

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FANDUEL, INC.,
Petitioner,

v.

WINVIEW INC.,
Patent Owner.

IPR2022-01306
Patent 9,993,730 B2

Before HUBERT C. LORIN, MICHAEL R. ZECHER, and
FRANCES L. IPPOLITO, *Administrative Patent Judges*.

IPPOLITO, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

FanDuel, Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review (“IPR”) of claims 1, 4, 7, 28–31, 49, 57, 68, and 81 of U.S. Patent No. 9,993,730 B2 (Ex. 1001, “the ’730 patent”). Paper 1 (“Pet.”). WinView Inc. (“Patent Owner”) elected not to file a Preliminary Response. Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review as to all claims based on the single ground set forth in the Petition. Paper 7 (“Inst. Dec.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 10, “PO Resp.”), Petitioner filed a Reply (Paper 13, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 14, “PO Sur-reply”). In addition, an oral argument was held on November 2, 2023, and a transcript of the hearing is included in the record. Paper 21 (“Tr.”).

We have jurisdiction pursuant to 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the challenged claims. Petitioner bears the burden of proving unpatentability of the challenged claims. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2021). Having reviewed the arguments and the supporting evidence, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1, 4, 7, 28–31, 49, 57, 68, and 81 of the ’730 patent are unpatentable.

A. Real Party in Interest (“RPI”)

FanDuel identifies itself and FanDuel Limited as the RPIs. Pet. 2. WinView identifies WinView IP Holdings LLC and WinView Technology Inc. as RPIs. Paper 18, 1 (WinView’s Updated Mandatory Notices).

B. Related Proceedings

In addition to this Petition, Petitioner has filed a petition requesting an IPR of claims 1, 2, 9, 14–16, 20, 21, 23, 24, 26, 27, 31–33, 40, 41, 43, and 49 of U.S. Patent No. 10,721,543 B2). Pet. 2; Paper 18, 1 (Patent Owner’s Updated Mandatory Notices); *FanDuel, Inc. v. Winview Inc.*, IPR2022-01307, Paper 1 (PTAB July 25, 2022). WinView also identifies that DraftKings, Inc. filed a petition requesting an IPR of claims 1, 3, 4, and 6 of U.S. Patent No. 9,878,243 B2. *DraftKings, Inc. v. WinView Inc.*, IPR2022-01351, Paper 1, (PTAB Aug. 3, 2022) (petition); Paper 17, 1. Both of these related petitions were granted on January 31, 2023 (IPR2022-1307, Paper 6 (institution decision), IPR2022-01351, Paper 8 (institution decision)), and final written decisions addressing the challenged claims are entered concurrently herewith.

The parties indicate that the ’730 patent is the subject of the following two district court proceedings: (1) *WinView Inc. v. FanDuel, Inc.*, No. 3:21-cv-13807 (D.N.J.) filed July 19, 2021; and (2) *WinView Inc. v. DraftKings, Inc.*, No. 3:21-cv-13405 (D.N.J.) filed July 7, 2021. Pet. 2; Paper 5, 1.

C. The ’730 Patent

The ’730 patent is titled “Methodology for Equalizing Systemic Latencies in Television Reception in Connection with Games of Skill Played in Connection with Live Television Programming,” and “relates to the field of distributed gaming utilizing a mobile device.” Ex. 1001, codes (54), (57),

1:50–54. As an example of methods described in the '730 patent, Figure 1 is reproduced below:

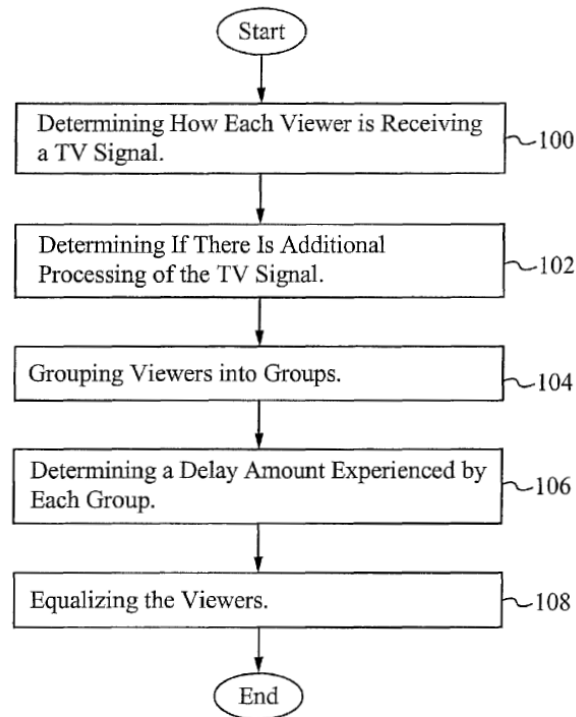


Fig. 1

Fig. 1 illustrates a flowchart of a process of preventing latency issues from giving an advantage to some participants in a game. *Id.* at 5:3–5.

The process shown in Figure 1 includes, among other things, the step of “grouping participants into a set of cohorts viewing a telecast delivered by identical transmission and reception systems” (step 104 in Fig. 1), “determining an amount of delay for each cohort in the set of cohorts” (step 106), and “substantially equalizing the set of cohorts through adjustment of the amount of delay” (step 108). *Id.* at 3:1–8, 8:43–52; *see also id.* at 7:6–14 (“the total viewing population for a telecast is divided into segments or blocks of viewers referred to as ‘cohorts’”; for example, “the 2 million

inhabitants of the San Francisco Bay Area would be divided into approximately 1 over the air broadcast, 3 satellite independent providers and several cable ‘head ends’ or central broadcast points serving a ‘cohort.’”).

The ’730 patent discloses that the step of equalizing the set of cohorts can include: (i) time stamping the amount of delay on game “lock out” signals; (ii) imposing the amount of delay on an entire game data stream so that competitors do not gain an advantage (or are put at a disadvantage) due to the timing of their television information; and (iii) sending game control data to the game participant cohorts at the same time, with client software delaying presentation of game data based on a precise time of reception of the telecast by the group. *Id.* at 3:37–43, 8:47–57.

D. Challenged Claims

Petitioner challenges claims 1, 4, 7, 28–31, 49, 57, 68, and 81. Claims 1, 68, and 81 are independent. Claim 1 is illustrative and reproduced below:

1. A game server comprising:
 - a. a memory for storing an application for conducting a game of skill or chance, the application configured for:
 - i. communicating with a plurality of Internet-connected devices grouped into a cohort; and
 - ii. sending a lockout signal at an appropriate time based on an amount of delay to prevent users from submitting a response to a game of skill or chance or other entertainment; and
 - b. a processor for processing the application.

Ex. 1001, 15:11–21.

E. Asserted Ground of Unpatentability/Testimonial Evidence

Petitioner asserts the following ground of unpatentability:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 4, 7, 28–31, 49, 57, 68, and 81	103(a) ¹	Malaure, ² McKeown ³

Pet. 4. In addition to the references listed above, Petitioner relies on the Declaration of Aviel D. Rubin, Ph.D, filed with the Petition (Ex. 1004) and a Second Declaration of Dr. Rubin in support of Petitioner’s Reply (Ex. 1016). Patent Owner supports its arguments in the Patent Owner Response with the testimony of Prashant Shenoy, Ph.D. Ex. 2001 (Declaration of Dr. Shenoy in support of the Patent Owner Response).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective after the filing of the application that led to the ’730 patent. Therefore, we apply the pre-AIA version of 35 U.S.C. § 103.

² European Patent Application Publication No. 1 003 313 A1, published May 24, 2000 (“Malaure,” Ex. 1006).

³ European Patent Application Publication No. 0 873 772 A1, published October 28, 1998 (“McKeown,” Ex. 1007).

Petitioner contends that a person of ordinary skill in the art (“POSITA”) at the time of the invention of the ’730 patent “would typically have at least a bachelor’s degree, or equivalent, in Computer Science and several years of experience in software development,” and “would understand the references referred to in this report and have the capability to draw inferences from them.” Pet. 13 (citing Ex. 1004 ¶¶ 20–21).

Patent Owner has not disputed the level of ordinary skill in the art. PO Resp. 17 (“Because the proposed level of ordinary skill does not affect the ultimate analysis, Patent Owner takes no position with respect to Petitioner’s proposed level of skill.”).

For purposes of this Decision, we adopt Petitioner’s proposal as consistent with the ’730 patent and asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

B. Principles of Law

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103(a) that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) when in evidence, “secondary considerations” (also known as objective indicia) of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the U.S. Court of Appeals for the Federal Circuit has “repeatedly emphasized that an obviousness inquiry

requires examination of all four *Graham* factors and that an obviousness determination can be made only after consideration of each factor.” *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1335 (Fed. Cir. 2016).

With respect to the fourth *Graham* factor, the fully developed trial record in this proceeding does not include any argument or evidence directed to secondary considerations of nonobviousness. The analysis below addresses the first three *Graham* factors.

C. Claim Construction

In this IPR, claim terms are construed using the same claim construction standard as in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2021). That is, claim terms generally are construed in accordance with their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, in view of the specification and the prosecution history pertaining to the patent at issue. *See id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc).

In its Petition, Petitioner contends that, “[f]or purposes of this proceeding only, Petitioner does not believe any claim construction is necessary to resolve [its unpatentability] analysis.” Pet. 13 (citing Ex. 1004 ¶ 41). In its Patent Owner Response, Patent Owner agrees with Petitioner by stating that “no claim terms require construction beyond their plain and ordinary meaning. PO Resp. 12.

Based on the fully developed trial record, there is no controversy between the parties that requires us to construe any claim terms. *See Nidec*

Motor Corp. v. Zhongshan Broad Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Overview of the Prior Art

1. Summary of Malaure (Ex. 1006)

Malaure is titled “Delivering Interactive Applications.” Ex. 1006, code (54). Malaure generally describes a method and apparatus for delivering an interactive application (such as predictive games for use in conjunction with a live sporting broadcast, quiz games for use in conjunction with a live quiz broadcast, on-demand quiz games, home shopping applications, and home banking applications), to a plurality of target platforms. *Id.* ¶¶ 1–2. Malaure explains that it is desirable to deliver the interactive applications over any chosen network in a simple and cost-effective way, however, such “has been difficult because it has been necessary for the skilled programmers to take into account the different broadcast protocols during development of the new application.” *Id.* ¶ 3.

To address these problems and others, Malaure discloses a method and apparatus that allows programmers to provide a single set of application components in any desired format with Broadcast System Interfaces (BSIs) being used to convert the application components shortly before, or during, the broadcast. *Id.* ¶ 6. Malaure explains that its method may deliver an interactive application to a number of target platforms each with different requirements, such as (e.g., broadcast networks having different data

protocols, formats, or speeds, or user interfaces having different memory capabilities). *Id.* ¶ 7.

Fig. 1 of Malaure is reproduced below. *Id.* ¶ 13.

