ (*organizing content data and content applications*).” Pet. 25 (citing Ex. 1004 ¶¶ 30, 41, 43–45, 47, 49, 51–58, Figs. 3A–D; Ex. 1002 ¶ 170).

According to Petitioner, a person of ordinary skill in the art “would have understood the modules and data structures (collectively, *a master application*) on Darnell’s server 104 create this ordered list.” Pet. 25 (citing Ex. 1002 ¶ 170). Petitioner explains that

Darnell’s UI further uses “Frames” to partition the webpage and a “JavaScript application” that “receives content items from the server system 104, manages the rendering of those content items at the client, and also performs the client-side aspects of other tasks, such as marking items as read, adding and removing content feed subscriptions, labeling content feed subscriptions and/or individually selected content items, selecting or revising user preferences, and the like.”

Pet. 25–26 (citing Ex. 1004 ¶ 41; Ex. 1002 ¶¶ 172–177). Petitioner points out that “[t]he compact and expanded views of the content data in the UI is controlled by the HTML or XML programming of the webpage, including the JavaScript.” Pet. 26 (citing Ex. 1002 ¶ 172). According to Petitioner, a person of ordinary skill in the art “would have understood the web-based feed UI 116 renders the ordered list of content items using HTML or XML programming (including JavaScript and Frames) that constitutes a *content application*.” Pet. 26 (citing Ex. 1004 ¶ 67; Ex. 1002 ¶ 177; *accord* Ex. 1001, 4:4–6).

b) *Limitation 1[b2]*

Limitation 1[b2] recites:

and streamed to the master server simultaneously in real time from their respective servers on a master web-page and are viewable from the remote computer devices through the master server on the master web-page,

Ex. 1001, 6:59–63; *see also* Pet. ix.

For this limitation, Petitioner asserts that “Darnell discloses or suggests this limitation.” Pet. 26 (citing Ex. 1002 ¶¶ 178–187). Petitioner explains that “[a]s shown in [Darnell’s] Figure 1 above, content items are streamed to server system 104 (*master server*) from their hosts/feed sources 120 (*their respective servers*).” Pet. 26 (citing Ex. 1004 ¶ 32; Ex. 1002 ¶ 183 (“server” and “host” are often used interchangeably, and hosts “serve” information to other computers)). Petitioner points out that “Darnell explains that server 108 (within server system 104) ‘retrieves the content feeds from the feed sources 120, and also provides an interface between the server system 104 and the client systems 102.’” Pet. 26 (citing Ex. 1004 ¶ 33). “Thus,” Petitioner asserts, “content from multiple feeds is simultaneously streamed to *the master server* and presented in the user’s feed chronologically with a timestamp.” Pet. 26–27 (citing Ex. 1004, Figs. 3A–3D ¶¶ 31 (“feed items from a content feed source can be considered to be a stream of items”), 51, 109; Ex. 1002 ¶ 183).

According to Petitioner, “Darnell’s feed tracker module 516 retrieves ‘content items for storage periodically and/or as content feeds are updated’ (Ex. 1004 ¶ 74), which [a person of ordinary skill in the art] would have understood to mean the server receives the content in real time within the meaning of the ’658 Patent.” Pet. 27 (citing Ex. 1004 ¶¶ 184–186).

Petitioner asserts that

Although the ’658 Patent does not define the term “real time,” POSITAs would have understood it in the context of the intrinsic record to include content from more than one source that is sent to the server as it becomes available. [Ex. 1002] ¶ 178. Any argument by PO that a “stream” of real-time content requires ongoing, continuous data transmission is inconsistent with the patent. For example, claims 3 and 11 recite “the personal content

account is an email account,” and claim 2—from which claim 3 depends—additionally recites that the “content sources or service providers include...social media....” [Ex. 1001], 2:40–46, 5:31–36, 7:14–19, 8:3–5. POSITAs would have known email and social media update when new content is available.

Pet. 27 n.9 (citing Ex. 1002 ¶¶ 178–182).

Darnell’s Figure 3A, annotated by Petitioner, is shown below.

