

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

ZIKLAG IP LLC
Patent Owner

Case IPR2025-00700
Patent No. 6,182,128

**PATENT OWNER'S RESPONSE TO PETITION
FOR INTER PARTES REVIEW**

Patent Owner Ziklag IP LLC submits the following Patent Owner's Response to Petition for Inter Partes Review pursuant to 37 C.F.R. § 42.120 (b).

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition (Paper 2 (“Pet.”)) requesting inter partes review of claims 1–4, 6, 9–14, and 17 (“the Challenged claims”) of U.S. Patent No. 6,182,128 B1 (Ex. 1001, “the ’128 patent”).¹ Ziklag IP LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

On September 17, 2025, the Board determined that Petitioner has demonstrated a reasonable likelihood of prevailing on at least one of the Challenged claims of the '128 patent. Paper 8 ("Decision") 2-3. Accordingly, the Board granted the Petition and instituted an *inter partes* review of all Challenged claims of the '128 patent. Decision 3.

¹ For utility patents filed after June 7, 1995, the patent term generally expires 20 years from the date the application was filed. The '128 patent was filed on March 5, 1998, issued on January 30, 2001, and therefore expired on March 5, 2018. Under 35 U.S.C. § 286, Patent Owner (Ziklag IP LLC) cannot recover for any alleged infringement committed “more than six years prior to the filing of [its] complaint.” Thus, the last date on which any entity could have properly filed a complaint alleging infringement of the '128 patent was March 5, 2024, six years after the patent expired. Ex. 1016, 1. Patent Owner’s predecessor, Touchmusic Entertainment LLC filed its initial complaint timely on March 2, 2024. Pet. 74; Ex. 1016, 1. However, Touchmusic’s corporate status was suspended from August 1, 2014 to April 12, 2024, but assigned the '128 patent to Patent Owner on April 18, 2024. Pet. 74; Ex. 1016, 1–2. In the District Court, Apple has argued that Patent Owner’s claims are time-barred. Ex. 1016, 2. The Board assumed Touchmusic’s assignment of the '128 patent to Patent Owner was proper, and deferred to the District Court’s ruling accordingly. Paper 8 ("Decision") 2.

Patent Owner respectfully submits this response in opposition to the Board's decision instituting an *inter partes* review of all Challenged claims of the '128 patent. The record demonstrates that none of Challenged claims of the '128 patent should be found unpatentable as required by 35 U.S.C. § 314(a) and 37 C.F.R. § 42.108(c).

Petitioner has asserted a single ground for invalidating Challenged claims 1-4, 6, 9-14 and 17, namely, that these claims of the '128 patent are obvious based on Yurt in view of Logan. As explained in detail below, the combination of Yurt and Logan does not render any of the Challenged claims of the '128 patent obvious and therefore this *inter partes* review should confirm the patentability of the '128 patent claims under review.

II. INTRODUCTION TO THE '128 PATENT UNDER REVIEW

The '128 patent discloses and teaches a novel architectural system committed to active, distributed orchestration -- not passive distribution. Between 1995 and early 1998, the named inventors jointly conceived and reduced to practice the system described in the patent. They built working prototypes capable of delivering CD-quality music tracks in real time over existing architectures. EX2007, Johnson Decl. ¶ 19.

With today's infrastructure, it is easy to blur the distinction between maintaining a centralized catalog with regional copies and a system that actually performs per-request discovery, initiation, and routing across multiple regional

libraries. Those are materially different architecture and system designs. EX2009, McCulloh Decl. ¶ 12.

Passive approaches, such as indexing content, staging it in advance, or replicating it based on popularity, can operate without a real-time control plane. EX2009, McCulloh Decl. ¶ 13.

True multi-region orchestration, by contrast, must reliably execute per-request decisions across independent regions while managing failure, consistency, and user-visible latency. In distributed systems practice, that is where complexity resides. EX2009, McCulloh Decl. ¶ 14.

III. PETITIONER IMPROPERLY RELIES ON HINDSIGHT RECONSTRUCTION AND APPARENT INEVITABILITY - WHILE IGNORING THE PROSECUTION HISTORY OF THE '128 PATENT

A. Dr. Lippman's "Background" Discussion Overstates What Was Generally Known In The Field Relevant to the '128 Patent

Petitioner's expert (Dr. Lippman) provides a background discussion in which he concludes with the assertion that "all of the features and functionality described in this Background were well known in the late 1990s, and a POSITA would have been familiar with them." EX1003 ¶ 35. Patent Owner disagrees with Dr. Lippman's conclusory overstatement. Dr. Lippman merely describes isolated generic components (servers, databases, networks), while ignoring the relevant inquiry: whether the prior art discloses, teaches or suggests the specific claimed architecture and functions combined in the claims of the '128 patent. Indeed, Dr. Lippman's "Background" omits

and fails to address the actual known constraints that would have taught a POSITA away from real-time inter-regional routing in the time period relevant to the '128 patent. Such actual, known constraints included bandwidth allocation realities, latency, and operational instability across distributed cable networks. EX2009, McCulloh Decl. ¶ 15.

Further, a central flaw in Dr. Lippman's misleading portrayal of the prior art background and context relevant to the inventions claimed by the '128 patent is that Dr. Lippman apparently imports modern assumptions into that earlier era. EX2009, McCulloh Decl. ¶ 22.

When evaluating the background and context relevant to the '128 patent, it is important to focus on the real-world technological landscape of 1998. Today the widespread use of cloud regions, global content delivery networks, edge servers, and real-time media streaming are taken for granted, but none of these capabilities existed in 1997-1998, in the form that is now known. At the time the inventions disclosed and claimed by the '128 patent were conceived, there was no AWS, no distributed microservices ecosystem, no mature broadband infrastructure, and no established model for delivering digital media in real time to millions of consumers. EX2009, McCulloh Decl. ¶ 23.

In the late 1990s, the public Internet did not behave as a stable, predictable substrate on which engineers could safely build interactive, cross-region control loops

by default. It was, and remains, an interconnection of independent networks. Routes changed, paths were often asymmetric, and end-to-end performance varied in ways that were difficult to diagnose or control. Measurement studies done in 1997 are widely cited precisely because they quantified this variability and showed that wide-area paths could not be treated as stable or uniform across time and space. EX2009, McCulloh Decl. ¶ 24.