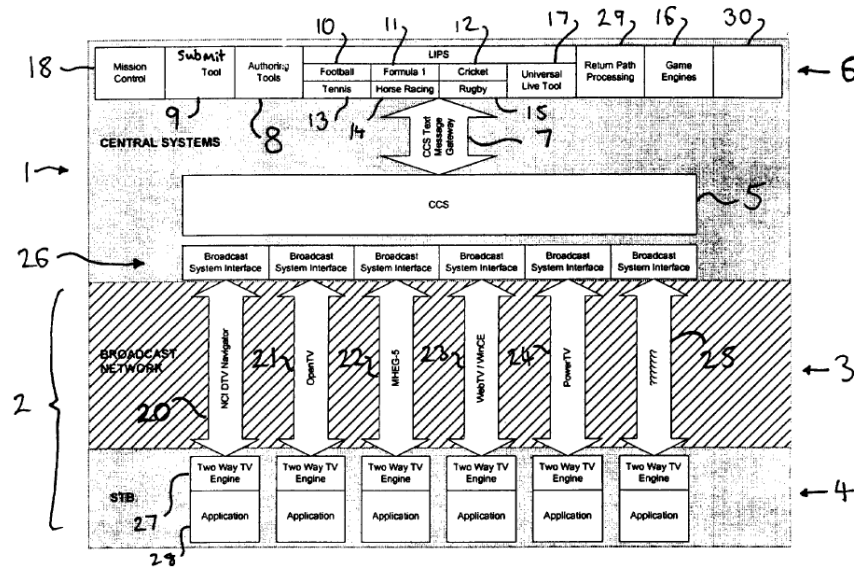


Fig. 1

Fig. 1 is a schematic functional diagram of an interactive service network. *Id.* ¶ 13. The interactive service network illustrated in Figure 1 includes central system 1 and target platforms 2, each target platform including respective broadcast network 3 and user interface 4. *Id.* ¶ 14. Central system 1 is controlled by central computer system (CCS) 5, which communicates with sub-systems 6 via CCS text message gateway 7. *Id.* ¶¶ 14–15. Each user interface 4 includes Two Way Television (TV) engine 27 that decodes incoming data and presents it to application processor 28 running executable program code. *Id.* ¶ 40. Two Way TV engine 27 and application processor 28 may be provided in a set-top-box (STB) connected to a conventional home TV set, or may be part of a

personal computer. *Id.* ¶¶ 40–41. Additionally, the interactive service network may include live applications 10–15 that are interactive, predictive games to be used in conjunction with a live sporting broadcast like a football game and on-demand game engines 16. *Id.* ¶¶ 16–19.

Malaure further discloses that central system 1 is “designed to be able to deliver applications on any target platform.” *Id.* ¶ 26. Five target platforms are illustrated in Figure 1, each target platform employing a different broadcast network (e.g., an NCI DTV Navigator 20, an OpenTV digital TV 21, a MHEG-5 22, a WebTV/WinCE 23, and a PowerTV 24). *Id.* Further, central system 1 may be expanded to handle additional broadcast networks 25. *Id.* Malaure teaches that each network 20–25 may have a respective broadcast protocol and further broadcast to a large number of user interfaces. *Id.* ¶¶ 26, 40. Additionally, each target platform may have an associated BSI 26 that converts the set of application components associated with each application, into a plurality of streams of broadcast data, with each stream conforming with the broadcast protocol of its respective target platform. *Id.* ¶ 26.

Malaure further explains that different broadcast networks delivering the same program may not be temporally synchronized, whereby differences in timing may be up to one or two seconds as “set top boxes on different networks would generally have slight variances in their clocks, i.e. a box on one network may think that the time is 12:34.00 whilst a box on another network may believe it is 12:34.03.” *Id.* ¶ 34. Moreover, different networks may not be broadcasting content at exactly the same time, such that “a video program may start up to 1 or 2 seconds later on another network even though the clocks are the same.” *Id.* Malaure explains that, “[i]n order to manage

these anomalies between networks it is necessary for the BSI handling that network to compensate by introducing the required delay, either by delaying the broadcast of messages, or more appropriately by altering the timing information within messages.” *Id.* ¶ 35. And, when networks do not provide a synchronized clock on the set top boxes, Malaure explains that “it is necessary for the BSI handling those networks to provide a clock message which the user interface may use to update its own [synchronized] clock.” *Id.* ¶ 36.

2. *Summary of McKeown (Ex. 1007)*

McKeown is titled “Interactive, Predictive Game Control System.” Ex. 1007, code (54). McKeown “relates to an interactive, predictive game control system for use in conjunction with a live TV broadcast,” the control system being used for games in which players attempt to predict certain events which may or may not occur during the broadcast, and receive prizes if they are successful. *Id.* at 1:3–11.

McKeown explains that, to enhance the enjoyment of such games, it is desirable to present players with information relating to the game in advance of, and (on occasion) during, the playing of the game, so that they can make intelligent predictions. *Id.* at 1:22–34. To this end, McKeown discloses an interactive, predictive game control system including a central controller (element 1 illustrated in Figure 1 of McKeown, reproduced below) for generating game playing data for transmission with a TV broadcast to the remote player(s) (remote users C), and for receiving information from the remote player(s). *Id.* at code (57), Fig. 1. Figure 1 is provided below:

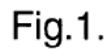


Figure 1 is a schematic block diagram of a control system, and interactive broadcast network incorporating the control system. *Id.* at 3:34–36.

Referring to Figure 1, McKeown discloses that input device 2 and database 4A are connected to central controller 1. *Id.* Database 4A stores data that is related to the content of the live broadcast and is known in advance of the live broadcast. *Id.* Central controller 1 generates data that can be converted to TV display signals and other control signals associated with various service functions, that may be transmitted on land line 5 connected to combining unit 6 defining an insertion point of a TV broadcast system B. *Id.* at 4:1–7. Central controller 1 is responsive to signals from input device 2: a) prior to the live broadcast, to select data from database 4A for transmission to the remote user(s) in advance of and/or during the live broadcast; and b) during or after the live broadcast, to record the time of occurrence of one or more events relating to the live broadcast which are to be predicted by the remote player(s), as indicated by an operator to central controller 1 via input device 2. *Id.* at code (57).

McKeown explains that game control system A in Figure 1 can be used to control a variety of games, including a play live football game in which remote players are able to predict events: (1) prior to commencement of a live football match that is broadcasted by transmitter 8; and (2) during the live broadcast. *Id.* at 4:37–45, 7:45–55.

In one example, McKeown teaches that an operator sets up the live broadcast game and takes a calibration of his own reaction time, and that of the system latency. *Id.* at 5:12–25. An obtained latency value is used to adjust future times of occurrence of events that are entered by the operator. *Id.* This process can be repeated at intervals during the game, either automatically or on operator request. *Id.*

Further, the operator may set up the particular types of events (e.g., time of first goal) that can be predicted during the live broadcast. *Id.* at 5:26–31. After the game starts and the operator clicks a “Start First Half” button, the operator is allowed by the system to lock out further predictions at the start of the game. *Id.* at 6:8–26. In response, central controller 1 will issue a lock-out signal that is broadcast to remote units C, and to which each processor 14 (shown in Fig. 1) responds to prevent any further predictions from being entered. *Id.* The lock-out signal carries a time stamp that takes into account the earlier determined calibration of the operator’s response time and system latency. *Id.* Each microprocessor 14 responds to the received lock-out signal to lock-out any future predictions, and also any previous predictions which occurred after the time stamp. *Id.* In order to obtain an accurate synchronization between the central controller clock and each remote unit C (of the remote players), all parts of the interactive network work to a common universal system clock. *Id.* at 6:27–36.

Synchronization is maintained by central controller 1 repeatedly issuing synchronization signals as part of broadcast messages. *Id.* Each microprocessor 14 monitors the time of arrival of a synchronization signal and compares this with its own clock, and if there is a discrepancy, microprocessor 14 gradually adjusts its clock to agree with the synchronization signal. *Id.*

In another type of game (e.g., PlayLive Racing game), the remote players are given the opportunity to predict the outcome of a race using one of the variety of bets on offer (e.g., win, place, each way). *Id.* at 7:45–55, 8:43–52. A remote player can choose to place a bet on his screen, and once the player has selected a bet and confirmed the amount of money the player wishes to wager, the player receives confirmation that the bet has been accepted. *Id.*

As soon as the race begins, an appropriately back stamped time stamp signal is broadcast causing each microprocessor 14 to lock out all future predictions, and to cancel any predictions made after the time defined by the back stamped time stamp. *Id.* at 8:53–9:9. Once the race is finished, the operator sends out the results in two stages, first as unconfirmed results, and then as confirmed results (once confirmed by the appropriate race authority). *Id.* Each remote player unit responds to the result information to determine whether the local player or players have been successful, and to determine winning amounts for respective players. *Id.*

E. Obviousness based on Malaure and McKeown

Petitioner asserts that claims 1, 4, 7, 28–31, 49, 57, 68, and 81 would have been obvious based on the combined teachings of Malaure and McKeown. Pet. 13–67. During trial, Patent Owner contends that the

asserted combination fails to teach or suggest certain limitations recited in independent claim 1 that also pertain to independent claims 68 and 81, and the challenged dependent claims. PO Resp. 17–33. Patent Owner further contends that Petitioner has not adequately articulated a rationale for the asserted combination or provided an analysis regarding reasonable expectation of success. *Id.* at 33–40.

Based on the fully developed trial record, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4, 7, 28–31, 49, 57, 68, and 81 of the '730 patent would have been obvious over Malaure and McKeown. We begin our analysis with the principles of law that generally apply to an obviousness ground, and then we address the parties' contentions with respect to the challenged claims.

1. Independent claim 1

For purposes of consistency and added clarity, we address each limitation of independent claim 1 in turn by relying on the bracketed annotations provided by Petitioner in the Petition. Pet. iv.

a) [1-pre] "A game server comprising"

To the extent the preamble is limiting, Petitioner contends Malaure's central server 1 is controlled by a central computer system ("CCS") that operates "UltraSPARC architecture workstations or servers." Pet. 28 (citing Ex. 1006 ¶ 14; Ex. 1004 ¶ 87) (emphasis omitted). Petitioner adds that central system 1 is a "game server" because it operates as a server and includes applications for predictive games 10–15 and on-demand game engines. *Id.* 27–28 (citing Ex. 1004 ¶¶ 17, 20; Ex. 1004 ¶ 88).

Patent Owner does not challenge Petitioner's analysis and evidence showing the preamble of claim 1 is met by the combination of Malaure and McKeown. *See generally* PO Resp.

We find Petitioner's arguments persuasive as to the preamble of claim 1 and supported on the complete record before us, and, therefore, we adopt them as our own findings. For example, we observe that Malaure discloses central server 1 is designed to deliver applications on target platforms. Ex. 1006 ¶ 26. Malaure further teaches examples of applications that include interactive, predictive games for use in conjunction with a live sporting broadcast, quiz games, on-demand quiz games. *Id.* ¶ 2.

b) [1-a] “a memory for storing an application for conducting a game of skill or chance, the application configured for”

For limitation [1-a], Petitioner contends that Malaure teaches “storing the application components and/or real-time application data in a data store” (Ex. 1006 ¶ 10), and that “[w]hen the new applications have been developed and tested, the game programmer logs on to a Windows NT™ based submit tool 9 which saves the application components in an application database” (*id.* ¶ 16). Pet. 29. According to Petitioner, a POSITA would have recognized that “data store” and “database” are repositories, i.e., memories, for storing and managing collections of data. *Id.* (citing Ex. 1004 ¶ 90). Petitioner further asserts that Malaure discloses “[i]nteractive application providers employ skilled programmers to develop new interactive applications” that include predictive games for use in sporting broadcast and quiz games. *Id.* at 30 (citing Ex. 1006 ¶¶ 2, 17; Ex. 1004 ¶ 91). Petitioner further relies on Malaure's teaching that an interactive, predictive game includes football where “remote players are able to attempt

to predict certain events prior to commencement of a live football match and can also attempt to predict certain events during the live broadcast.” *Id.* (citing Ex. 1006 ¶ 20; Ex. 1004 ¶ 92).

Patent Owner does not challenge Petitioner’s analysis and evidence showing limitation [1-a] of claim 1 is met by the combination of Malaure and McKeown. *See generally* PO Resp.

We find Petitioner’s arguments persuasive as to this limitation of claim 1 and supported on the complete record before us, and, therefore, we adopt them as our own findings.