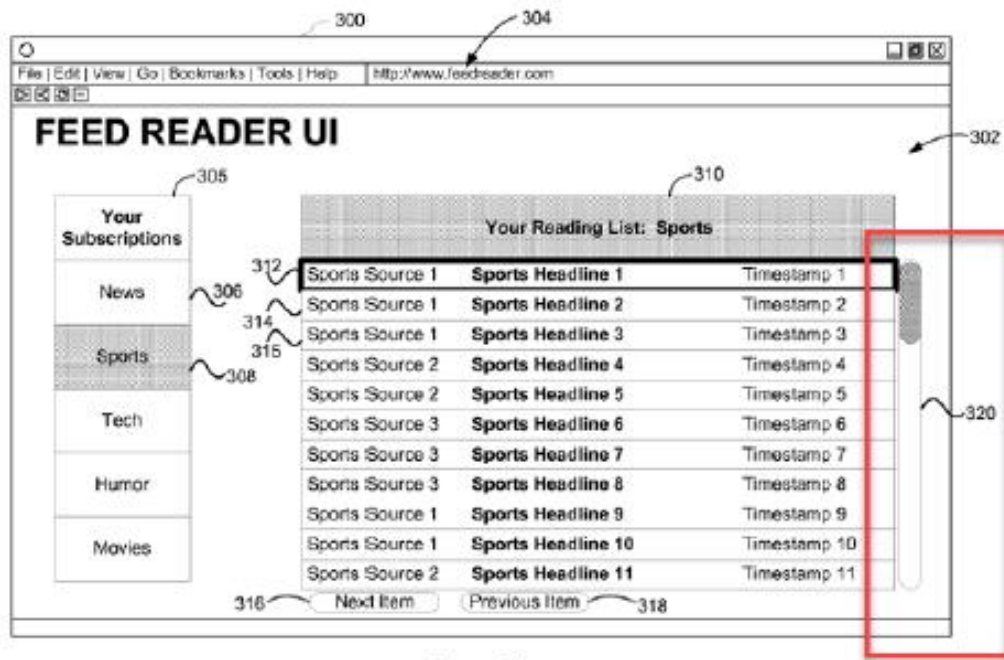


Figure 3A

Darnell’s Figure 3A is a schematic screenshot of web-browser user interface 300 presenting a web page that displays feed reader user interface 302 of a content feed reader, including URL field 304, label list 305 associated with user subscribed content feeds, ordered list 310 arranged according to timestamps associated with the items, and scrollbar 320 (annotated with red rectangle). Pet. 28; Ex. 1004 ¶ 49.

Petitioner explains that “[w]hen viewing content items, the user ‘may attempt to scroll beyond the end of the displayed list,’ which triggers a ‘fetch’ command to retrieve additional content items from server computer

104.” Pet. 28 (quoting Ex. 1004 ¶ 112). According to Petitioner, a person of ordinary skill in the art “would have therefore understood Darnell’s reader interface webpage to be a *master web page*.” Pet. 28 (citing Ex. 1002 ¶¶ 185–187; Ex. 1001, 4:21–26).

Petitioner argues that “Darnell thus *streams* content from multiple hosts 120 (*respective servers*) *simultaneously* when they send updates (*in real time*) to the server system 104 (*master server*), where content is viewable on feed reader interface 116 webpage (*master web page*) displayed on a client system device (*remote computing device*).” Pet. 28–29.

c) *Limitation 1[b3]*

Limitation 1[b3] recites:

wherein the master application programs a processor on the remote computer devices to operate and execute a slide tool program for scrolling or paging through the content data or the content applications from the multiple content sources or service providers simultaneously and through the master server in real time from the master web-page and from the remote computer by operating the slide tool program from the remote computer;

Ex. 1001, 6:63–7:4; see also Pet. ix.

For this limitation, Petitioner asserts that “Darnell discloses or suggests this limitation.” Pet. 29 (citing Ex. 1002 ¶¶ 188–191). Petitioner explains that “Darnell’s feed reader UI 116 is received from server system 104 executing modules and data structures (*the master application*) as a program (e.g., webpage) on the processor (*programs a processor*) of the client system(s) (*the remote computer devices*).” Pet. 29 (citing *id.* at Sec. VII.A.2.c; Ex. 1004 ¶ 67; Ex. 1002 ¶¶ 188–190). Petitioner notes that “[a]s explained above in 1[b1]-1[b2], feed reader UI 116 includes scrollbar 320 (*a slide tool program*) for scrolling through an ordered list 310 of content items (*for scrolling or paging through the content data or the content applications*