From an engineering standpoint, building a system that depends on real-time coordination across multiple regions was not simply a matter of connecting known components. It was an architectural bet against the variability, latency, and failure modes that engineers routinely observed in wide-area networks in the 1997-1998 time period. As a result, engineers at that time generally avoided designs which required tight, real-time orchestration across heterogeneous regions. This prior art background and context is critical to the correct understanding of the '128 patent's claimed inventions and why they would not have been obvious to a POSITA at the time they were conceived. EX2009, McCulloh Decl. ¶ 25.

Examining where major engineering effort was concentrated in the late 1990s further illustrates what was considered normal or expected at the time by a POSITA. Public records show substantial institutional focus on defense digitization, enterprise information infrastructure, and command-and-control modernization rather than consumer-grade, interactive media streaming across heterogeneous public networks.

This reality reflects the engineering “center of gravity” of the 1997-1998 time period and reinforces that multi-region, per-request orchestration for consumer-like media delivery was not considered an obvious or inevitable next step by a POSITA. EX2009, McCulloh Decl. ¶ 26.

Dr. Lippman's characterization of the background and context relevant to the '128 patent's claimed inventions also suffers from a hindsight perspective. For example, Petitioner argues that centralized catalogs and regional distribution were “well known” and thus obvious by 1998. This, however, is not the case. Petitioner apparently assumes inevitability based on post-2000 streaming architectures, which is an unsupportable assumption. As such, this reflects hindsight, not contemporaneous engineering expectations. EX2007, Johnson Decl. ¶26. Such a hindsight perspective would have to be powerfully shaped by high-visibility developments that occurred slightly later than the time of the inventions at issue. EX2009, McCulloh Decl. ¶ 27.

In 1999, products and events such as TiVo’s commercial launch, Napster’s emergence, early CDN commercialization, and increasing visibility of streaming initiatives helped make on-demand media culturally and technically salient. These developments make it easier, in retrospect, to tell a story in which streaming-style distribution appears inevitable or obvious. But that narrative reflects an ecosystem maturation after the time period relevant to the '128 patent's inventions, not the expectations a skilled engineer would reasonably have held in 1997–1998. EX2009,

McCulloh Decl. ¶ 28.

There is no reason to believe that the enterprise distributed computing trajectory of the 1990s would have naturally evolved into the novel and nonobvious distribution architecture described in the '128 patent. Without the specific pressures of the entertainment industry, the design choices embodied in the '128 patent would simply not have emerged in the 1997-1998 time frame. EX2009, McCulloh Decl. ¶ 29.

The foregoing description of the state of knowledge in the field relevant to the '128 patent is reflected in what occurred during the prosecution of the '128 patent's application. Applicant overcame the Examiner rejections based on prior art that did not disclose, teach or suggest centralized orchestration. The '128 patent was allowed only after claim amendments were made requiring a central controller. See EX1002 at 124, Sep. 29, 2000 Notice of Allowance.

B. State of the Art Regarding Distributed Systems in 1997-1998

Petitioner further argues that distributed caching / regional placement made the claimed architecture routine. Regional placement, however, is not the same thing as active central orchestration. In fact, engineers avoided real-time inter-regional routing in the relevant time period. EX2007, Johnson Decl. ¶26.

Dr. Lippman's analysis and Petitioner's argument, both suffer from the common misconception that because distributed computing existed in some form in the 1990s, the '128 patent's disclosed distribution architecture must have been obvious at the

time it was conceived. But enterprise distributed computing and consumer entertainment distribution are fundamentally different domains with very different technical pressures. EX2009, McCulloh Decl. ¶ 16.

Distributed systems research in the 1997-1998 time period focused primarily on enterprise environments; file servers, high-performance computing clusters, database replication, and academic experiments in grid computing. In the mid-to-late 1990s, nearly all distributed systems work was aimed at solving enterprise problems: keeping databases consistent, improving file server availability, handling internal corporate data replication, and building scientific computing clusters. These systems were not dealing with millions of consumer endpoints, nor did they need to support real-time streaming of high-bitrate audio or video. They had no reason to track user-level consumption for billing or marketing, and they had no licensing restrictions that required content to be managed by region. EX2009, McCulloh Decl. ¶ 17.

Much of the commercial push was to support U.S. Department of Defense (DoD) requirements for sharing intelligence at greater speed and scale than existed in the late 1990s. Those systems were not designed for consumer-facing, on-demand multimedia delivery. They emphasized reliability and consistency rather than the low-latency, high-throughput, user-driven experience that the inventions taught in the '128 patent enable. EX2009, McCulloh Decl. ¶ 18.

The entertainment use context, particularly music and video (to which the

inventions of the '128 patent are directed), introduced constraints that enterprise systems simply did not have to address. Content had to be delivered instantly, without buffering, to a large and unpredictable user population. Users needed to be billed or tracked individually based on what they accessed. The delivery system had to search multiple geographically separate libraries, move content across regions on demand, and do all of this fast enough to support real-time playback. These challenges required a fundamentally different thinking about how distributed networks should operate. EX2009, McCulloh Decl. ¶ 19.

Real-time content routing across regional networks for consumer media delivery was not something engineers were thinking about, let alone building at the time relevant to when the '128 patent inventions were conceived. EX2009, McCulloh Decl. ¶ 20.

Even today, when the manner in which big streaming platforms function is examined, it becomes clearly evident how different the entertainment problem is from generic distributed computing. Entertainment systems must optimize for latency, bandwidth, content popularity patterns, user-specific analytics, licensing regions, and unpredictable spikes in demand for individual titles. Those are exactly the kinds of issues that the '128 patent addressed at a time when almost no one in the field was working on such challenges and problems. EX2009, McCulloh Decl. ¶ 21.