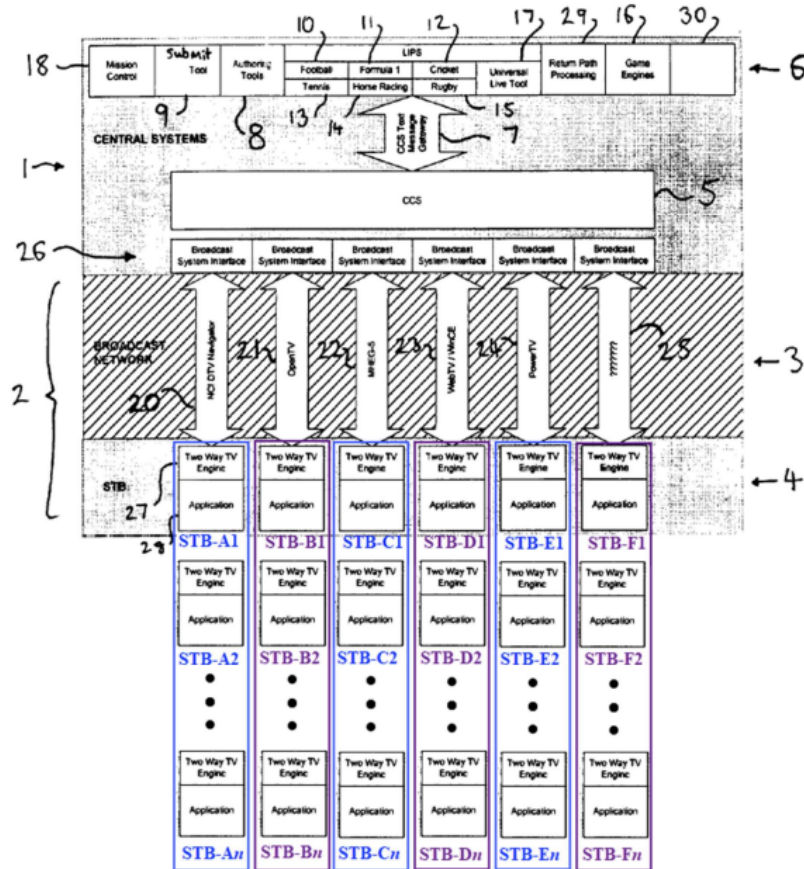
c) [1-a-i] “communicating with a plurality of Internet-connected devices grouped into a cohort

For limitation [1-a-i], Petitioner contends that Malaure’s user interfaces 4 are internet-connected such as set-top-boxes or personal computers that are connected to a conventional TV. Pet. 31 (citing Ex. 1006 ¶ 40; Ex. 1004 ¶ 95). Additionally, Petitioner argues that a POSITA would have understood that Malaure’s platform “WebTV/WinCE” (23) is an internet-access product allowing a television set to be connected to the internet to receive broadcast data. Pet. 31–32 (citing Ex. 1008, 49–53; Ex. 1004 ¶¶ 96–97).

Petitioner further argues that

Malaure discloses that the Internet-connected devices are grouped based on the type of broadcast networks over which the different STBs and personal computers receive the broadcast signals. Ex. 1004, ¶102. Particularly, Malaure discloses that “it will be appreciated that *each network 20-25 will broadcast to a large number of user interfaces.*” A POSITA would [have understood] that a large number of user interfaces (i.e., STB-n) are connected to *each* corresponding network 20-25 and grouped based on the type of transport platform[.]

Pet. 36–37 (citing Ex. 1006 ¶ 40; Ex. 1004 ¶ 103). Petitioner’s annotated version of Malaure’s Figure 1 is provided below:



Pet. 20 (annotated and modified Ex. 1006, Fig. 1). In this annotated figure, Petitioner has added set-top-boxes to each broadcast network, and grouped set-top-boxes by separate broadcast streams. *Id.* A group of set-top-boxes are separated from another group by a blue or purple rectangular box. *Id.* Petitioner has also annotated each set-top-box within a group with a letter (A–F) and number (e.g., 1, 2, or variable “n”) to indicate that there is more than one set-top-box in each group. Petitioner further relies on the testimony of its expert declarant, Dr. Rubin, who opines that “a POSITA would [have

understood] that the applications residing on the central system communicate with a plurality of Internet-connected devices such as a plurality of STBs (e.g., STBs A-F).” Pet. 32–33 (citing Ex. 1004 ¶ 98). Petitioner contends that the Internet-connected devices are grouped based on the type of broadcast networks over which the different STBs/personal computers receive the broadcast. *Id.* at 36 (citing Ex. 1004 ¶ 102). Because of this, Petitioner contends each group based on the broadcast network type is “a plurality of Internet-connected devices grouped into a cohort.” *See* Pet. 38 (“[T]he applications on the central system of Malaure communicate with the plurality of Internet-connected devices that are grouped based on the different types of broadcast networks over which the different sets of STBs and personal computers receive the broadcast signals.”) (citing Ex. 1004 ¶ 106).

Patent Owner argues that the asserted combination of Malaure and McKeown fails to teach “Internet-connected device” required by all the challenged claims because the set-top-boxes and personal computers were not connected to the internet and could not access internet content in 1998 when Malaure was filed. PO Resp. 18–22; PO Sur-reply 4–6; Ex. 2001 ¶ 40. Patent Owner further contends that “the ‘730 Patent makes clear that an internet connected device is not a device that can connect to a device that broadcasts something through the internet, but a device that is directly connected to the internet, such as a cell phone.” PO Sur-reply 6 (citing Ex. 1001, 1:50–54, 13:24–26) (emphasis omitted).

Based on the complete record, we agree with Petitioner that Malaure teaches “a plurality of internet-connected devices” required by claim 1. Ex. 1001, 15:15–16. Malaure expressly discloses that the commercial

broadcasts to user interfaces 4 may occur through cable, satellite, and the “internet.” Ex. 1006 ¶ 41. Moreover, Malaure teaches central system 1 is designed to deliver applications on any target platform, including broadcast network WebTV/WinCE 23. Ex. 1006 ¶ 26. Referring to Exhibit 1008 and relying on Dr. Rubin’s testimony, Petitioner explains that a POSITA “would [have understood] that a WebTV . . . was an internet-access product that allowed a television set to be connected to the internet in order to receive streams of broadcast data over the internet protocol.” Pet. 31–32 (citing Ex. 1008, 49–53); *see also* Ex. 1004 ¶ 96.

Turning to Exhibit 1008, we find that the 1996 Popular Science article titled, “Web TVs Are Here,” is consistent and supports Petitioner’s position. Exhibit 1008 indicates that

WebTV’s hardware is unassuming enough: *a set-top box that connects to the TV and a phone outlet*, a remote control unit, and an optional keyboard . . . The WebTV system’s real coup, however, may lie in its elegantly simple interface *and browsing software*. It does a better job than any system to date—on a TV or PC—of putting a friendly face an easy handle on the World Wide Web. *An automated registration system sets up your Internet account and assigns your system a local phone number for dial-up access.*

Ex. 1008, 6⁴ (emphases added). As such, we find that a POSITA would have understood that, as early as 1996, WebTV broadcast hardware included set-top boxes that connected directly to the Internet. *See id.* at 6 (“WebTV Networks will run the Internet service that feeds Web pages to the boxes.”).

⁴ All references to the pages numbers in the 1996 Popular Science article titled, “Web TVs are Here,” refer to the page numbers inserted by Petitioner in the bottom, right-hand corner of each page in Exhibit 1008.

The testimony of Patent Owner's declarant, Dr. Shenoy, further supports this finding and Petitioner's position. To start, in paragraph 40 of Dr. Shenoy's declaration, he testifies that

[a] POSITA would [have understood], that as of 1998, a set top box was nothing more than a cable box that would take a TV-tuner input and display an output to a television set. *It was not until many years later that set-top boxes began to receive the capability to access internet content and be connected to internet.*

Ex. 2001 ¶ 40 (emphases added). However, when cross-examined, Dr. Shenoy clarified that his declaration testimony referred to "typical" set-top boxes, and that there were in fact other set-top-boxes that had internet connection capability in 1998. For example, the following exchange between Petitioner's counsel and Dr. Shenoy is provided below:

Q Is it your position that set-top boxes at that time [in 1998], none of them had Internet-connected functionality?

A *No, that's not what I've said at all.* All I'm saying here is if you disclosed a cable set-top box to a POSITA, they would [have understood] that its basic functionality was the ability to receive television input. They wouldn't assume that that set-top box automatically had Internet capability.

Ex. 1015, 99:2–11 (emphasis added), 106:6–9 ("I'm not saying that there was no set-top box in 1998 that could connect to the Internet."), 114:17–20 ("I never said anywhere that there was no set-top box in 1998 that could not connect to the Internet. I'm just saying what a POSITA would [have understood] a typical set-top box to do.").

When discussing Exhibit 1008, Dr. Shenoy confirmed that a POSITA would have understood a WebTV set-top box had Internet capability. More specifically, the cross-examination exchange is provided below:

Q But Malaure doesn't just say that this went to set-top boxes. It actually gives an example of WebTV that is discussed in this article; does it not?

A Malaure has an example of WebTV, yes.

Q And based on Exhibit 1008, you would agree that WebTV had the functionality to connect to the Internet; would you not?

A It had the capability to connect to the Internet.

Ex. 1015, 112:8–18. Later in his deposition, Dr. Shenoy confirmed once more that, “[i]f you told the POSA that, [h]ere is a WebTV set-top box, they would know that it had Internet capability.” *Id.* 118:18–20. Thus, considering all the evidence of record that bears on this particular issue, including evidence of the general background knowledge in the art provided by Exhibit 1008 and the testimony of both Dr. Rubin and Dr. Shenoy, the evidence demonstrates that it was well-known to a POSITA that Malaure teaches internet-connected devices (e.g., set-top boxes or personal computers) connected to the internet via, at least, WebTV. *See* Ex. 1006 ¶¶ 26, 41; Ex. 1004 ¶ 96; Ex. 1015, 112:8–18.

For limitation [1-a-i], Patent Owner additionally asserts that Petitioner's proposed combination does not teach a plurality of Internet-connected devices *grouped into a cohort/set of cohorts*. PO Resp. 22–23 (citing Ex. 1001, 3:8–11, 4:24–26, 14:42–67, Fig. 5). Patent Owner contends that Petitioner improperly broadens the meaning of cohort to mean devices that “share a characteristic or are treated similarly as a group.” *Id.* at 23. According to Patent Owner, the '730 patent teaches that cohorts or a set of cohorts are defined and grouped by: 1) how participants receive a television signal (e.g., air broadcast, cable, satellite); 2) questions answered

by participants (e.g., location via Global Positioning System function); or 3) device type. PO Resp. 22–23 (citing Ex. 1001, 3:8–11, 3:20–26, 4:24–26, 14:42–67, Fig. 5). Patent Owner further asserts Petitioner incorrectly concludes that Malaure’s set-top-boxes from the same broadcast network are grouped into a cohort because Malaure does not actively group devices. *See id.* at 25 (“Malaure simply does not teach any ‘grouping’ as required by the ‘730 Patent, but instead essentially teaches a variety of Application Programming Interfaces, or APIs, based on what network protocol the viewer is using.”).

We note first that claim 1 requires “an application for conducting a game of skill or chance, the application configured for: communicating with a plurality of Internet-connected devices grouped into a cohort.” Ex. 1001, 15:13–16. As Petitioner observes, the claim language does not require grouping or actively grouping the plurality of Internet-connected devices by the game server or application, nor does the claim language recite a criteria for the grouping. *Id.*; *see* Pet. Reply 12–14. Instead, claim 1 requires that the recited application is configured for *communicating* with a plurality of Internet-connected devices that are grouped into a cohort.