from the multiple content sources or service providers).” Pet. 29 (citing *id.* at Sec. VII.A.2.c–VII.A.2.d; Ex. 1004 ¶ 54; Ex. 1002 ¶ 189; *accord* Ex. 1001, 4:24–26). According to Petitioner, “[t]he web-based UI is “written in the Hypertext Markup Language (HTML), Extensible Markup Language (XML), or any other suitable language for preparing web pages, and may include one or more scripts for interfacing with the server system.” Pet. 29 (quoting Ex. 1004 ¶ 41). Petitioner points out that “[t]hose scripts (e.g., JavaScript or ECMAScript) are ‘embedded in a web page served from the server system 104 [and] . . . [w]hen the web page is rendered, the feed reader module 420 [script] is executed, thereby providing a web-based interface to the server system 104.’” Pet. 29 (quoting Ex. 1004 ¶ 67). “Thus,” Petitioner asserts, “users operate Darnell’s scrollbar 320 from a client system via the web-based UI (*from the master web-page and from the remote computer by operating the slide tool program from the remote computer*).” Pet. 29–30 (citing Ex. 1002 ¶ 191).

d) Patent Owner’s Contentions

Patent Owner contends that “Darnell fails to disclose a system that provides real-time content data viewable directly from a master webpage.” Prelim. Resp. 32. “Instead,” Patent Owner asserts, “Darnell’s system aggregates content feeds or content items on a server, merges new content with historical content, stores the merged content items in a persistent database, and then, periodically or upon a request by a user, delivers a static list of stored content items to a user interface.” *Id.* (citing *id.* at Sec. IV.A; Ex. 1004 ¶¶ 40, 106–109).

Patent Owner argues that “Darnell cannot disclose providing ‘real time’ content data or applications on a master webpage because Darnell’s system merges new content with historical content and stores such content

items in a persistent database **prior to** delivering content items to a user.” Prelim. Resp. 32 (citing Ex. 1004 ¶ 106). According to Patent Owner, “[c]ontent items that are first merged and then stored in a persistent database on Darnell’s system before being transmitted to a user are not provided ‘in real time’ to a user’s master webpage.” *Id.* at 33.

Patent Owner also argues that “Darnell cannot disclose providing ‘real time’ content data or applications on a master webpage because **Darnell’s system only delivers content items to a user periodically or based upon a user’s request.**” *Id.* (citing Ex. 1004 ¶¶ 12, 74, 109). Patent Owner asserts that “true ‘real time’ content data or applications would be streamed and/or displayed without the need for user action or involvement once the system is initially activated.” *Id.* at 34. Patent Owner also asserts that “a request for content sent ‘periodically’ is, by definition, not sent in real time but instead sent recurrently in intervals.” *Id.*

Patent Owner asserts that Petitioner is laboring under “the mistaken idea that the claims merely require content sent to or received by **Darnell’s server** in real time.” *Id.* at 35 (citing Pet. 26–29). Patent Owner, however, contends that “the claims require more than simply providing real time content to a master server—rather, each of the independent claims require providing content data or applications ‘**in real time’ on the master webpage.**” Prelim. Resp. 35 (citing *id.* at Sec. III.A). Patent Owner asserts that Petitioner “cannot[] point to anything in Darnell that teaches or suggests providing ‘real time’ content data or applications on the master webpage itself.” *Id.* at 36.

Although Patent Owner acknowledges that “Darnell’s server may receive content feeds from content sources,” Patent Owner asserts that, in Darnell, “the user’s feed is only updated **after** content is merged, stored in a

persistent database, and requested either periodically or at a user-initiated request, meaning the content is no longer provided ‘in real time.’” *Id.* (citing Ex. 1004 ¶¶ 34, 40, 74, 106, 112).

We disagree with Patent Owner for several reasons. As we discussed above in Section III.C, the claim term “real time” is not defined in the ’658 patent, and we decline to use the Specification’s description of the term “dynamic” as a limitation in the claims.

We also disagree with Patent Owner’s argument that “Darnell cannot disclose providing ‘real time’ content data or applications on a master webpage because Darnell’s system merges new content with historical content and stores such content items in a persistent database **prior to** delivering content items to a user.” Prelim. Resp. 32 (citing Ex. 1004 ¶ 106). This is unsupported attorney argument and Patent Owner provides no evidence that such a proposition is correct. We are not directed to any language in the claims or any evidence in the record that streaming content in “real time” necessarily precludes actions such as merging or storing content, in particular if such actions happen so quickly that they occur without significant delay and are undetectable to a user, or as Patent Owner proposes “matching the human perception of time or proceeding at approximately the same rate as physical or external process.” Prelim. Resp. 20 (citing Ex. 2005, 23).