C. The Yurt Patent Asserted by Petitioner

The Yurt patent, which is the primary reference relied on by Petitioner for this proceeding, is substantially the same as the Verbiest reference relied on by the Examiner in the original prosecution of the ‘128 patent. Verbiest also discloses a plurality of distribution centers, and distributing video content to users in “less than real time.” Moreover, Petitioner relies on the same arguments made by the Examiner when citing Verbiest, but which were ultimately overcome during prosecution of the ‘128 patent.

D. The Prosecution History Of The ‘128 Patent Reveals the Insufficiency Of Petitioner's Prior Art Arguments

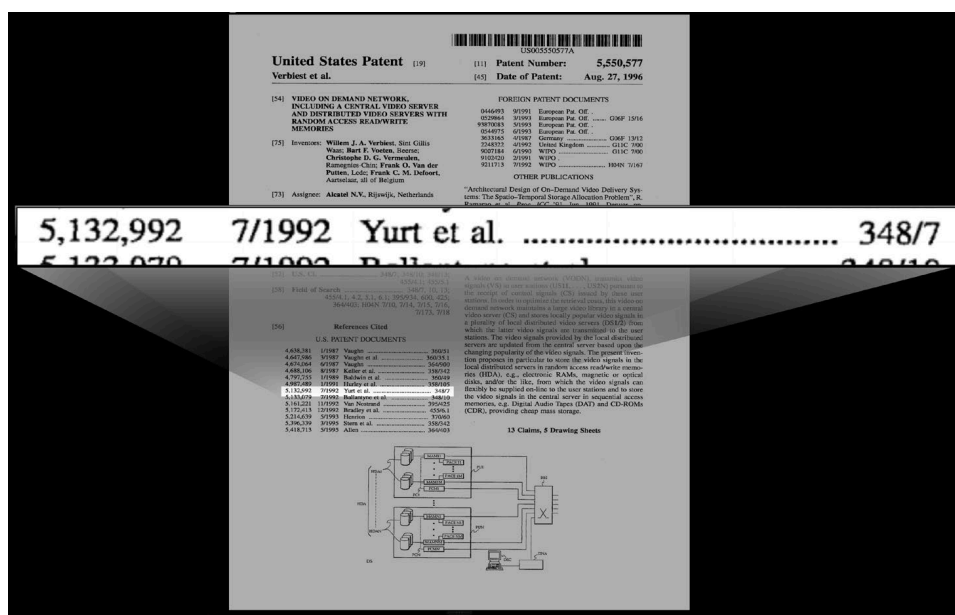
1. **35 U.S.C. § 102(b) rejection based on Verbiest**

The ‘128 patent issued from U.S. Patent Application No. 09/035,194 (“the ‘194 application”), filed on March 5, 1998. During prosecution of the ‘194 application, the examiner rejected independent claim 1 (and most others) under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,550,577 issued to Verbiest on August 27, 1996 (“Verbiest”) (EX2001). EX1002 at 55-57, April 5, 1999 Office Action.

Verbiest does not reflect the topology and control-plane behavior of the applicant's claims. Indeed, Verbiest does not disclose, teach or suggest the use of independent regional networks connected to one control center that searches other libraries. EX2007, Johnson Decl. ¶ 43.

The Verbiest patent, EX2001, was extensively cited by the Examiner during the

prosecution the '128 patent. The key relevant disclosures of the Verbiest patent are that it is directed to a video on demand network with a plurality of connected distribution centers, a network interface, a video library, a library interface and a central controller to direct video to a user. The Yurt patent relied on by Petitioner contains these same elements, and was cited as prior art to the Verbiest patent during prosecution of the Verbiest patent. The front page of the Verbiest patent is shown below:



EX2001.

The examiner found that Verbiest disclosed a video on demand network with a plurality of distribution centers, along with other elements claimed in the application:

Regarding claim 1, Verbiest shows a video on demand network in figure 1, where the claimed plurality of distribution centers is shown as CS, AUX, DS1 and DS2 are connected to the back bone switch

BBN, and the claimed network interface, library, library interface and a processor are shown as an access networks ANI and AN2 are coupled to switching networks BBS5 and BBS3, video library constituted by two warehouses CWH and DWH for storing Digital Audio Tapes DAT and CD-ROMs, BBS 1 for access switching (See Fig. 3), as for a processor the DSC activates the program control PCMI/PCMN, corresponding to the program unit PUI/PUN in which the selected video signal is stored, to produce an instance of the requested video signal together with routing control information indicative of the user station US 13 and the routing control information is used by BBS5 and ANI to switch the video signal to the correct user station (See column 8, lines 8-14).

Regarding the central controller connected to the library interface is shown as the backbone network BBN is itself constituted by broadband packet switching networks B13S 1 to BBS5 which are interconnected as shown in figure 1.

EX1002 at 55-56.

2. “Independent” Network Amendment

Petitioner makes the same arguments based on Yurt that the applicant overcame during prosecution with respect to Verbiest. For example, Petitioner argues that Yurt discloses “a plurality of private distribution centers” by noting the multiple transmission systems 100, 100’, 100’’ and 100’’’ disclosed in Figure 1c of the Yurt patent. Similarly, the Examiner initially rejected the ‘128 patent application because Verbiest disclosed a plurality of distribution centers CS, AUX, DS1 and DS2. EX1002 at 55.

In response, applicant amended the pending independent claim to clarify that the plurality of distribution centers were “independent” networks. EX1002 at 68, June 15,

1999 Response to Office Action. Applicant also distinguished the claimed invention from Verbiest because Verbiest “describes a backbone broadband network, on which all distributed servers are interconnected among themselves (col. 5, li. 30) or cross-connected (col. 5, li. 42).” (Id. at 70 (emphasis in original).)

The present invention, as claimed in claim 1 and shown in Fig. I and specification, has only one control center 26 directly connected via line 16 with all independent regional networks 14. Each independent network 14 has its own distribution center 18 with a data file library. In the present invention each network 14 is an independent network, and these networks are not interconnected among themselves; each network is only connected with the control center 26. The control center 26 does not store any data files, thus no warehouse is required; it only forwards data files from one independent network to another. Moreover, the control center 26 neither communicates nor supplies the user stations directly. This is clearly stated in claim 1, which teaches that each network interface connects to a single one of the networks, a processor transmitting the data file to the single one of the networks and a central controller (control center 26) is directly connected to the network interface of each distribution center for routing information between the distribution centers.