We observe that Malaure’s central system 1 (e.g., “game server”) includes applications for predictive games 10–15 and on-demand game engines. Ex. 1006 ¶¶ 17, 20; Ex. 1004 ¶ 88. Malaure further teaches that programmers may provide a single set of application components in any desired format and the broadcast system interfaces (BSIs) convert the application components before or during broadcast for delivery over a broadcast network. Ex. 1006 ¶¶ 6, 14. As an example of operation, Malaure teaches that

when the operator clicks on button 51, the set of application components (ie. executable program files, bitmaps, sound samples, real-time instructions, video clips etc.) are passed to the CCS 5 and then fed as parallel data streams to the BSIs 26 which convert the application components as appropriate prior to deliver over a respective broadcast network 3.

Id. ¶ 26. This disclosure is consistent with and supports Petitioner’s position that Malaure’s applications (e.g., interactive predictive games 10–15) are configured for communicating with the set-top-boxes or personal computers over a broadcast network such as the internet (e.g., WebTV). We further credit Dr. Rubin’s testimony of the same in paragraph 94 of his declaration because Dr. Rubin’s testimony is supported by similar disclosure provided in paragraph 25 of Malaure. Ex. 1004 ¶ 94 (citing Ex. 1006 ¶ 25 (“the application will then be transmitted to the CCS 5 and broadcast to all the user interfaces 4 over the broadcast network”)).

Additionally, Malaure teaches that set-top-boxes or personal computers are grouped by their respective broadcast networks. *See* Ex. 1006, Fig. 1. Malaure teaches that broadcast networks 20–25 are separate, each with its user interfaces 4 (e.g., set-top-boxes and personal computers), and each having:

a respective different broadcast protocol. In order to deal with this problem, each target platform has an associated Broadcast System Interface (BSI) 26 which converts the set of application components associated with each application into a plurality of streams of broadcast data, each stream of broadcast data conforming with the broadcast protocol of its respective target platform. Thus when the operator clicks on button 51, the set of application components (ie. executable program files, bitmaps, sound samples, real-time data instructions, video clips etc.) are passed to the CCS 5 and then fed as parallel data streams to the BSIs 26 which convert the application components as

appropriate prior to delivery over a respective broadcast network
3.

Ex. 1006 ¶ 26. In this way, Malaure defines or groups a cohort by how participants receive a television signal (e.g., cable, satellite, internet, etc.), which Patent Owner itself asserts is one way to group a plurality of devices into a cohort according to the '730 patent. *See* PO Resp. 22; PO Sur-reply 7 (“The ‘730 Patent teaches that cohorts are defined by how each participant receives a television signal, selected from air broadcast, a cable system and a satellite system.”) (citing Ex. 1001, 3:8–11, 14:42–67, Fig. 5). Dr. Shenoy’s cross-examination testimony further supports our understanding that cohorts may be defined by signal path (e.g., cable) or the type of equipment used. Ex. 1015, 121:5–9 (“If you, let’s say, have a delivery system like cable, you had different locations for your cable TV users, some in one city and some in another city, those would still be cohorts.”), 126:2–8 (“In the context of [the ‘730] patent, it talks about many different ways to form cohorts, delays being one of them, it could be location, it could be type of equipment”), 126:9–17.

In its Sur-reply, Patent Owner reiterates that the '730 patent *actively groups* devices into cohorts and refers to Figure 1 and dependent claim 2 of the '730 patent for support. PO Sur-reply 7. Figure 1 of the '730 patent is provided below:

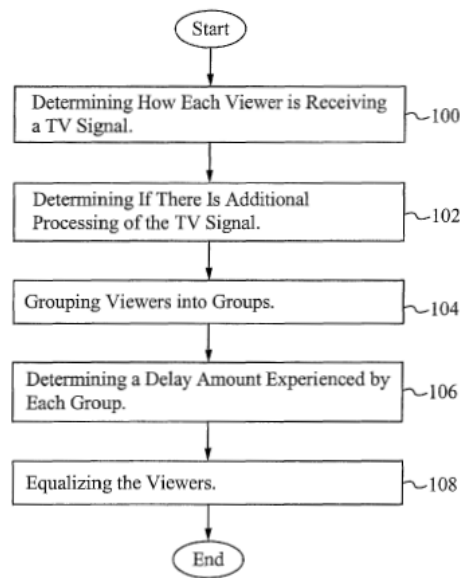


Fig. 1

Ex. 1001, Fig. 1. Figure 1 depicts a flowchart showing the steps for “a process of preventing latency issues from giving an advantage to some participants.” *Id.* at 5:3–5. According to Figure 1, step 104 of the process affirmatively requires “Grouping Viewers into Groups.” *Id.*, Fig. 1.

Claim 1 of the ’730 patent does not include this or a similar limitation of “grouping,” active or otherwise. Claim 1 requires that the application is configured for “communicating” with a plurality of internet-connected devices grouped into a cohort. Ex. 1001, 15:15–16. Additionally, we observe that claim 2 of the ’730 patent depends from claim 1 and expressly recites that the “cohort is based on an earliest signal reception path for each member of the cohort.”⁵ Claim 1 does not recite or require these additional elements, and we decline to import these dependent claim limitations into independent claim 1.

⁵ Claim 2 of the ’730 patent has not been challenged in this proceeding.

Moreover, to the extent that claim 1 requires active grouping of cohorts, which, as we explain above, we disagree, we note that Malaure discloses that central system 1 arranges set-top-boxes and personal computers into cohorts based on respective broadcast networks. Ex. 1006 ¶¶ 25–26; Fig. 1. In our view, these disclosures in Malaure teach or fairly suggest actively grouping into cohorts.

Accordingly, for the reasons discussed, we find Petitioner’s arguments and evidence persuasive and determine that one of ordinary skill in the art reading Malaure as a whole would have understood that Malaure teaches or discloses the limitation “communicating with a plurality of Internet-connected devices grouped into a cohort,” recited by claim 1.

d) [1-a-ii] “*sending a lockout signal at an appropriate time based on an amount of delay to prevent users from submitting a response to a game of skill or chance or other entertainment*”

For limitation [1-a-ii], Petitioner acknowledges that Malaure does not expressly disclose sending a lockout signal. Pet. 39. Rather, Petitioner contends that “the combined system of Malaure in view of McKeown discloses sending the lock out signals at ‘an appropriate time based on an amount of delay’ that accounts for system latencies and delays related to different networks.” Pet. 44 (citing Ex. 1004 ¶ 118). More specifically, Petitioner contends McKeown teaches that

“the central controller 1 will issue a *lock-out signal* which is broadcast to the remote units C and to which each processor 14 responds *to prevent any further predictions from being entered.*” Ex. 1007, 6:14–18; Ex. 1004, ¶109. “Each microprocessor 14 [of the Internet connected devices] responds to the *received lock-out signal to lock-out any future predictions* and also any previous predictions which occurred after the back adjusted time stamp.”

Id., 6:23-26. Similarly, for in-game predictions, “[a]s the game develops, various events may or will occur” such as first goal scored etc. that also trigger the transmission of the lockout signal. Ex. 1007, 6:38–45; Ex. 1004, ¶109.
Pet. 40.

Turning to the rationale for the combination, Petitioner contends that a POSITA would have been motivated to combine the teachings because a POSITA would [have] recognize[d] the benefit of a combined system of Malaure and McKeown where players operating on different systems and receiving broadcast information via different networks would all be able to participate in fast-paced predictive games that are based on live TV without certain participants having an advantage (i.e., locking out players to prevent them from making predictions after an event has occurred) due to their network capabilities.

Pet. 26 (citing Ex. 1004 ¶ 82). Petitioner further contends that a POSITA would have readily incorporated into Malaure the details of the game play associated with the interactive applications described in McKeown because “Malaure itself identifies examples of a number of interactive gaming applications . . . and directs a POSITA to McKeown for additional specifics related to one of the interactive games, football.” *Id.* at 25 (citing Ex. 1004 ¶ 80; Ex. 1006 ¶¶ 2, 17, 20). Moreover, Petitioner contends

a POSITA would recognize that implementing McKeown into Malaure would merely require incorporating the programming related to the gaming applications and controls into the central system of Malaure without requiring significant, if any, physical alterations to Malaure’s system.
Pet. 27 (citing Ex. 1004 ¶ 84).

According to Petitioner, this is at least because: (1) both Malaure and McKeown share Malaure as a common inventor (and Malaure cites to McKeown); (2) both are in the same art of interactive gaming; (3) both

include a central controller (i.e., CCS 5 in Malaure and “central controller 1” in McKeown) that controls the game control system from the network side; (4) both utilize an operator that controls the transmissions and gaming applications; and (5) both references communicate to a plurality of network connected devices. Pet. 26–27 (citing Ex. 1004 ¶ 83; Ex. 1006 ¶¶ 1, 14, 21–25, 40; Ex. 1007, 6:8–18, 39).

In its Response, Patent Owner argues that Petitioner’s asserted combination fails to teach or disclose that a lockout signal sent is *based on an amount of delay* to prevent users from submitting a response to a game of skill or chance. PO Resp. 28. Patent Owner contends that the “delay” in the ’730 patent is due to differences in timing for when viewers receive a broadcast signal. *Id.* (citing Ex. 1001, 14:41–67, Fig. 5). According to Patent Owner, “[a] POSITA [would have understood] that the challenged claims require that these viewers are grouped into groups or ‘cohorts’ so that the system can ascertain the amount of delay for each cohort.” *Id.* at 32 (citing Ex. 2001 ¶ 50; Ex. 1001, Fig. 1). Patent Owner asserts that the ’730 patent “determines the amount of delay so that a lockout signal may be sent to synchronize all viewers playing the game of skill or chance.” *Id.* (citing Ex. 2001 ¶ 50). Patent Owner contends that the lockout signal “is based on this amount of delay caused by viewers watching the broadcast in different areas or protocols that are grouped into different cohorts.” *Id.* (citing Ex 2001 ¶ 50). Further, Patent Owner argues that the ’730 patent teaches that

the game control data “includes delay information for implementing the lockout signal.” EX1001, 4:47-49. This game control data is “specific for each cohort within a set of cohorts” and the game control data includes delay information which “accounts for delays within a television signal path.” EX1001, 4:62-67. The delays are based upon “television signal *reception*

differences” (EX1001, 14:19-23, emphasis added) and based upon a *determined* delay, the game is able to be configured with the appropriate timing for a lockout signal. (EX1001, 14:29-40, emphasis added).

Id. at 31.

Patent Owner contends that McKeown does not have multiple signal paths and no grouping of cohorts is needed. PO Resp. 29 (citing Ex. 2002, 30:6–11). According to Patent Owner, a POSITA would have understood that McKeown’s lockout signal is *not* sent based on an “amount of delay,” but solely because an operator presses a button to prevent users from entering predictions after the start of a game. *Id.* at 33 (citing Ex. 2001 ¶ 51; Ex. 1007, 6:11–27. 8:53–58); PO Sur-reply 10. Patent Owner further contends that the “operator and system’s response time is not an amount of delay based on TV broadcast signals, but instead based upon an operator’s test procedure and computing latency.” PO Resp. 33 (citing Ex. 1007, 2:44–49; Ex. 2001 ¶ 51). Patent Owner argues that McKeown’s system latency or “prestored” latency “is based upon a test procedure performed by the operator where the operator reacts ‘as quickly as possible’ to a display, and then a latency value is created.” *Id.* (citing Ex. 1007, 5:12–25, 6:46–49).