We further disagree with Patent Owner’s argument that “true ‘real time’ content data or applications would be streamed and/or displayed without the need for user action or involvement once the system is initially activated.” Prelim. Resp. 34. Patent Owner does not cite to any evidence in the record to support this proposition, which appears to be mere attorney argument entitled to little weight. *In re Payne*, 606 F.2d 303, 315 (CCPA

1979) (“Arguments of counsel unsupported by competent factual evidence of record are entitled to little weight.”).

The same holds true for Patent Owner’s other argument that “Darnell cannot disclose providing ‘real time’ content data or applications on a master webpage because *Darnell’s system only delivers content items to a user periodically or based upon a user’s request.*” Prelim. Resp. 33 (citing Ex. 1004 ¶¶ 12, 74, 109). Contrary to Patent Owner’s attorney argument, Dr. Martin testifies that Darnell’s “feed tracker fetches items when they are updated,” such that the “feed items from a content feed source can be considered to be a stream of items,” thus “Darnell’s system streams content from multiple sources as updates become available, meeting the ’658 patent’s claim of content feeds streamed ‘simultaneously in real time.’” Ex. 1002 ¶ 184 (citing Ex. 1004 ¶¶ 31, 74).

e) *Uncontested Limitations*

Patent Owner does not substantively contest the remaining portions of independent claim 1. These portions include the preamble and limitations 1[a], 1[c1], and 1[c2]. See Prelim. Resp. 30–40.

Petitioner provides substantive evidence and argument, supported by the testimony of Dr. Martin, that these uncontested portions of claim 1 are met by Petitioner’s proposed combination of Darnell and Kim, and that at the time of the claimed invention, these portions of claim 1 would have been obvious to a person of ordinary skill in the art. See Pet. 18–21, 30–37; Ex. 1002 ¶¶ 154–165, 192–213.

After reviewing Petitioner’s evidence and arguments concerning these uncontested portions of claim 1, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that the combined teachings of Darnell and Kim meet these uncontested portions of claim 1.

f) *Conclusion as to Claim 1*

Based upon the current record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge that independent claim 1 of the '658 patent would have been obvious under 35 U.S.C. § 103(a) over the combined teachings of Darnell and Kim.

3. *Remaining Claims 2–5 and 7–10*

Petitioner contends that claims 2–5 and 7–10 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Darnell and Kim. Pet. 37–43. Petitioner provides the testimonial evidence of Dr. Martin in support of its contentions. Ex. 1002 ¶¶ 214–251.

We have considered Petitioner's evidence and arguments with respect to these claims as well as Patent Owner's evidence and arguments to the extent these claims are substantively addressed. However, because we determine that Petitioner demonstrates a reasonable likelihood of prevailing in its challenge to independent claim 1 under 35 U.S.C. § 103(a) as obvious over the combined teachings of Darnell and Kim, we institute *inter partes* review as to all other challenges in the Petition, including Petitioner's challenges to claims 2–5 and 7–10. *See PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018).

F. *Remaining Grounds 1B, 2A, 2B*

Petitioner contends that claims 6, and 12–18 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Darnell, Kim, and Dasgupta (Ground 1B); claims 1 and 4–10 based on the combined teachings of Dasgupta and Darnell (Ground 2A); and claims 2, 3, and 11 based on the combined teachings of Dasgupta, Darnell, and Kim (Ground 2B). Pet. 2, 44–82. Petitioner provides the testimonial evidence of Dr. Martin in support of its contentions. Ex. 1002 ¶¶ 252–389.

We have considered Petitioner's evidence and arguments with respect to these issues as well as Patent Owner's evidence and arguments to the extent these issues are substantively addressed. However, because we determine that Petitioner demonstrates a reasonable likelihood of prevailing in its challenge to independent claim 1 under 35 U.S.C. § 103(a) as obvious over the combined teachings of Darnell and Kim, we institute *inter partes* review as to all other challenges in the Petition, including Petitioner's challenges under Grounds 1B, 2A, and 2B. See *PGS Geophysical*, 891 F.3d at 1360.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least one of the challenged claims of the '658 patent. We therefore institute trial as to all challenged claims on all grounds stated in the Petition.

At this preliminary stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or any factual or legal issue underlying the patentability inquiry. Any final determination will be based on the complete record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely-filed Response to the Petition, or in another manner permitted during trial, shall be deemed forfeited or waived, even if that argument was presented in the Preliminary Response.