(Id. at 70-71.) Thus, applicant overcame this rejection by adding the claim limitation that its distribution networks were “independent,” and arguing that Verbiest “describes a backbone broadband network, on which all distributed servers are interconnected among themselves (col. 5, li. 30) or cross-connected (col. 5, li. 42).” (EX1002 at 70 (emphasis in original).) The Examiner apparently accepted this argument, and next rejected the application on other grounds.

Petitioner, however, reguritates the same argument using the Yurt patent by citing to the multiple transmission systems 100, 100', 100'' and 100''' shown in Fig.

1c of the Yurt patent. See Petition at 27-29. These transmissions systems, however, may communicate between themselves, just like the distribution centers in the Verbiest patent could communicate between themselves. As noted in the Yurt patent:

The source material library **111**, according to a preferred embodiment of the present invention, may preferably include a single source material library or a plurality of source material libraries. If there are a plurality of source material libraries, they may be geographically located close together or may be located far apart. The plurality of source material libraries may communicate using methods and channels similar to the methods and channel types which libraries may employ for communication with the receiving system **200** of the user, or the source material libraries may communicate via any available method.

(EX1005 at 6:23-34.) Petitioner apparently merely seeks to reassert that a video distribution system with multiple distribution networks that communicate with one another are the same as the independent / private distribution networks claimed in the ‘128 patent.

3. 35 U.S.C. § 103 rejection based on Verbiest in view of McCalley

In response to the amendment and argument, the Examiner rejected independent claim 1 (and most other claims) under 35 U.S.C. § 103 as being unpatentable over Verbiest in view of U.S. Patent No. 5,113,496 issued to McCalley on May 12, 1992 (“McCalley”) (EX2002). EX1002 at 75-83, August 26, 1999 Office Action. In addition to the previously cited disclosures of Verbiest, the Examiner found that McCalley disclosed local operating centers that served a particular geographic area and that “it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the video on demand network as taught by Verbiest into a regional operating center as taught by McCalley....” EX1002 at 78.

Applicant overcame this rejection with a new independent claim that included the limitation of “sequentially transmitting said requested digital audio files in substantially real time to said user through one of the satellite or cable TV networks via said output of said network interface.” EX1002 at 94-97, Response to Office Action dated December 27, 1999. The applicant also noted that neither Verbiest nor McCalley distribute files in substantially real time:

New Claim 17 is the same as the other of the two amended claims discussed at the interview. New Claim 17 should also be allowed since neither Verbiest, et al. nor McCalley, et al. distributes files in substantially real time. There is no sequential transmission of the requested files in substantially real time to the user. This is not shown or suggested in Verbiest, et al. nor McCalley, et al., nor is it obvious to so modify either reference to reach applicant’s claimed system. Thus, Claim 17 should also be allowed.

EX1002 at 97. New Claim 17 became Claim 1 of the issued ‘128 Patent. In response, the Examiner dropped all reference to either Verbiest or McCalley. Thus, applicant addressed and resolved the disclosure of Verbiest with respect to the patentability of the ‘128 claims by including the limitation that content was delivered to the user “in substantially real time.” EX2007, Johnson Decl. ¶ 44.

Ignoring the relevant prosecution history, Petitioner contends that downloading in “real time” is the same as downloading faster than real time, which the user can later watch or listen to in “real time.” Therefore, Petitioner merely seeks to resurrect the Examiner's initial conclusion (later overcome by applicant) with prior art that discloses

nothing more than was disclosed and considered when the '128 patent was issued.

Like the video on demand network of Verbiest, the system disclosed in the Yurt patent that Petitioner relies on provides video files to users “in a fraction of real time.”

(EX1005, 2:1-4). Yurt discloses:

**With respect to the transmission and receiving systems
65 set forth in FIGS. 1a-1g, the requested material may be
fully compressed and encoded, partly decompressed at
some stage in transmission system 100, or fully decom-
pressed prior to transmission. The reception systems**

**200 may either buffer the requested material for later
viewing, or decompress in real time the requested mate-
rial as it is distributed by transmission system 100. Alter-
natively, the reception systems 200 of the present inven-
tion may perform a combination of buffering and non- 5
buffering by buffering some of the requested material
and decompressing the remainder of the requested ma-
terial for immediate viewing as it is distributed by trans-
mission system 100.**

EX1005; 4:64-5:9. As shown in the Yurt patent, the claimed Yurt invention could certainly not deliver computer encoded video content in real time, and instead relied on compressed file formats, that would then have to be buffered and decompressed.

Nevertheless, Petitioner argues that Yurt’s disclosure of the delivery of data in compressed format, at “less than real time,” is the same as the delivery of data in real time. See Petition at 43 (“As discussed in [1.0], Yurt’s use of high-bandwidth cable networks for fast transmission of audio files mirrors the disclosure in the '128 patent and

similarly enables real-time consumption of audio by the end user.”). Petitioner's argument strains credulity and is unconvincing.

As anyone who lived through the 90's knows, delivery of video and audio content in “real time” in that time period was fundamentally different than receiving video or audio in “less than real time.” In the 1990's, if someone wanted to watch a movie video, they could go to Blockbuster, and rent the movie for a few dollars, and watch it at home. The movie could then be watched “in real time.” Also, in hotel rooms, patrons could order movies on their hotel TV's, which would then be delivered in “real time.”

Watching movies, and the technology for delivering the movies in “real time,” was well understood at the time, and was obviously well understood by the examiner when he allowed the claims of '128 patent over the prior art.

When the Examiner received applicant's December 27, 1999 amendment to the claims incorporating the “real time” limitation he withdrew his assertion of the Verbiest and McCalley prior art as grounds for unpatentability because neither disclosed distributing files in substantially real time. Petitioner's presentation and reargument of this same point is not persuasive and should be ignored.