Based on the complete record, we agree with Petitioner that McKeown teaches the sending of a lockout signal. By way of background, McKeown discloses interactive, predictive game control system A, shown in Figure 1, that includes a central controller for generating game playing data for transmission with a TV broadcast to the remote player(s) (remote users C), and for receiving information from the remote player(s). Ex. 1007, Fig. 1. McKeown explains that game control system A can be used to control a variety of games, including a live football game, “PlayLive Football,” in

which remote players are able to predict events: (1) prior to commencement of a live football match that is broadcasted by transmitter 8; and (2) during the live broadcast. *Id.* at 4:37–45, 7:45–55. McKeown further teaches that an operator sets up the live broadcast game and takes a calibration of his own reaction time, and that of the system latency. *Id.* at 5:12–25. This latency is used to adjust future times of occurrence of events that are entered by the operator. *Id.*

In operation, McKeown teaches that, once a football game starts and the operator clicks a “Start First Half” button, the operator is allowed by the system to lock out further predictions at the start of the game. *Id.* at 6:8–26, Fig. 9. In response, central controller 1 sends a *lock-out signal* that is broadcast to remote units C, and to which each processor 14 (shown in Fig. 1) responds to prevent any further predictions from being entered. *Id.* The lockout signal carries a time stamp that takes into account the earlier determined calibration of the operator’s response time and system latency. *Id.* Each microprocessor 14 responds to the received *lockout signal* to lock-out any future predictions, and also any previous predictions which occurred after the time stamp. *Id.*

Based on at least these disclosures, we find that McKeown expressly teaches that the described football game program allows the operator to instruct the central controller to send a lockout signal to microprocessors 14.

The testimony of both experts, Dr. Rubin and Dr. Shenoy, supports our understanding that McKeown teaches the sending of a lockout signal. Dr. Rubin testifies that “in order to prevent users from making predictions after the game has already started or the event has already occurred, McKeown allows “the operator to lock out further predictions at the start of

the game” and “the central controller 1 will issue a lock-out signal which is broadcast to the remote units C and to which each processor 14 responds to prevent any further predictions from being entered.” Ex. 1004 ¶ 109 (quoting Ex. 1004, 6:11–18). Similarly, Dr. Shenoy testified at his deposition that “McKeown teaches a lockout signal, correct.” Ex. 1015, 143:18–19.

Next, we agree with Petitioner that claim 1 does not exclude the sending of the lockout signal by way of an operator pressing a button (e.g., selecting McKeown’s lockout “yes” button on a display screen shown in Figure 9). First, the express language of claim 1 does not exclude an operator from sending the lockout signal via the game server/application. Second, accepting Patent Owner’s arguments otherwise would exclude embodiments claimed in dependent claims 52 and 53 of the ’730 patent. Claim 52 depends from claim 1 and further recites “wherein the lockout signal is generated by an observer physically present at an event utilizing a device coupled to the game server via a cellular connection.” *Id.* at 18:10–13. Claim 53 also depends from claim 1 and further recites “wherein the lockout signal is generated by an observer physically present at an event utilizing a device coupled to the game server via a web connection.” *Id.* at 18:14–17. In its Sur-reply, Patent Owner contends that the lockout signal in claim 53 is not sent based on an amount of delay but is “generated” by an observer physically present at the event. PO Sur-reply 10. However, the observer recited in claims 52 and 53 is essentially no different from an operator in McKeown who uses a device, e.g., display screen button, to send a lockout signal via a game server. Therefore, Patent Owner’s arguments are unpersuasive in this regard because, “[b]y definition, an independent

claim is broader than a claim that depends from it, so if a dependent claim reads on a particular embodiment of the claimed invention, *the corresponding independent claim must cover that embodiment as well.*” *Littelfuse, Inc. v. Mersen USA EP Corp.*, 29 F.4th 1376, 1380 (Fed. Cir. 2022) (citing *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020)) (emphasis added).

Moreover, the testimony of Dr. Rubin and Dr. Shenoy support our finding. Dr. Rubin testified that

neither the specification nor the claims of the ’730 patent prohibit operator involvement in initiating the lockout signal. To the contrary, the ’730 patent and its dependent claims specifically state that its own lockout signal is also generated by an operator. Ex. 1016 ¶ 46 (citing Ex. 1001, 18:10–17). Dr. Shenoy’s cross-examination exchange is consistent with Dr. Rubin’s testimony, as shown below:

Q So the fact that an operator sends a lockout signal is not problematic, in your opinion, as long as it is sent at an appropriate time based on an amount of delay; right?

A If the – as is mentioned in this dependent claim, *whether the operator is sending the lockout signal is not a problem so long as it’s sent at an appropriate time based on an amount of delay that’s calculated based on cohorts and when they receive their broadcast.* So I don’t see the fact that the observer is sending the lockout signal in Claim 52 being an issue.

Ex. 1015, 152:11–22 (emphases added).

In addition, we find that McKeown teaches sending a lockout signal to prevent users from submitting a response. As discussed above, once McKeown’s operator locks out predictions, central controller 1 sends a lockout signal to remote units C, and each processor 14 (shown in Fig. 1) responds to prevent any further predictions from being entered. Ex. 1007, 6:8–26, Fig. 9.

Patent Owner argues that McKeown’s lockout signal does not teach sending the lockout signal at “an appropriate time based on an amount of delay” because McKeown’s lockout signal is not based on delays between different viewers (e.g., cohorts) on different broadcast signals. *See* PO Resp. 33; PO Sur-Reply 13–14; *see also* Ex. 2001 ¶ 50. Patent Owner contends that McKeown’s operator response time and system latencies are not an amount of delay based on TV broadcast signals. *Id.* (citing Ex. 1007, 2:44–49; Ex. 2001 ¶ 51); PO Sur-reply 10 (“It is impossible for McKeown to send lockout signals based on an amount of delay, as McKeown does not even describe cohorts or grouping into multiple cohorts that would require synchronization.”).

Patent Owner further relies on Dr. Shenoy’s testimony that “[a] POSITA [would have understood] that the challenged claims require that . . . viewers are grouped into groups or ‘cohorts’ so that the system can ascertain the amount of delay for each cohort.” Ex. 2001 ¶ 50. Dr. Shenoy, however, acknowledged that “[t]he word ‘cohort’ does not appear in . . . limitation [1-a-ii].” Ex. 1015, 138:20–21. But, Dr. Shenoy maintained that

[i]n McKeown, the lockout signal is sent when the operator pushes a button and the system considers the response time and the processing latency for the system to actually send the lockout signal. And as I mentioned in my declaration, that delay is different from the amount of delay that the ’730 patent is considering.

Ex. 1015, 143:22–144:7. From this testimony, we understand that Dr. Shenoy acknowledges McKeown teaches delay in the form of operator response time and system latency, but opines that this is not the type of delay required by claim 1.

On this point of contention, we agree with Petitioner. Claim 1 does not expressly require that the “amount of delay” is a specific type of delay. As discussed, the ’730 patent teaches that the “present invention is able to synchronize separate games of skill which have different latencies based on television signal reception differences, *random delays, and/or other delays.*” Ex. 1001, 14:19–22 (emphasis added); *see also* PO Sur-reply 4. As such, the ’730 patent recognizes television signal differences delays, or differences between when viewers (e.g., cohorts) receive signals, are not the only types of delays experienced by the system.

We observe, as Dr. Shenoy does, that McKeown’s delay arises from the operator’s reaction time and system latency. McKeown teaches that, “before the game begins, the operator takes a calibration of his own reaction time and the system latency.” Ex. 1007, 5:12–14. During the calibration, central controller 1 determines the time between “initiating the display and the time at which a response is sensed and this will be a latency value which is used to adjust future times of occurrence of events which are entered by the operator.” *Id.* at 5:17–22. When an operator locks out further predictions, central controller 1 issues a lockout signal that carries a time stamp for the instant the operator clicked on the lockout option, but back stamps “an appropriate number of frames corresponding to the earlier determined calibration of the operator response time and system latency.” *Id.* at 6:12–23. In this way, we find that McKeown’s lockout signal is sent at an appropriate time (e.g., start of game) based on an amount of delay because the lockout signal is backstamped and adjusted based on the delay from the operator’s response time and system latency.

Moreover, even assuming that claim 1 requires the delay to be based on signal differences between cohorts, which, as we explain above, we disagree, Petitioner relies on Malaure's system for that teaching. Pet. 44 (citing and quoting paragraphs 34 and 35 of Malaure); *see* Pet. Reply 20. According to Petitioner, Malaure teaches multiple broadcast delivery pathways and viewers grouped based on respective broadcast networks. Ex. 1006, Fig. 1. Additionally, Malaure teaches that broadcast networks experience delays relative to each other. Specifically, Malaure teaches that

[d]ifferent broadcast networks delivering the same programme are not necessarily temporally [synchronized]. Differences in timing may be up to one or two seconds, indeed set top boxes on different networks would generally have slight variances in their clocks, ie a box on one network may think that the time is 12:34.00 whilst a box on another network may believe it is 12:34.03. In addition to different networks having different clocks it is also a fact that different networks may not be broadcasting content at exactly the same time, ie a video program may start up to 1 or 2 seconds later on another network even though the clocks are the same.

In order to manage these anomalies between networks it is necessary for the BSI handling that network to compensate by introducing the required delay, either by delaying the broadcast of messages, or more appropriately by altering the timing information within messages.

Ex. 1006 ¶¶ 34–35. And in the Petition, Petitioner's argument is not that McKeown teaches multiple delivery pathways, but that a POSITA would have understood McKeown's lockout signal would have been implemented in Malaure's system to address system latency issues, including delays between broadcast networks. *See* Pet. 44–45. We note that Patent Owner contends Petitioner's reliance on Malaure's system latency is untimely. PO Sur-reply 12–13. The Petition, however, includes this argument regarding

Malaure’s system latency on pages 44 and 45, and relies on Dr. Rubin’s testimony presented in paragraphs 116–118 of his first declaration. Pet. 44–45; Ex. 1004 ¶¶ 116–118.

We turn now to Patent Owner’s arguments regarding Petitioner’s rationales for the asserted combination of Malaure and McKeown. PO Resp. 33–37. Patent Owner contends that the Petition fails to provide the required rationale because Petitioner’s arguments are conclusory and merely assert Malaure and McKeown are in the same art of interactive gaming, share a common inventor, and are from the same time period. *Id.* at 33–34. Patent Owner adds that Dr. Rubin’s testimony on this issue also is conclusory because he did not perform the proper analysis. *Id.* at 34–35 (citing Ex. 2002, 36:16–24, 37:2–18). Patent Owner further contends that a POSITA would not have been motivated to combine Malaure with McKeown because: (1) Malaure is directed to multiple television broadcast platforms, whereas McKeown is directed to a single television broadcast platform; and (2) McKeown’s lockout signal would cause “unrealized complexities” for different broadcast protocols. PO Resp. 36.

We are mindful that “merely asserting that two references are drawn from the same field of art is ‘simply too conclusory’ to show that the skilled artisan would have combined the references in the way of the claimed invention. *Securus Techs., Inc. v. Global Tel*Link Corp.*, 701 F. App’x 971, 976 (Fed. Cir. 2017); *see Microsoft Corp. v. Enfish, LLC*, 662 F. App’x 981, 990 (Fed. Cir. 2016) (determining that “the Board correctly concluded” that a petitioner “did not articulate a sufficient motivation to combine” where the only reason given was “that references were directed to the same art or same

techniques”). Generally, being in the same field is a starting point rather than end point for considering the teachings of a reference.

Here, Petitioner has done much more than assert Malaure and McKeown are in the same field or from the same time frame. Petitioner explains that

Malaure’s system “provides a convenient method of delivering an interactive application to a number of target platforms each having different requirements. For instance, the target platforms may comprise broadcast networks having different data protocols, formats or speeds.” Ex. 1006, ¶[0007]. Thus, Malaure discloses an architecture that “allows the programmers to merely provide a single set of application components in any desired format, without needing to know anything about the ultimate target platforms” over which the applications would communicate to user devices. *Id.*, ¶ [0006]; Ex. 1004, ¶79.

A POSITA would recognize the benefits and the flexibilities afforded by Malaure’s system in developing interactive applications. *Id.*, ¶80. Indeed, Malaure itself identifies examples of a number of interactive gaming applications (Ex. 1006, ¶¶[0002], [0017]) and directs a POSITA to McKeown for additional specifics related to one of the interactive games, football. *Id.*, ¶[0020]. Thus, a POSITA would readily incorporate into Malaure the details of the game play associated with the interactive applications described in McKeown. Ex. 1004, ¶80.