V. ORDER

Accordingly, it is

ORDERED that an *inter partes* review is instituted as to all challenged claims on all grounds raised in the Petition; and

FURTHER ORDERED that *inter partes* review is instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

IPR2025-00307
Patent 9,729,658 B2

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TWITCH INTERACTIVE, INC.,
Petitioner,

v.

RAZDOG HOLDINGS LLC,
Patent Owner.

IPR2025-00307
Patent 9,729,658 B2

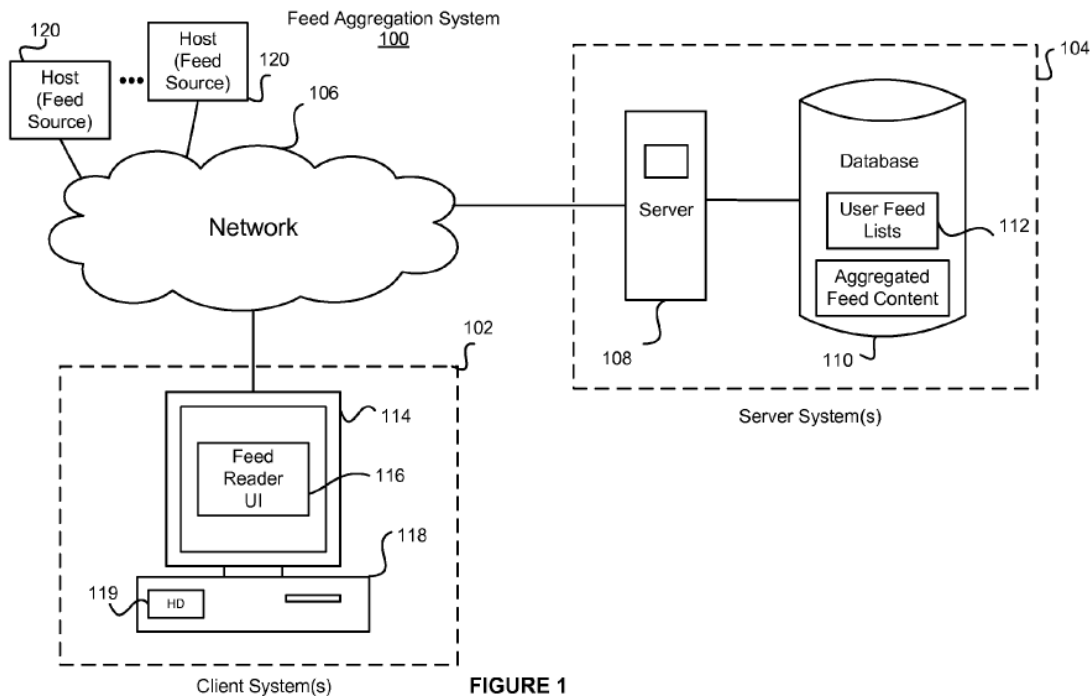
Before KEVIN C. TROCK, AARON W. MOORE, and
JASON M. REPKO, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge, dissenting*.

I respectfully dissent from the majority’s decision to institute *inter partes* review because, in my view, Petitioner has not shown that Darnell or Dasgupta teach or suggest “a master application . . . that includes software coded for organizing content data and content applications . . . streamed to the master server simultaneously in real time . . . on a master web-page,” as recited in claim 1.

Darnell

Figure 1 of Darnell is reproduced below.



Darnell's Figure 1 is "a block diagram illustrating a content feed aggregation system." Ex. 1004 ¶ 15.

This figure shows server system 104 that "accesses content feeds from the feed sources 120." Ex. 1004 ¶ 33. "Server 108 . . . retrieves the content feeds from the feed sources 120, and also provides an interface between the server system 104 and the client systems 102." *Id.* "The server system 104 stores content items in the content feeds in the database 110." *Id.* at 34.

"A user interfaces with the server system 104 and views content items at a client system or device 102," such as "a computer 118 or [a] computer controlled device," "a personal digital assistant (PDA), [a] cellular telephone or the like." Ex. 1004 ¶ 39.

In some embodiments, "the feed reader user interface 116 may be a web-based user interface" that "may be written in the Hypertext Markup

Language (HTML), Extensible Markup Language (XML), or any other suitable language for preparing web pages, and may include one or more scripts for interfacing with the server system 104.” Ex. 1004 ¶ 41. In other embodiments, “the feed reader user interface 116 may be a part of a standalone application that is run on the client system 102” and “may interface with the server system 104 via an application programming interface (API).” *Id.* at 42.