4. Additional amendments and second independent claim

After an interview with the Examiner on December 22, 1999 where an agreement was not reached (EX1002 at 85-87), applicant amended the pending independent claim (now claim 2) to add additional details about the central controller,

and added a new independent claim 17 (now claim 1) that included the limitation of “sequentially transmitting said requested digital audio files in substantially real time to said user through one of the satellite or cable TV networks via said output of said network interface.” EX1002 at 94-97, December 27, 1999 Response to Office Action.

Applicant argued:

In particular, McCalley has a hierarchy of LOCs, all feeding from an ROC. In none of the higher LOCs or ROCs is it possible to identify a "central controller" that searches the libraries of lower LOCs upon request of another LOG and initiates a file transfer to the requesting distribution center and thence to the user. Verbiest also teaches a system that is distinguished from, the present system, first in that the topology of the overall system has a complex switching network connecting the users and the plurality of distribution centers rather than a plurality of independent networks as in the instant invention, and second in that the central controller provides files to the distributed servers, also without a step of searching the local libraries.

Id. at 97. Applicant also noted that, with respect to new claim 17 (now claim 1), neither Verbiest nor McCalley distributed files in substantially real time. Id.

5. Rejections based on Williams and Martin

In response, the Examiner rejected independent claim 1 (now claim 2) under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,867,155 issued to Williams on February 2, 1996 (“Williams”) (EX2003). EX1002 at 108-09, May 10, 2000 Office Action. The Examiner also rejected independent claim 17 (now claim 1) under 35 U.S.C. § 103 as being unpatentable over Williams in view of U.S. Patent No. 5,781,889 issued to Martin on July 14, 1998 (“Martin”) (EX2004). EX1002 at 113-

15.

In its September 11, 2000 Response, applicant distinguished the pending claims from the Williams prior art on the basis that Williams requires the requesting distribution center—not the central controller—to perform file transfers, and because it does not teach “sequential transmission ... in substantially real time.” Applicant stressed that the central controller performs the file transfer—not the requesting distribution center. EX1002 at 119-121, September 11, 2000 Response to Office Action; EX2007, Johnson Decl. ¶ 47.

6. Allowance of the ‘128 patent

Following a telephone interview on September 8, 2000, applicant submitted a final response to office action on September 11, 2000 wherein applicant distinguished the newly cited Williams and Martin references from the claimed invention. EX1002 at 119-121, September 11, 2000 Response to Office Action. On September 29, 2000, the Examiner issued a Notice of Allowability allowing claims 1-17 of the ‘194 application. EX1002 at 124. The ‘128 patent issued on January 30, 2001.

The sequence of amendments and arguments show that the Examiner required the claims to include, and ultimately accepted that the prior art did not disclose, teach or suggest the inventive and nonobvious combination of (1) a central controller actively searching and initiating file transfers across independent regional networks, and (2) substantially real-time sequential transmission. The combination of Yurt and Logan

argued by the Petitioner does not disclose, teach or suggest the subject matter claimed by the '128 patent. EX2007, Johnson Decl. ¶ 48.

E. Petitioner's Arguments Simply "Re-Package" The Same Obviousness Grounds Considered By The Examiner -- And Ignore That The Prosecution History Actually Confirms Nonobviousness

Petitioner fails to adequately address the obviousness grounds asserted by the Examiner which were eventually overcome by the applicant to obtain allowance of the '128 patent claims. Even more telling is Petitioner's failure to distinguish its obviousness argument based on Yurt and Logan from the essentially same obviousness grounds initially asserted by the Examiner. The prosecution history demonstrates that the Examiner repeatedly dropped his previously asserted obviousness rejections because the prior art was lacking a central controller, routing, and real-time sequential transmission -- all of which are required limitations embodied by the Challenged claims of the '128 patent. EX2007, Johnson Decl. ¶¶ 41-49; EX1002, File History of the '128 patent.

Petitioner fails to explain convincingly how the combination of Yurt and Logan provide a teaching of a central controller, routing, and real-time sequential transmission. The prosecution history confirms these were the precise distinctions over the prior art that the Examiner accepted and which Petitioner's expert (Dr. Lippman) now attempts inappropriately to erase from the Challenged claims: (i) an active central-controller; (ii) routing/search/initiation; and (iii) substantially real-time sequential transmission.

EX2007 Johnson Decl. ¶¶ 41-49; EX1002 at 124, Notice of Allowance Sep. 29, 2000.

IV. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner's definition of a POSITA is built around “centralized and distributed database systems” and generic “networked file distribution.” Petitioner uses a framing that is too narrow and misdirected because the '128 patent is not merely about databases—it is about real-time content delivery over cable/satellite TV networks using independent regional distribution centers coordinated by an active control center.

EX2007, Johnson Decl. ¶ 21.

Additionally, two years of experience in generic networked file distribution does not reasonably reflect the technical realities Petitioner assumes: operational constraints of cable infrastructure, headend/regional topology, and the control-plane behavior required by claims 1 and 2 of the '128 patent. EX2007, Johnson Decl. ¶ 22.

A more appropriate definition of a POSITA relevant to the subject matter of the '128 patent is someone with experience in: (i) cable/satellite delivery architectures (including hybrid fiber-coax realities); (ii) distributed media delivery systems, and (iii) multi-region orchestration / routing (not just “storing files in databases”). Employing this definition of a POSITA, Petitioner's proposed "trivial" combinations would not be considered "trivial" at the time of the invention claimed by the '128 patent and would not have been considered plausible to the extent Petitioner suggests or implies. EX2007, Johnson Decl. ¶ 23.

V. CLAIM CONSTRUCTION

In order to properly evaluate the '128 patent, the terms of the claims must first be interpreted. For the purposes of this inter partes review, the claims are to be construed under the *Phillips* standard. This standard requires that claim terms are given their ordinary and customary meaning as would have been understood by a POSITA in light of the specification and prosecution history, unless the inventor has set forth a special meaning for a term. Additionally, claim terms only need to be construed to the extent necessary to resolve the obviousness inquiry.