Pet. 25. Additionally, with respect to limitation [1-a-ii], Petitioner asserts that

Malaure further recognized that “[d]ifferent broadcast networks delivering the same programme are not necessarily temporally synchronized” because of variances in the clocks of different set-top-boxes or because different networks may have different clocks. Ex. 1006, ¶[0034]. Thus, “[i]n order to manage these anomalies between networks,” Malaure disclosed that “it is necessary for the BSI handling that network to compensate by introducing the required delay, either by delaying the broadcast

of messages, or more appropriately by altering the timing information within messages.” *Id.*, ¶[0035]; Ex. 1004, ¶117.

Thus, *the combined system of Malaure in view of McKeown discloses sending the lock out signals at “an appropriate time based on an amount of delay” that accounts for system latencies and delays related to different networks.* Ex. 1004, ¶118. And because the “lock out” signals of McKeown prevent the users from entering and responding with additional predictions related to game of skill, Malaure and McKeown’s combined system discloses sending a lockout signal at an appropriate time based on an amount of delay to prevent users from submitting a response to a game of skill or chance or other entertainment. *Id.*, ¶¶108-18.

Pet. 44–45 (emphasis added).

Returning to Malaure, we find that Malaure’s application database stores interactive, predictive game applications 10–15. Ex. 1006 ¶¶ 16–17, Fig. 1. One of these “previously saved applications” is football application 10 that Malaure teaches “is described in more detail in EP98302964.6.” Ex. 1006 ¶¶ 17, 20. EP98302964.6 is the European Patent Application Number for McKeown. Ex. 1007, code [21]. From there, Malaure teaches that in McKeown’s “interactive football game, remote players are able to attempt to predict certain events prior to commencement of a live football match and can also attempt to predict certain events during the live broadcast.” Ex. 1006 ¶ 20. Malaure further teaches football application 10 is run by an operator or “system control officer” using Mission Control 18 and Live Tools 17 to set up predetermined information relating to the live broadcast for transmission to user interfaces 4. *Id.* ¶ 21. For example, using the screen shown in Malaure’s Figure 4, the operator sets up the types of event which can be predicted during the live broadcast, such as the time of the first goal, first booking, and first faller. *Id.* ¶ 23. Once all the information for the live

broadcast has been set up by the operator, the operator can click button 51 (shown at Figure 4) and the football application 10 is transmitted to central control system 5 for broadcast to user interfaces 4 over broadcast network 3. *Id.* ¶ 25.

We further observe that Figures 2–4 of Malaure are identical to Figures 2–4 of McKeown. In Malaure, these figures “illustrate examples of screen displays presented to an operator during preparation for a live football game.” Ex. 1006 ¶ 13. In McKeown, these figures “illustrate examples of screen displays presented to an operator during preparation for a live football game referred to as PlayLive Football.” Ex. 1007, 3:37–39. Further, Malaure’s Figures 5 and 6 “illustrate screen displays presented to a remote player of the live football game.” Ex. 1006 ¶ 13. These figures are identical to Figures 6 and 7 of McKeown, which McKeown teaches “illustrate screen displays presented to a remote player of PlayLive Football.” Ex. 1007, 3:40–41.

Based on this overlapping, similar disclosure, we find that Malaure expressly directs a POSITA to McKeown for the implementation details of football application 10 that is an interactive, predictive game stored in Malaure’s application database. This is done explicitly by reference to McKeown’s application number, but also by the reiteration of McKeown’s teachings in Malaure’s own disclosure. *See* Ex. 1006 ¶¶ 17–25, Figs. 2–6; Ex. 1007, Figs. 2–4, 6–7.

We further credit Dr. Rubin’s testimony in this regard because Dr. Rubin recognizes and addresses the express disclosure of the references. More specifically, Dr. Rubin testifies that

Malaure, however, discloses that the interactive application for “predictive games (football 10)” that can be played on its system

where “remote players are able to attempt to predict certain events prior to commencement of a live football match and can also attempt to predict certain events during the live broadcast” is “described in more detail in EP98302964.6.” Ex. 1006, ¶[0020]. The Application No. EP98302964.6 is the McKeown reference (Ex. 1007). As noted above, both Malaure (Ex. 1006) and McKeown (Ex. 1007) share a common inventor: Malaure. *See* Inventors, Exs. 1006 and 1007.

Ex. 1004 ¶ 108. Given Malaure’s express reference to McKeown, Dr. Rubin further testifies that Malaure teaches different broadcast networks may experience comparative delays. *Id.* ¶ 117 (citing Ex. 1006 ¶¶ 34–35). Dr. Rubin explains that McKeown’s lockout signal would have addressed delays in Malaure’s system. *Id.* ¶ 118. Dr. Rubin further elaborates that Malaure adjusts the data (i.e., “broadcast of messages”) based on a determined delay between various television signal reception differences, and that it would have been obvious to make one of those broadcast of messages the lockout signal disclosed in McKeown. Ex. 1016 ¶ 58. Because Malaure explicitly refers to and describes McKeown’s PlayLive Football as football application 10, Dr. Rubin’s testimony is consistent with and, therefore, supports Petitioner’s position that a POSITA would have looked to the teachings related to McKeown’s system, including the operation of McKeown’s PlayLive Football game. In doing so, we give weight to Dr. Rubin’s testimony that a POSITA would have understood McKeown explicitly teaches the use of lockout signals to account for system latencies and delays while running interactive, predictive games, and that a POSITA would also modify Malaure’s system to include lockout signals to account for system delays. *See* Ex. 1004 ¶¶ 108–118.

On the other hand, Dr. Shenoy’s testimony on this same issue does not adequately address Malaure’s express reference to McKeown. Dr. Shenoy

opines that “[t]he fact that the references share an inventor or both have a gaming application would not lead a POSITA to add McKeown’s lockout signal to Malaure’s system.” Ex. 2001 ¶ 53. But, Dr. Shenoy misses the point. McKeown’s interactive, predictive game (football 10) is stored and implemented by Malaure’s system. Ex. 1006 ¶¶ 17, 20. Malaure explicitly discloses McKeown by application number, directs a POSITA to McKeown’s disclosure, and describes football application 10 by use of similar or the same disclosure provided in McKeown for PlayLive Football. Ex. 1006 ¶¶ 17–25, Figs. 2–6; Ex. 1007, 6:8–26, Figs. 2–4, 6–7. Thus, at a minimum, Dr. Shenoy’s testimony does not adequately address why a POSITA would have ignored all of this express teaching in Malaure that directs a POSITA to McKeown for the details of an application stored in Malaure’s application database.

Dr. Shenoy further testifies that “Malaure’s data conversion method would not be improved by the lockout signal of McKeown,” and that “[a] POSITA would recognize that adding McKeown’s lockout signal to the complexity of the system in Malaure would cause unrealized complexities, as McKeown’s lockout signal is based upon a single platform and does not support multiple cohorts or multiple platforms.” Ex. 2001 ¶¶ 52–53. Additionally, Dr. Shenoy asserts “significant reconfiguration would be needed to modify the McKeown lockout signal in order for it to function with Malaure’s system.” *Id.* ¶ 54.

Absent from this aspect of Dr. Shenoy’s testimony are citations to evidence and adequate explanation regarding the “unrealized complexities” the combination would create. Ex. 2001 ¶¶ 53–54. For example, Dr. Shenoy does not explain what these unrealized complexities or difficulties

are, but concludes that McKeown's lockout signal is based on a single platform and does not support multiple cohorts or multiple platforms. *Id.* ¶ 53.

We are not persuaded by Dr. Shenoy's testimony because these bare statements are unsupported and inconsistent with the references themselves. Again, a POSITA would have understood that Malaure's system (e.g., multiple broadcast platforms) already stores and implements McKeown's interactive, predictive game, football application 10, that is run on a single platform in McKeown. Ex. 1006 ¶¶ 17, 20. As such, Malaure already employs McKeown's interactive, predictive game on a multiple broadcast platform system, that is also run by an operator. Thus, the references themselves do not support Dr. Shenoy's testimony that a combination of the teachings would not improve Malaure where Malaure expressly seeks to implement McKeown's PlayLive Football to provide that gaming experience to users. Further, even if Dr. Shenoy is correct that "unrealized complexities" result from the combination, Dr. Shenoy does not explain why a POSITA would have been ill equipped to address those difficulties, especially because Malaure already stores and implements McKeown's interactive, predictive game. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. 398, 421 (U.S., 2007).

We are aware that Patent Owner contends Dr. Rubin's testimony is conclusory, parrots the Petition, and is entitled to no weight because he did not perform the correct analysis. PO Resp. 34–35, 40–45. We disagree. The Petition cites Dr. Rubin's testimony as evidence to support contentions in the Petition. Dr. Rubin supports his testimony about POSITA's

perspective by citing record evidence, including factual disclosures in the references, as indicated by the discussion above. *See* Ex. 1004 ¶¶ 108–110; *see Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper No. 9 at 15 (PTAB Aug. 24, 2022) (the critical inquiry is whether a declaration is conclusory and unsupported and whether it discloses underlying facts or data on which the opinion is based) (quoting 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”)). When declaration testimony is supported sufficiently and, in turn, supports contentions in the Petition, we credit it accordingly even if it is repeated in the briefing.

We also do not find that Dr. Rubin failed to look for any motivation to combine the references. *See* PO Resp. 34 (“Dr. Rubin did not even look to see if there was actual motivation, but instead took the references provided to him and mapped the references to the challenged claims.”). As discussed above, Dr. Rubin relies upon factual disclosures in both Malaure and McKeown for his testimony regarding what a POSITA would have understood from the teachings of the asserted references and how these factual underpinnings support Petitioner’s articulated reasons for the combination. *See* Ex. 1004 ¶¶ 108–118. Thus, we credit Dr. Rubin’s testimony in this regard.

Next, Patent Owner contends that Petitioner fails to establish reasonable expectation of success, and that Dr. Rubin improperly treated this requirement as part of his motivation to combine analysis. PO Resp. 37–38; PO Sur-reply 15–18.

The Federal Circuit has observed that, while motivation to combine the teachings of the prior art requires an explicit analysis, “a finding of

reasonable expectation of success can be implicit.” *Elekta Limited v. Zap Surgical Systems, Inc.*, 81 F.4th 1368, 1376 (Fed. Cir. 2023). Moreover, “[e]vidence of a reasonable expectation of success, just like evidence of a motivation to combine, ‘may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or in some cases, from the nature of the problem to be solved.’” *Id.* at 1377 (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1125 (Fed. Cir. 2000); *see also Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 836 (Fed. Cir. 2015) (“KSR does not require an explicit statement of a reasonable expectation of success in every case.”)).

Here, the Petition provides sufficient explanation for the reasonable expectation of success through citations to the asserted references and Dr. Rubin’s testimony. We reach this determination even though the Petition did not use the phrase “reasonable expectation of success” because that analysis is implicit in the arguments presented in the Petition. The Petition states that a POSITA would have recognized that Malaure and McKeown both include a central controller—central computer system 5 in Malaure (Ex. 1006) and central controller 1 in McKeown (Ex. 1007)—that control the game control system from the network side. Pet. 26–27 (citing Ex. 1004 ¶ 83). Further, the Petition points out that Malaure and McKeown both “utilize an operator that controls the transmissions and gaming applications” and “communicate to a plurality of network connected devices.” *Id.* (citing Ex. 1006 ¶¶ 1, 14, 21–25, 40; Ex. 1007, 6:8–14; Ex. 1004 ¶ 83). Based on these similarities between the systems, Petitioner, in the Petition, asserts that “a POSITA would recognize that implementing McKeown into Malaure would merely require incorporating the programming related to the gaming

applications and controls into the central system of Malaure without requiring significant, if any, physical alterations to Malaure's system." *Id.* at 27 (citing Ex. 1004 ¶ 84).