Darnell’s Figures 2 and 3 describe how the list of items is displayed to the user and how the user may interact with the list, e.g., interacting the items, expanding them, marking them as read, and using labels or folders. *See* Ex. 1004 ¶¶ 43–60. Figure 4 describes the client computer (*see id.* ¶¶ 61–70), and Figure 5 shows a server embodiment (*see id.* ¶¶ 71–80). Of note, the server includes “a feed tracker module 516 for retrieving content items for storage periodically and/or as content feeds are updated.” *Id.* ¶ 74.

In Figure 6, Darnell describes the data structures that hold the feed items, user subscriptions, and user preferences. *See* Ex. 1004 ¶¶ 81–90. In one embodiment, “[t]he feed content items may be stored in a data structure, such as a table data structure 600,” which “includes a row 610 for each content item from each feed source,” where “[e]ach row includes one or more fields (612, 614) that identify the content item, such as a content ID 612 and a feed ID 614 (which identifies the feed source of the content item).” *Id.*

Darnell’s Figure 7 describes “a flow diagram illustrating a process 700 for presenting content items to a user, in accordance with some embodiments.” Ex. 1004 ¶ 91. Specifically, “[c]lient 400 detects user selection of a bookmark . . . (702)” and “[i]n response, client 400 downloads a document associated with the bookmark (704) and displays the

downloaded document to the user (712).” *Id.* Figure 8 shows the same process but in a web browser instead of a feed reader. *See* Ex. 1004 ¶ 103.

Figure 9A is “a flow diagram illustrating a process 900 for retrieving and storing content items for subsequent transmission to client computer 400.” Ex. 1004 ¶ 106. “Server computer 500 retrieves a currently published set of content items for a content feed, for each of a plurality of respective content feeds (902),” where “[s]tep 902 is performed, for example, by feed tracker module 516,” and “[t]he retrieved content items are merged into a previously stored set of previously published content items, otherwise known as historical content items, for each of the plurality of content feeds (904).” *Id.* “The merged content items are stored in a database (906), such as feed content database 520 (FIG. 5).” *Id.* Then, “[i]n response to a user action, client computer 400 transmits to server computer 500 a request for a set of content items corresponding to a specified stream (922)” and “[s]erver computer 500 receives the request and retrieves the requested set of content items from server memory 504 (924) and responds by transmitting a set (e.g., an ordered list) of content items for a specified stream (908).” *Id.* ¶ 110. “Client computer 400 receives the transmitted set of content items and displays at least a subset of the content items to the user (926).” *Id.*

Darnell also explains that “[a] user viewing the displayed list of content items (926) may attempt to scroll beyond the end of the displayed list,” which “will prompt client computer 400 to fetch from server computer 500 an additional set of content items, corresponding to the specified stream, to display to the user.” Ex. 1004 ¶ 112.

My reading of Darnell is that the server collects items and stores them in a database, and then, upon a request from the user—either directly or by attempting to scroll beyond the displayed content—the server will provide additional items viewable by the user.

Claim 1 requires that the data be “streamed to the master server . . . in real time . . . on a master web-page.” I don’t believe this claim language is met by a system that only provides updated items when requested by the user. For example, if a user were to make a first request, the server would provide the most current items, but if new items became available with the passage of time and were obtained by the server’s feed tracker, they would be stored in the database on the server, but not made available to the user until new a request was made, and thus not streamed to the master web page in real time.

For limitation 1[b2], the Petition asserts that Darnell’s “content items are streamed to server system 104 (master server) from their hosts/feed sources 120 (their respective servers).” Pet. 28. But even if that is true, merely streaming to the server is not enough, because the claim requires streaming to the master server “on a master webpage.”

The Petition further asserts that “content from multiple feeds is simultaneously streamed to the master server and presented in the user’s feed chronologically with a timestamp.” Pet. 28. However, while the items may be streamed to the server, and also presented in the user’s feed in chronological order, that, in my view at least, is not enough because, as explained above, Darnell’s system only updates the user’s view upon a request by the user. The initial chronological presentation is not updated until the user requests an update, meaning that there is no real time streaming on the master web page.