Petitioner's expert (Dr. Lippman) takes the position that no claim terms require express construction. EX1003 ¶ 48. Patent Owner does not agree. At a minimum, “substantially real time” requires clarification to ensure that Petitioner does not erroneously equate bulk “fraction of real time” delivery with streaming-like sequential playback. Additionally, “central controller ... for routing ... between distribution centers” (and claim 2’s search/instruction functions) require clarification to avoid Petitioner's relabeling passive indexing/dispatching as the claimed orchestrator, which creates confusion. Such proper and appropriate claim construction is needed because Petitioner's obviousness arguments conflate and collapse distinct architectures set out in the Challenged claims by labeling passive databases as “controllers” and bulk delivery as “substantially real-time.” EX2007, Johnson Decl. ¶¶ 50-51.

VI. PETITIONER PROVIDES A SKEWED OVERVIEW OF THE '128 PATENT

Petitioner's expert (Dr. Lippman) presents an overview of the '128 patent that offers a somewhat misleading and skewed picture. The inventors of the '128 patent recognized a set of challenges that the industry had not yet begun to solve. The system described in the '128 patent utilizes an architecture that combines several elements that were not found together in any prior art: a single central controller capable of searching multiple geographically separated content libraries, orchestrating transfers across regional nodes, initiating real-time delivery to users over cable networks, and simultaneously logging user-specific requests for billing and personalization. Each of these components addressed a real technical constraint of the 1997-1998 time period, and the way they were brought together reflected an understanding of the future that simply was not typical of the field in the late 1990s. EX2009, McCulloh Decl. ¶30.

The '128 patent reflects an architectural commitment to active, distributed orchestration, not passive distribution. With today's infrastructure, it is easy to blur the distinction between maintaining a centralized catalog with regional copies and a system that actually performs per-request discovery, initiation, and routing across multiple regional libraries. Those are materially different designs. Passive approaches, such as indexing content, staging it in advance, or replicating it based on popularity, can operate without a real-time control plane. True multi-region orchestration, by contrast, must reliably execute per-request decisions across independent regions while managing

failure, consistency, and user-visible latency. In distributed systems practice, that is where complexity resides. EX2009, McCulloh Decl. ¶31.

Dr. Lippman asserts that all the concepts he discusses in the overview of the '128 patent were well known as of the priority date of the '128 patent. EX1003 ¶ 40. Patent Owner disagrees. Dr. Lippman essentially conflates the existence of streaming-related protocols with the invention of a multi-region orchestration architecture. EX2009, McCulloh Decl. ¶32.

In 1998, the Real Time Streaming Protocol (RTSP) was published as RFC 2326, describing a standardized way for a client to control a streaming session (Schulzrinne et al., 1998). RTSP is essentially a session-control protocol. It does not specify or imply the higher-order architecture embodied in the '128 patent, such as multi-region library discovery, cross-region retrieval decisions, or centralized orchestration across independent repositories. The timing is also notable: the '128 patent was filed in March 1998, and RTSP was published in April 1998, underscoring that relevant standards and ecosystem assumptions were still emerging rather than being long-settled -- contrary to Petitioner's obviousness assertions. EX2009, McCulloh Decl. ¶33.

The novel and nonobvious architecture taught by the '128 patent did not flow naturally from the state of the art in 1998. It required the inventors to anticipate a direction for digital media distribution that the industry would not fully embrace until a decade or more later. That foresight is one of the clearest markers that the '128

invention was novel and nonobvious at the time it was created. EX2009, McCulloh Decl. ¶34.

VII. KEY CLAIM LIMITATIONS NOT TAUGHT IN THE PRIOR ART

None of the prior art asserted against the claims of the '128 patent teach or suggest employing a central controller connected to each distribution center “for routing digital audio data files between said distribution centers” (claim 1), including searching and instructing functions (claim 2). EX2007, Johnson Decl. ¶ 38.

None of the prior art asserted against the claims of the '128 patent teach or suggest employing “sequentially transmitting said requested digital audio files in substantially real time” using cable bandwidth to enable immediate playback. EX2007, Johnson Decl. ¶ 39.

None of the prior art asserted against the claims of the '128 patent teach or suggest employing regional recording of “the digital audio files requested by said user and said user address” for marketing/billing (claims 1 and 14). EX2007, Johnson Decl. ¶ 40.

VIII. PETITIONER IGNORES CONSTRAINTS IN THE REAL WORLD STATE OF THE ART AS OF THE 1997-1998 TIME FRAME

The '128 patent focuses on and addresses a particular problem unsolved as of 1998: how to deliver digital audio content in substantially real time to large numbers of users over existing hybrid fiber-coax cable networks, while simultaneously capturing user-specific selection data for marketing, billing, and personalized recommendations.

Prior art systems could not accomplish both real-time playback and the required inter-regional routing and tracking functions. EX2007, Johnson Decl. ¶ 20.

Petitioner relies on a patent application filed in 1996 by Cox Communications arguing that it was directed towards “providing interactive access to an information source through a television distribution system.” Ex.1008, Abstract. Petitioner contends that this was particularly intended for “providing access to the Internet through a cable television distribution system.” Ex.1008, 1:7-12. Even if the application involves “interactive access” through cable TV distribution, it does not address the specific problems solved by the invention covered by the '128 patent, namely, cross-regional orchestration, per-request library search, and routing files between independent distribution centers under centralized control for substantially real-time sequential playback. EX2007, Johnson Decl. ¶ 24.

Petitioner also relies on a combination of sources to string together VOD demos, caching papers, and regional placement concepts to imply obviousness. It is inappropriate to mix these three distinct concepts: (i) caching/replication literature (Karger); (ii) general regional placement/redundancy (Intervu), and (iii) the '128 patent's claimed use of an active central controller that performs per-request cross-region search and initiates routing between distribution centers. None of the prior art sources cited by Petitioner discloses, teaches or even suggests the '128 patent's active central controller that searches other libraries upon request and initiates file transfers

and routing between independent regional networks. EX2007, Johnson Decl. ¶ 25.

Petitioner erroneously argues that cable/satellite bandwidth made real-time delivery straightforward. However, cable bandwidth was statically allocated and real-time inter-regional routing was operationally avoided. EX2007, Johnson Decl. ¶ 21. Further, the Examiner credited lack of real-time sequential transmission as distinguishing feature not found in the prior art. EX1002 at 94, December 27, 1999 Response to Office Action.