Further, Petitioner has provided persuasive, well-reasoned arguments supported by evidence that a POSITA would have had a reasonable expectation of success in combining the teachings of Malaure and McKeown. We agree with Petitioner and Dr. Rubin that the systems are similar and overlap in functionality. As discussed, Malaure expressly refers to and describes the storage and implementation of football application 10, which is McKeown's PlayLive Football. Ex. 1006 ¶ 17–25, Figs. 2–4, 6–7. In McKeown, the operator sets up and runs PlayLive Football by taking into account system latencies/delays and accounts for those by having the central control send a lockout signal to microprocessors 14. Ex. 1007, 5:12–25, 6:8–26. In Malaure, an operator sets up and runs football application 10. Ex. 1006 ¶ 21. This operator also utilizes a central control system to make transmissions to be broadcasted to user interfaces 4 via broadcast network 3. *Id.* ¶ 25. In other words, operators in both Malaure and McKeown set up and run applications across the broadcast network(s), and further instruct the central controller or control system to transmit data to remote viewers/participants. The lockout signal is one type of data transmitted in McKeown's PlayLive Football game. Because of this, we agree with Petitioner that a lockout signal could also be transmitted over the similar system in Malaure, which already transmits McKeown's PlayLive Football to user interfaces through central computer system, broadcast system interfaces, and broadcast networks. Ex. 1006 ¶¶ 17–25, Figs. 2–4, 6–7.

e) [1-b] “a processor for processing the application”

Petitioner contends Malaure discloses that the game server (i.e., central system 1) “is controlled by a central computer system (CCS) 5,” which includes the interactive gaming applications. Pet. 45 (citing Ex. 1006 ¶ 14). Petitioner asserts that a POSITA would have recognized that a central computer system that controls the operation of the server and sub-systems is a processor for processing the applications. *Id.* (citing Ex. 1004 ¶ 119).

Patent Owner does not challenge Petitioner’s analysis and evidence showing limitation [1-b] of claim 1 is met by the combination of Malaure and McKeown. *See generally* PO Resp.

We find Petitioner’s arguments persuasive as to this limitation of claim 1 and supported on the complete record before us, and, therefore, we adopt them as our own findings.

f) Conclusion

In summary, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of independent claim 1 would have been obvious over the combination of Malaure and McKeown.

2. Independent Claim 68

For independent claim 68, Petitioner contends that these limitations are substantially similar to those of independent claim 1. Pet. 54. Petitioner further provides a claim chart comparing the limitations of claim 1 with those of claim 68. *Id.* at 55–56. Petitioner asserts that the two differences between claim 1 and claim 68 are that claim 68 requires “a plurality of Internet-connected devices grouped into a set of cohorts,” and that at least one cohort receives the broadcast using a first medium and at least one cohort receives the broadcast using a second medium. Pet. 54; Ex. 1001,

18:63–64, 19:1–4. Petitioner relies on arguments it presented for the limitations it considers to be “overlapping” or substantially the same. *Id.* at 56.

The preamble of independent claim 68 recites “a game server.” Ex. 1001, 18:60. To the extent the preamble should be treated as limiting, we note that Petitioner contends (for the preamble of claim 1) that Malaure’s central server 1 is controlled by CCS that operates “UltraSPARC architecture workstations or servers.” Pet. 28 (citing Ex. 1006 ¶ 16; Ex. 1004 ¶ 87) (emphasis omitted). Petitioner adds that central system 1 is a “game server” because it operates as a server and includes applications for predictive games 10–15 and on-demand game engines. *Id.* 27–28 (citing Ex. 1004 ¶¶ 17, 20; Ex. 1004 ¶ 88).

Claim 68 further recites limitation [68-a] “a memory for storing an application, the application configured for,” which Petitioner contends is taught by Malaure’s data store and/or database. Pet. 29. According to Petitioner, Malaure teaches “storing the application components and/or real-time application data in a data store” (Ex. 1006 ¶ 10), and that “[w]hen the new applications have been developed and tested, the game programmer logs on to a Windows NT™ based submit tool 9 which saves the application components in an application database” (*id.* ¶ 16). Pet. 29. Petitioner contends that a POSITA would have recognized that “data store” and “database” are repositories, i.e., memories, for storing and managing collections of data. *Id.* (citing Ex. 1004 ¶ 90).

Claim 68 further recites limitation [68-a-i]—“communicating with a plurality of Internet-connected devices grouped into a set of cohorts.” Ex. 1001, 18:63–64. Petitioner asserts that Malaure discloses that,

“[a]lthough only a single user interface 27, 28 is shown in Figure 1 with each broadcast network 20-25, it will be appreciated that each network 20-25 will broadcast to a large number of user interfaces” and that each set of STBs is connected to different networks, including WebTV. Pet. 56–57 (citing Ex. 1006 ¶ 40) (emphasis omitted). Petitioner adds that “a POSITA would [have understood] that a large number of user interfaces . . . are connected to each corresponding network 20-25 and grouped based on the type of transport platform. *Id.* (citing Ex. 1004 ¶ 151).

Independent claim 68 also recites limitation [68-a-ii]:

sending a lockout signal at an appropriate time based on an amount of delay to prevent users from submitting a response to a game of skill or chance or other entertainment, *wherein at least one cohort of the set of cohorts receives a broadcast using a first medium, and at least one cohort of the set of cohorts receives the broadcast using a second medium.*

Ex. 1001, 18:65–19:4 (emphases added).

With regard to the “lockout signal,” Petitioner relies on the arguments made for claim 1. *See supra* Sect. II.E.1.d.[1-a-ii]. That is, Petitioner asserts that McKeown teaches:

“the central controller 1 will issue *a lock-out signal* which is broadcast to the remote units C and to which each processor 14 responds *to prevent any further predictions from being entered.*” Ex. 1007, 6:14–18; Ex. 1004, ¶109. “Each microprocessor 14 [of the Internet connected devices] responds to the *received lock-out signal to lock-out any future predictions* and also any previous predictions which occurred after the back adjusted time stamp.” *Id.*, 6:23-26. Similarly, for in-game predictions, “[a]s the game develops, various events may or will occur” such as first goal scored etc. that also trigger the transmission of the lockout signal. Ex. 1007, 6:38–45; Ex. 1004, ¶109.

Pet. 40. Petitioner further asserts that “a POSITA would [have] recognize[d] the benefit of a combined system of Malaure and McKeown where players operating on different systems and receiving broadcast information via different networks would all be able to participate in fast-paced predictive games that are based on live TV without certain participants having an advantage.” Pet. 26 (citing Ex. 1004 ¶ 82).

Petitioner additionally contends that Malaure’s set-top-boxes may communicate with the central server over a plurality of transport platforms, “each employing a different broadcast network, ie. NCI DTV Navigator 20, OpenTV digital TV 21, MHEG-5 22, WebTV/WinCE 23 and PowerTV 24.” Pet. 58 (quoting Ex. 1006 ¶ 26). Petitioner asserts that “[e]ach of the transport platforms is a ‘medium’ over which the game server communicates with the plurality of STBs. *Id.* (citing Ex. 1006 ¶ 7; Ex. 1004 ¶ 153).

Claim 68 also recites limitations [68-b]—“a processor for processing the application. Ex. 1001, 19:5. Petitioner relies on its arguments for claim 1. *See* Pet. 56. That is, Petitioner contends Malaure discloses that central system 1 “is controlled by a central computer system (CCS) 5,” which includes the interactive gaming applications. Pet. 45 (citing Ex. 1006 ¶ 14). Petitioner asserts that a POSITA would have recognized that a central computer system that controls the operation of the server and sub-systems is a processor for processing the applications. *Id.* (citing Ex. 1004 ¶ 119).

During trial, Patent Owner did not address Petitioner’s arguments and supporting evidence as to how the asserted combination of Malaure and McKeown teaches the limitations of independent claim 68 separate from claim 1. *See* PO Resp.; PO Sur-reply. We have reviewed Petitioner’s arguments and supporting evidence as to how the combined teachings of

Malaure and McKeown account for the limitations of claim 68, and we agree with and adopt Petitioner’s analysis, and apply our findings and conclusions for claim 1 that pertain to the same arguments here. Pet. 54–59; *see id.* at 24–45 (claim 1). Accordingly, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of independent claim 68 would have been obvious over the asserted combination of Malaure and McKeown.

3. *Independent Claim 81*

For independent claim 81, Petitioner contends that these limitations are substantially similar to those of independent claims 1 and 68. *See* Pet. 59. Petitioner further provides a claim chart comparing the limitations of claim 68 with those of claim 81. *Id.* at 59–61. In addition, Petitioner relies on arguments it has presented for claims 1 and 68 for the limitations it considers to be “overlapping” or substantially the same. *Id.* at 61. Our discussion below includes citations to Petitioner’s arguments provided for claims 1 and 68 that Petitioner indicates apply to claim 81. *See* Pet. 54, 59.

Claim 81’s preamble recites a “game server.” Ex. 1001, 20:34. To the extent the preamble is limiting, we note that Petitioner contends (for the preamble of claim 1) that Malaure’s central server 1 is controlled by CCS that operates “UltraSPARC architecture workstations or servers.” Pet. 28 (citing Ex. 1006 ¶ 16; Ex. 1004 ¶ 87) (emphasis omitted). Petitioner adds that central system 1 is a “game server” because it operates as a server and includes applications for predictive games 10–15 and on-demand game engines. *Id.* at 27–28 (citing Ex. 1004 ¶¶ 17, 20; Ex. 1004 ¶ 88).

Claim 81 further requires limitation [81-a]—“a memory for storing an application, the application configured for[,]” which Petitioner asserts is

taught by Malaure’s data store and/or database. *See supra* Sect. II.E.1.b.; *see also* Pet. 29 (citing Ex. 1006 ¶¶ 10, 16; Ex. 1004 ¶ 90).

Claim 81 also requires limitation [81-1-i]—“communicating with a plurality of Internet-connected devices grouped into a set of cohorts.” Ex. 1001, 20:37–38. Petitioner relies on the arguments made for claim 68 (which rely on Petitioner’s arguments for claim 1) that include Malaure teaches “it will be appreciated that each network 20-25 will broadcast to a *large number* of user interfaces” and that each set of STBs is connected to different networks, including WebTV. Pet. 61, 56–57 (citing Ex. 1006 ¶ 40) (emphasis added). Petitioner adds that “a POSITA would [have understood] that a large number of user interfaces . . . are connected to each corresponding network 20-25 and grouped based on the type of transport platform. *Id.* (citing Ex. 1004 ¶ 151).

Claim 81 further recites limitation [81-a-ii]—“sending a lockout signal at an appropriate time based on a measured amount of delay to prevent users from submitting a response after an outcome of a future event is known to a game of skill or chance or other entertainment.” Ex. 1001, 20:38–43. For this limitation, Petitioner relies on its arguments and evidence submitted for claim 1, which includes that McKeown discloses “immediately after the event subject to the game of skill has occurred, the central controller will broadcast a ‘back stamped time signal . . . causing each microprocessor 14 to lock out all future predictions.’” Pet. 61 (citing Ex. 1007, 6:8–26, 8:53–58; Ex. 1004 ¶¶ 14–18). Petitioner adds that “McKeown also recognized that the lockout signal needs to be transmitted at an appropriate time based on the operator response time and system latency (i.e., ‘amount of delay’). Pet. 61–62 (citing Ex. 1007, 2:38–43 (“the central

controller computes the actual time of occurrence of an event by monitoring the time of a signal generated by the input device in response to operator activation, and modifies that time to take account of the operator's and system's response time."); Ex. 1004 ¶ 160). Petitioner further observes that McKeown's operator may "undergo a test procedure in which his response time and the system latency is determined by the central controller and this response time and latency is then stored for later use in computing the actual time of occurrence of events in the live broadcast." *Id.* at 62 (quoting Ex. 1007, 2:44–49). Petitioner argues that this measures the system latencies based on test procedures such that the lockout signal time stamp is modified to account for the measured system latency delays. *Id.* (citing Ex. 1004 ¶¶ 159–62).