Petitioner also argues that “[a]lthough the ’068 Patent does not define the term ‘real time,’ a POSITA would have understood it in the context of the patent specification and file history to include content from more than one source that is sent to the server as it becomes available.” Pet. 28, n.11. Again, however, the claim requires that, in addition to the server receiving the content as it becomes available, the content be “streamed to the master server . . . in real time . . . on a master web-page,” not just added to the server’s database.

The Petition also asserts that “[a]ny argument by [Patent Owner] that a ‘stream’ of real-time content requires ongoing, continuous data transmission is inconsistent with the patent.” Pet. 28, n. 11 (citing Ex. 1001, 2:48–54, 5:42–47). I don’t find this persuasive because the fact that “further embodiments” cited by Petitioner may *also* include “features for displaying and migrating through personal content data, such as those provided by a networking web-site or an e-mail web-site,” does not appear to be inconsistent with claims requiring that other content be “streamed to the master server . . . in real time . . . on a master web-page.”

In the Preliminary Reply, Petitioner asserts that Patent Owner “excerpts 1[b2] and emphasizes *in real time* and *on a master web-page* (*id.*) while omitting a key portion that makes clear *on a master web-page* refers to *organizing content and content applications* (in 1[b1]) such that they are “viewable . . . on the master web-page” (in 1[b2]).” Prelim. Reply 2–3. I do not agree with Petitioner’s effort to parse the claim so as to separate “in real time” from “on a master web-page.” I fail to see how the fact that the master application “organizes” the content data and applications means that they are not also “streamed to the master server . . . in real time . . . on a master web-page.”

The majority agree with Petitioner that the phrase “simultaneously in real time” modifies “streamed to the master server” and not “on a master web-page.” *See* Majority Decision 15. I agree, but conclude that the plain language of the claim also requires that the real time streaming be to “the master web page.” I see no reason why the claim is not properly read to require both that the streaming be “simultaneously in real time” and “on the master web page.”

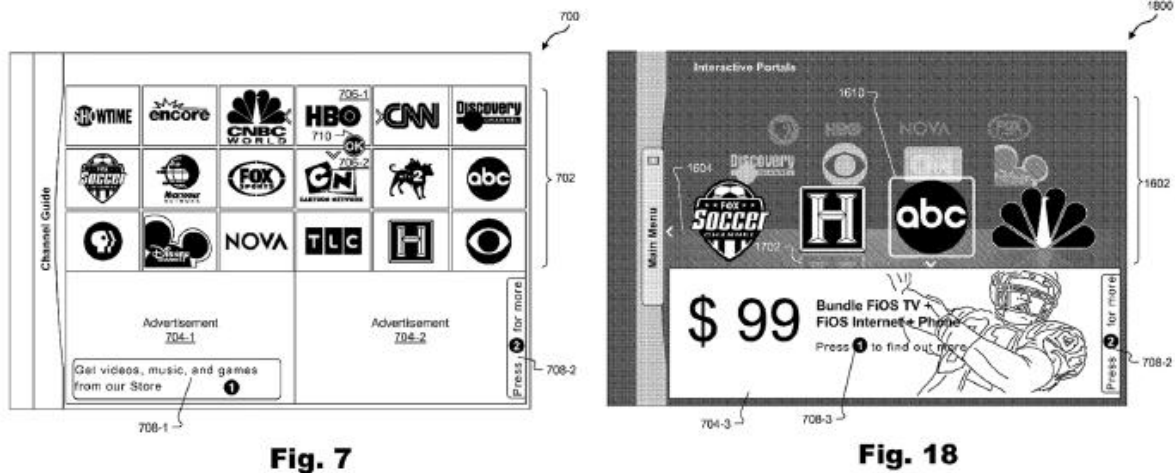
Petitioner also downplays the specification’s description of how the “[t]he master web-page is ‘dynamic’ in the sense that the master web-page displays streaming content data and content applications from the multiple content data sources in real time” by asserting that neither “dynamic” nor the other language appears in the claim, and that Patent Owner “thus improperly seeks to import a limitation from the specification.” Prelim. Reply 4–5. I am not persuaded by that argument because “real time” is in the claim and the specification is simply confirming what it means.

Finally, Petitioner argues that Patent Owner’s “reliance on the file history’s alleged ‘repeated[] emphasi[s] that content is streamed in real time simultaneously to a user interface (i.e., a master webpage)’” (*see* Prelim. Resp. 19) is “misplaced because the patentee knew how to describe such behavior but chose not to limit the claim in that way.” Prelim Reply. 5. This is unpersuasive to me because Patent Owner did, in fact, “limit the claim in that way,” specifically requiring that the data be “streamed to the master server . . . in real time . . . on a master web-page.”