Petitioner further argues that a POSITA would expect success combining known systems. Actually, there would not have been any expectation of success given the actual bandwidth, storage, routing constraints existing at the time. EX2007, Johnson Decl. ¶ 26, 28. Additionally, the Williams prior art was insufficient to render the '128 patent claims unpatentable because routing was not performed by a central controller. EX1002 at 119, September 11, 2000 Response to Office Action.

IX. PETITIONER MISCHARACTERIZES THE CENTRAL CONTROLLER

Petitioner relies on Dr. Lippman's overview of the '128 patent, which presents somewhat of a misleading picture. Although Dr. Lippman accurately quotes passages from the '128 patent, the context of those passages, however, is either ignored or underemphasized. For example, the control center is not passive—it actively determines location, retrieves, and routes requested files. Additionally, the Challenged claims require independent regional distribution centers coordinated by one control center.

Lastly, the claim limitation directed to “substantially real-time” is tied to high-fidelity playback enabled by cable bandwidth and sequential delivery. EX2007, Johnson Decl. ¶ 27.

Petitioner claims that Yurt’s database / dispatching software “facilitates” transfers and thus satisfies “central controller” limitation of the '128 patent claims. Petitioner is incorrect. Passive indexing or popularity-based replication is not the same or equivalent to an active central controller that searches libraries and initiates routing.

In 1997–1998, a POSITA would have understood that Yurt teaches bulk download of compressed files transmitted “in a fraction of real time” for later playback. A POSITA would not have understood Yurt as teaching or even suggesting immediate, high-fidelity playback while the file is still arriving, nor would a POSITA understand Yurt as including central controller that actively searches other regional libraries and initiates file transfers between independent distribution centers. EX2007, Johnson Decl. ¶ 29. This point is reinforced by the fact that during the prosecution of the '128 patent, applicant distinguished McCalley for lacking a controller that searches and initiates transfers. EX1002 at 97, December 27, 1999 Response to Office Action.

Dr. Lippman's component descriptions may be generally accurate (EX1003 ¶¶ 53-58), but the critical point is what Yurt does not disclose, teach or suggest. Yurt does not teach the claimed substantially real-time sequential transmission enabling immediate playback as described by the '128 patent. Notably, Yurt's “inter-library

transfers” are framed as staging/replication (e.g., popularity) not per-request centralized orchestration and routing between independent distribution centers. EX2007, Johnson Decl. ¶30.

Petitioner also argues that the inter-library transfers in Yurt render routing obvious. This is not so. Yurt’s transfers are staging/replication, not per-request routing initiated by a controller. EX2007, Johnson Decl. ¶ 30. This was confirmed during the prosecution of the '128 patent when the Williams prior art was deemed insufficient to render the '128 patent claims unpatentable because routing was not performed by a central controller. EX1002 at 119, September 11, 2000 Response to Office Action.

X. PETITIONER IMPROPERLY ATTEMPTS TO REDEFINE "SUBSTANTIALLY REAL-TIME"

Petitioner argues that Yurt’s “fraction of real time” equals “substantially real-time”. This argument is incorrect. Substantially real-time requires playback while transmission is ongoing. In contrast, Yurt teaches bulk delivery for later playback. EX2007, Johnson Decl. ¶ 33. During prosecution of the '128 patent, the Examiner required “sequential transmission in substantially real time” be incorporated into the claimed subject matter to be allowable and to overcome the prior art. EX1002 at 94 and 96, December 27, 1999 Response to Office Action and Claim 17.

XI. PETITIONER FAILS TO DEMONSTRATE THAT MOTIVATION EXISTED TO COMBINE YURT AND LOGAN

Petitioner argues that a POSITA would combine Yurt and Logan for tracking,

billing, as well as for popularity. However, logging is not the same thing as orchestration. A POSITA would have understood Logan as teaching a voicemail/personalized advertising system that stores usage logs on a central server. Logan may teach a usage log database for billing/advertising, but it does not teach the combination of : (i) multi-regional distribution centers; (ii) central controller routing between those centers, or (iii) substantially real-time sequential delivery. A POSITA would not have considered Logan as teaching regional libraries, inter-library routing, or any requirement or suggestion of real-time transmission over cable infrastructure. EX2007, Johnson Decl. ¶ 31.

A generic statement in Logan that “other communication schemes may be substituted” does not teach or suggest: (a) independent regional libraries; (b) an active central controller that searches other regions and initiates transfers; or (c) substantially real-time sequential transmission enabling immediate playback. EX2007, Johnson Decl. ¶ 32.

Petitioner fails to show any contemporaneous rationale to achieve claimed architecture of the '128 patent claims. EX2007, Johnson Decl. ¶ 34. The Examiner determined that the '128 patent claims were not unpatentable despite logging and tracking concepts found in the prior art, such as Verbiest, McCalley, and Williams.

Additionally, Petitioner contends that combining Yurt and Logan would have been “trivial,” “predictable,” without any modification required. This is contradicted by

the fact that centralized orchestration across independent regions was not trivial or expected to succeed.

A POSITA in 1998 would not have combined a bulk-download system (Yurt) with a voicemail logging system (Logan) to arrive at the multi-regional, real-time architecture encompassed by the Challenged claims of the '128 patent. Logan's generic comment about cable links and Yurt's "fraction of real time" delivery do not disclose the '128 patent's claimed architecture. The Yurt and Logan references teach systems that operate in fundamentally different contexts compared to the '128 patent. Neither Yurt nor Logan teaches the active central controller that dynamically searches and orders transfers across independent regional networks required by the claims of the '128 patent. EX2007, Johnson Decl. ¶¶ 35-36. Indeed, applicant overcame multiple "obvious" combinations asserted by the Examiner to achieve allowance of the '128 patent claims.

Even if Logan-style logging were added to Yurt, the combination still does not teach or suggest the claim-critical limitations: an active central controller that searches other distribution centers' libraries and initiates routing between distribution centers, and substantially real-time sequential transmission enabling immediate playback.

EX2007, Johnson Decl. ¶ 37.