Petitioner further contends that McKeown teaches "after an outcome of a future event is known to a game of skill or chance or other entertainment," as recited in claim 81 (Ex. 1001, 20:41–43), because the lockout applies to all future predictions and cancels any prediction made after a time defined by the backstamped time stamp. Pet. 62 (citing Ex. 1007, 8:53–58, 4:40–45). Petitioner argues that a POSITA would have understood McKeown to teach that the lockout may apply to an "Action Ball" game played by remote players during a live football game. Pet. 63 (citing Ex. 1007, 7:14–16). In that instance, Petitioner argues McKeown's remote players may input what they anticipate will occur for a target shot, goal, etc., and that the time that the event occurs will be broadcast as a time stamp. *Id.* (citing Ex. 1007, 7:30–38). According to Petitioner, the remote players who provided their input prior to the time stamp "will have been successful and receive points." *Id.* (citing Ex. 1007, 7:38–44).

Based on this disclosure, Petitioner relies on the testimony of Dr. Rubin, who testifies that a POSITA would have understood that

if the player had not entered their prediction within the allocated time period, the microprocessor will lock out all future predictions and cancel any predictions made after the time defined by the back stamped time stamp. [Ex. 1007], 8:53–58. A POSITA would [have understood] from this disclosure that the operator time stamp is being utilized as a lockout signal that prevents the registration of the user’s input for that event after the time stamp has been broadcast.

Ex. 1004 ¶ 165.

Additionally, Petitioner contends that using lockout signals to prevent submission of entries after the event were well known in the art before the ’730 patent. Pet. 65 (citing Ex. 1004 ¶ 168). As an example, Petitioner points to Exhibit 1009, U.S. Patent No. 4,592,546 (“the ’546 patent”) (Ex. 1009), which was issued in 1986 that is referenced both by McKeown (Ex. 1007, 1:17–18) and in the background of the ’730 patent (Ex. 1001, 1:58–64). According to Petitioner, the general knowledge of a POSITA would have included the ’546 patent’s teaching that

in operation, the game player watching the football game on the television receiver 10 would input a future predicted play by looking up the play in the play book 18 and inputting it on the keyboard 12 Of course, when the ball is snapped . . . no play could be entered; that is, there would be *a lock-out of this prediction and any attempted prediction after the ball snap time would be ineffectual.*”

Pet. 64–65 (citing Ex. 1009, 2:37–48; 3:1–9 (emphasis added); Ex. 1004 ¶ 167).

Claim limitation [81-a-ii] also recites—“wherein at least one cohort of the set of cohorts receives a cable, satellite or over-the-air broadcast, and at least one cohort of the set of cohorts receives an online broadcast, wherein

the outcome of the future event is based on at least one live event.”

Ex. 1001, 20:43–48. For this limitation, Petitioner reiterates (*see* claim 68) that Malaure’s central system communicates with a set of cohorts of set-top-boxes (or personal computers) that receive broadcast communications via different platforms. Pet. 66 (citing Ex. 1004 ¶ 171). These platforms “may comprise broadcast networks having different data protocols, formats or speeds.” *Id.* (citing Ex. 1006 ¶ 7). As an example, Petitioner directs us to Malaure’s STB 30 that is connected to cable modem 31 which communicates over a cable network to cable service provider server 32 and STB 34 that is connected to modem 35 which communicates over the conventional public switched telephone network (PSTN). *Id.* (citing Ex. 1006 ¶ 53). Petitioner adds that McKeown teaches that its interactive, predictive game control system is used with a live TV broadcast that would broadcast live events such as football games and horse racing. Pet. 65 (citing Ex. 1007, 5:56–6:45, 7:45–55, 8:43–58).

Claim 81 also recites limitations [81-b]—“a processor for processing the application. Ex. 1001, 20:49. Petitioner relies on its arguments for claims 1 and 68. *See* Pet. 56. That is, Petitioner contends Malaure discloses that central system 1 “is controlled by a central computer system (CCS) 5,” which includes the interactive gaming applications. Pet. 45 (citing Ex. 1006 ¶ 14). Petitioner asserts that a POSITA would have recognized that a central computer system that controls the operation of the server and sub-systems is a processor for processing the applications. *Id.* (citing Ex. 1004 ¶ 119).

During trial, Patent Owner did not address Petitioner’s arguments and supporting evidence as to how the asserted combination of Malaure and McKeown teaches the limitations of independent claim 81 separate from

claims 1 and 68. *See* PO Resp.; PO Sur-reply. We have reviewed Petitioner’s arguments and supporting evidence as to how the combined teachings of Malaure and McKeown account for the limitations of claim 81, and we agree with and adopt Petitioner’s analysis, and apply our findings and conclusions for claims 1 and 68 that pertain to the same arguments here. Pet. 59–67; *see id.* at 24–45 (claim 1), 54–59 (claim 68). Accordingly, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of independent claim 81 would have been obvious over the asserted combination of Malaure and McKeown.

4. *Dependent Claims 4, 7, 28–31, 49, and 57*

Petitioner also contends that dependent claims 4, 7, 28–31, 49, and 57 (which depend from independent claim 1) are unpatentable under § 103(a) as obvious over the combined teachings of Malaure and McKeown. Pet. 45–54.

Claim 4 depends from claim 1 and further recites “wherein the game server stores game control data and transfers the game control data to each device within the plurality of Internet-connected devices.” Ex. 1001, 15:29–32. Petitioner contends that Malaure teaches this additional limitation because its applications (e.g., game control data) are stored in an application database or datastore and then broadcast to user interfaces 4 (e.g., set-top-boxes and personal computers) over broadcast network 3. Pet. 45 (citing Ex. 1006 ¶¶ 10, 16, 25).

Claim 7 depends from claim 1 and further recites “wherein the amount of delay accounts for delays within a television signal reception path.” Ex. 1001, 15:38–40. Petitioner contends that Malaure teaches this additional limitation because “Malaure compensates for the timing

anomalies associated with the broadcast content by ‘delaying the broadcast of messages, or more appropriately by altering the timing information within messages.’” Pet. 46 (citing Ex. 1006 ¶ 35; Ex. 1004 ¶ 125). Petitioner further relies on Dr. Rubin’s testimony that

[a] POSITA would [have understood] that in Malaure, the various broadcast networks (20-25) are the reception paths between the source (i.e., the central system 1) and the target (user interface 4) for the broadcast signal. Thus, Malaure discloses that the time it takes for the broadcast signal to travel from the source to the target through the reception path (i.e., broadcast networks) is impacted due to different clocks and/or delays in starting the broadcast of the signal in different networks.

Ex. 1004 ¶ 126.

Claim 28 depends from claim 1 and further recites “wherein the game server sends the game of skill or chance or other entertainment to the plurality of Internet-connected devices.” Ex. 1001, 16:44–46. Petitioner asserts that Malaure teaches this additional limitation because its’ central system 1 (e.g., the server) transmits game application data (e.g., game of skill or chance or other entertainment) to set-top-boxes and personal computers (e.g., plurality of internet-connected user interfaces). Pet. 47 (citing Ex. 1006 ¶¶ 1–2, 25, 40; Ex. 1004 ¶ 129).

Claim 29 depends from claim 1 and further recites “wherein the game of skill or chance or other entertainment is stored in a memory of the plurality of Internet-connected devices.” Ex. 1001, 16:47–49.

Claim 30 depends from claim 1 and further recites “wherein the game of skill or chance or other entertainment is stored in random access memory of the plurality of Internet-connected devices.” Ex. 1001, 16:50–52.

For claims 29 and 30, Petitioner contends that McKeown teaches these additional limitations because each remote user C has a home or

remote unit with a television receiver, monitor, and memory such as ROM or control memory RAM. Pet. 48 (citing Ex. 1007, 4:20–27). According to Petitioner, each remote unit receives broadcasted information that is stored by the microprocessor in the control memory (e.g., RAM). *Id.* (citing Ex. 1007, 8:15–20; Ex. 1004 ¶ 133). Petitioner contends that “a POSITA would [have understood] that the program instructions in McKeown, including information related to the game itself are stored in the RAM of the plurality of Internet-connected devices.” *Id.* at 49 (citing Ex. 1004 ¶ 135).

Claim 31 depends from claim 1 and further recites “wherein the Internet-connected devices are further for displaying the game of skill or chance or other entertainment.” Ex. 1001, 16:53–55. Petitioner contends Malaure teaches this additional limitation because the “game being played contains a real-time video component that is delivered to the user interface 4 for display.” Pet. 50 (citing Ex. 1006 ¶¶ 31, 49). Petitioner also directs us to Malaure’s teaching that once “the application has been downloaded to the user interfaces 4, the interfaces display a screen similar to that shown in Figure 5 [and] [t]his indicates to the player the type of prediction which he can attempt.” *Id.* (citing Ex. 1006 ¶ 49, Fig. 5).

Claim 49 depends from claim 1 and further recites “wherein a broadcast and the game of skill or chance or other entertainment are presented on a same screen.” Ex. 1001, 18:1–3. Petitioner contends that McKeown teaches this additional limitation because a POSITA would have understood that the game of skill or chance and broadcast content in McKeown is presented on the same screen because McKeown provides a single monitor (12) for each remote unit (C), and the central controller combines both the game information and the broadcast content as a

combined signal that is transmitted simultaneously to the remote unit. Pet. 53 (citing Ex. 1004 ¶ 143; Ex. 1007, 4:2–12, 4:20–22).

Claim 57 depends from claim 1 and further recites “wherein a reward is given to a winner of the game of skill or chance or other entertainment.” Ex. 1001, 18:26–28. Petitioner contends that McKeown teaches this additional limitation because it discloses “an interactive, predictive game control system” that may be “played in conjunction with a live TV broadcast [where] remote players attempt to predict certain events . . . and will be awarded prizes, monetary or otherwise, if they are successful.” Pet. 54 (citing Ex. 1007, 1:6–10). Relying on Dr. Rubin’s testimony, Petitioner argues that McKeown’s disclosure teaches a reward is given to the winner of a game of skill or chance or other entertainment. *Id.* (citing Ex. 1004 ¶ 146).

During trial, Patent Owner did not address separately Petitioner’s arguments and supporting evidence as to how the asserted combination of Malaure and McKeown teaches the additional limitations of dependent claims 4, 7, 28–31, 49, and 57. *See* PO Resp.; PO Sur-reply. We have reviewed Petitioner’s arguments and supporting evidence as to how the combined teachings of Malaure and McKeown account for the additional limitations of these dependent claims, and we agree with and adopt Petitioner’s analysis. *See* Pet. 45–54. Accordingly, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of dependent claims 4, 7, 28–31, 49, and 57 would have been obvious over the asserted combination of Malaure and McKeown.

III. CONCLUSION⁶

Based on the fully developed record, Petitioner has demonstrated by a preponderance of the evidence that claims 1, 4, 7, 28–31, 49, 57, 68, and 81 of the '730 patent are unpatentable. A summary of our conclusions is set forth in the table below:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 4, 7, 28–31, 49, 57, 68, 81	103(a)	Malaure, McKeown	1, 4, 7, 28–31, 49, 57, 68, 81	
Overall Outcome			1, 4, 7, 28–31, 49, 57, 68, 81	

⁶ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 4, 7, 28–31, 49, 57, 68, and 81 of the '730 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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