Dasgupta

Dasgupta concerns improvements to the user interface of a set-top box that are said to “provide an intuitive and appropriate balance of information, advertisements, usability, aesthetics, and functionality.” Ex. 1006, 1:7–29.

The Petition refers to Dasgupta’s Figures 7 and 18:



Figures 7 and 18 of Dasgupta, as shown on page 39 of the Petition.

According to Petitioner, “Figure 7 shows ‘selector 710,’ which allows a user to scroll through different content items in a feed, such as HBO 706-1” and “Figure 18 shows a channel guide GUI that ‘includes a three-dimensional grid matrix view of a plurality of channel icons associated with a plurality of media content channels.’” Pet. 39 (citing Ex. 1006, 14:45–15:44, 17:43–63, 19:4–16).

Petitioner asserts that “Dasgupta’s media content access system includes ‘a media content access facility 102, a channel guide facility 104, an advertisement facility 106, a user interface facility 108, an interactive portal access facility 110, and a storage facility 112 selectively and communicatively coupled to one another.’” Pet. 40 (citing Ex. 1006 3:4–13). Petitioner further asserts that, “[t]he ‘[m]edia content access facility

102 may be configured to access, process, and present media content for experiencing by a user’ and ‘may employ any technologies suitable for accessing media content, including accessing media content distributed by a remote source.’” *Id.* (citing Ex. 1006, 3:14–21).

Limitation 1[b1] requires “a master application stored in the memory of the master server and that executes on the processor of the master server,” and “includes software coded for organizing content data and content applications from multiple content sources or service providers.” Ex. 1001, 6:54–58; Pet. ix. Petitioner asserts Dasgupta has “‘one or more applications 310’ (*a master application*) stored in the storage device 306 of subsystem 202 (*stored in the memory of the master server*).” Pet. 48 (citing Ex. 1006, 8:28–67).

For limitation 1[b2], which requires that the data/applications be “streamed to the master server simultaneously in real time from their respective servers on a master web-page,” Petitioner argues that “Dasgupta’s provider subsystem 208 ‘provide[s] media content to delivery subsystem 202 for distribution over network 206,’” and “[t]hus, media content items are streamed to subsystem 202 (*streamed to the master server*) from each provider subsystem 208 (*from their respective servers*). Pet. 53–54 (citing Ex. 1006, 7:44–55; Ex. 1002 ¶ 485).

Petitioner then argues that because “Dasgupta’s media content channels include ‘streams . . . or . . . frequency bands to which media content access facility may tune to access media content carried over the frequency bands,’” “a POSITA would have understood that the content is streamed . . . simultaneously in real time because each channel is available at the same time.” Pet. 54 (citing Ex. 1006, 2:25–50, 3:14–28, 9:25–10:24, 12:40–13:4; Ex. 1002 ¶ 486).

Petitioner further argues that Dasgupta “discloses that media content may be transmitted between subsystem 202 and subsystem 204 via network 206 using TCP/IP and “Hypertext Transfer Protocol (‘HTTP’)” . . . , which governs how web browsers and web servers intercommunicate to load web pages,” and that “[i]t was well-known that web pages include HTML and JavaScript programs to create UIs.” Pet. 54 (citing Ex. 1002 ¶ 487). From this, Petitioner concludes that “a POSITA would have understood that subsystem 202 sends webpages to subsystem 204 using the HTTP (*on a master web-page*).” *Id.* at 55.

I am not persuaded that the fact that subsystem 202 and subsystem 204 can communicate using, among many other methods, HTTP, means that subsystem 202 is “sending webpages” to subsystem 204. Dr. Martin testifies that “HTTP is the foundational protocol for the World Wide Web, defining how data, *including web pages*, is transmitted from servers to client devices.” Ex. 1002 ¶ 257 (emphasis added). Because HTTP is used to transmit data *other than web pages*, even Dasgupta embodiments that might use HTTP are not necessarily doing so with “web pages.” In my view, the mention of HTTP as a communication protocol does not mean that subsystem 202 is “sending webpages” to subsystem 204.

Conclusion

For these reasons, I would find that Petitioner has not shown that Darnell or Dasgupta teach or suggest “a master application . . . that includes software coded for organizing content data and content applications . . . streamed to the master server simultaneously in real time . . . on a master web-page.” I thus would deny institution.