XII. THE PROSECUTION HISTORY REBUTS PETITIONER'S OBVIOUSNESS ARGUMENT BASED ON YURT AND LOGAN

In his discussion of the '128 patent's prosecution history (EX1003 ¶¶ 43-47),

Petitioner's expert (Dr. Lippman) provides selective quotes in an attempt to dilute the significance and impact of key limitations present in the Challenged claims. Dr. Lippman, however, does not meaningfully grapple with how and why those limitations convinced the Examiner that the claims of the '128 patent were allowable over the prior art. EX2007, Johnson Decl. ¶ 41.

During examination, the claims were rejected four times based on Verbiest, Verbiest + McCalley, and Williams, each of which lacked the active central controller and/or real-time sequential transmission that demonstrate the patentable nature of the invention claimed by the '128 patent. EX2007, Johnson Decl. ¶ 42.

In the April 5, 1999 Non-Final Office Action, the Examiner rejected the pending claims as anticipated by Verbiest, which disclosed a video server with its own library connected by a “complex switching network”. Verbiest does not reflect the topology and control-plane behavior of the applicant's claims. Indeed, Verbiest does not disclose, teach or suggest the use of independent regional networks connected to one control center that searches other libraries. EX2007, Johnson Decl. ¶ 43.

In the applicant's August 16, 1999 Response, the claims were amended so as to distinguished over the prior art. Applicant argued that “neither Verbiest nor McCalley distributes files in substantially real time,” and that claimed invention included only one control center connected to independent regional networks. New claim 17 (now issued claim 1) emphasized the active central controller. EX2007, Johnson Decl. ¶ 44.

In the October 1999 Final Office Action, the Examiner asserted the McCalley prior art reference for its hierarchical local/regional operating centers. McCalley's ROC/LOC hierarchy still does not disclose the claimed central controller functionality: searching other distribution centers' libraries upon request and initiating transfers and routing between independent libraries. Applicant argued McCalley does not identify a central controller that searches libraries upon request and initiates file transfer. Further, applicant pointed out that neither Verbiest nor McCalley distributes files in substantially real time, particularly "no sequential transmission ... in substantially real time" is disclosed, taught or suggested by either reference. EX2007, Johnson Decl. ¶ 45.

In a January 2000 Advisory communication, the Examiner asserted the Williams prior art reference as an additional ground for rejection of the pending claims under §102. EX2007, Johnson Decl. ¶ 46.

In its March 20, 2000 Response, applicant distinguished the pending claims from the Williams prior art on the basis that Williams requires the requesting distribution center—not the central controller—to perform file transfers, and because it does not teach "sequential transmission ... in substantially real time." Applicant stressed that the central controller performs the file transfer—not the requesting distribution center. EX2007, Johnson Decl. ¶ 47.

Thereafter, the Examiner issued a Notice of Allowance (April 10, 2000). The sequence of amendments and arguments shows that the Examiner required the claims to

include, and ultimately accepted that the prior art did not disclose, teach or suggest the inventive and nonobvious combination of (1) a central controller actively searching and initiating file transfers across independent regional networks, and (2) substantially real-time sequential transmission. The combination of Yurt and Logan argued by the Petitioner does not disclose, teach or suggest the subject matter claimed by the '128 patent. EX2007, Johnson Decl. ¶ 48.

The prosecution history confirms the precise distinctions over the prior art that Dr. Lippman attempts to erase from the Challenged claims: (i) an active central-controller; (ii) routing/search/initiation; and (iii) substantially real-time sequential transmission and which the Examiner accepted as grounds for allowance of the '128 patent. EX2007, Johnson Decl. ¶ 49.

XIII. SUBSEQUENT INDUSTRY DEVELOPMENTS CONFIRM THE NONOBVIOUSNESS OF THE '128 PATENT CLAIMS

After 2001, major cable operators—including Comcast, Time Warner Cable, Cox, and Charter—implemented distribution systems with regional content servers managed by a national or central catalog controller. Based on my experience in the field, these architectures are substantially similar to the topology described in the '128 patent and embody the same core concepts of regional libraries coordinated by a central server. EX2007, Johnson Decl. ¶ 52.

Likewise, the user-specific logging of requested titles and addresses became foundational for modern personalized recommendation engines used in streaming

services across the industry. These developments reflect the technical direction disclosed, taught and claimed in the '128 patent. EX2007, Johnson Decl. ¶ 53.

XIV. CONCLUSION

Petitioner's obviousness arguments rely on a number of fundamental fallacies such as hindsight reconstruction and misdefining "substantially real-time". Petitioner's arguments require improperly collapsing and transforming the known concept of passive databases into the inventive use of an active central controller. The active controller was precisely one of the patentable distinctions of the '128 patent claims the Examiner recognized as grounds for allowance. Patent Owner respectfully submits that Petitioner has failed to prove invalidity of the any of the challenged claims for which the Board has instituted this *inter partes* review. Therefore, the Board should confirm the validity of the '128 patent claims that Petitioner has challenged.

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Respectfully submitted,

/s/ Anthony E. Dowell

Registration No. 39,661

DOWELL COMMERCIAL LITIGATION

101 Foundry Drive, Suite 1200

West Lafayette, Indiana 47906

(765) 280-7674

aedowell@dowellcomlit.com

ATTORNEY FOR PATENT OWNER

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Patent Owner hereby certifies that number of words in Patent Owner's Response To Petition For Inter Partes Review are 8002, this word count excludes the table of contents, table of authorities, mandatory notices under § 42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing.

CERTIFICATE OF SERVICE

I hereby certify that on January 5, 2026, I caused a true and correct copy of the foregoing materials to be served via the Patent Office electronic filing system, and electronic service via email to the following attorneys of record pursuant to Petitioner's consent:

Scott T. Jarrett
HAYNES AND BOONE, LLP
scott.jarrett.ipr@haynesboone.com

Adam C. Fowles
HAYNES AND BOONE, LLP
adam.fowles.ipr@haynesboone.com

Kalyani Joshi Yamarthy
HAYNES AND BOONE, LLP
kalyani.joshi.ipr@haynesboone.com

/s/ Anthony E. Dowell