

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**AMAZON.COM, INC.,
AMAZON.COM SERVICES LLC, and
AMAZON WEB SERVICES, INC.,**
Petitioners,

v.

AUDIO POD IP, LLC,
Patent Owner.

Case No. IPR2025-01041
U.S. Patent No. 10,735,488

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,735,488**

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Exhibit No.	Description
1001	U.S. Patent No. 10,735,488 (“the ’488 patent”)
1002	Declaration of Professor Ketan Mayer-Patel, Ph.D.
<i>Exhibit Numbers 1003-1005 Not Used</i>	
1006	Yoshimura et al., <i>Content Delivery Network Architecture for Mobile Streaming Service Enabled by SMIL Modification</i> , 86 IEICE TRANSACTIONS ON COMM’N 1778 (2003) (“Yoshimura”)
<i>Exhibit Number 1007 Not Used</i>	
1008	U.S. Patent No. 6,477,522 (“Young”)
1009	U.S. Patent Publication No. 2003/0061305 (“Copley”)
<i>Exhibit Number 1010 Not Used</i>	
1011	PCT Patent Publication No. WO2003/069437 (“Seed”)
<i>Exhibit Numbers 1012-1015 Not Used</i>	
1016	U.S. Patent Publication No. 2003/0002484 (“Freedman”)
<i>Exhibit Numbers 1017-1029 Not Used</i>	
1030	U.S. Patent No. 6,260,011 (“Heckerman”)
<i>Exhibit Number 1031 Not Used</i>	
1032	U.S. Patent No. 6,108,703 (“Leighton”)
<i>Exhibit Numbers 1033-1079 Not Used</i>	
1080	U.S. Patent Publication No. 2003/0091338 (“Snow”)
1081	Dilley et al., <i>Globally Distributed Content Delivery</i> , 6 IEEE INTERNET COMPUTING 50 (2002) (“Dilley”)

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1082	Crovella et al., <i>Dynamic Server Selection in the Internet</i> , PROC. 3 RD WORKSHOP ON HIGH PERFORMANCE SUBSYSTEMS (HPCS '95) (1995) (“Crovella”)
1083	U.S. Patent Publication No. 2001/0041062 (“Ottesen”)
1084	U.S. Patent Publication No. 2004/0052371 (“Watanabe”)
1085	U.S. Patent Publication No. 2002/0147979 (“Corson”)
1086	PCT Patent Publication No. WO2001/24474 (“Shteyn”)
<i>Exhibit Numbers 1087-1094 Not Used</i>	
1095	Excerpts from the File History for U.S. Patent No. 10,735,488
1096	CV of Professor Ketan Mayer-Patel, Ph.D.
1097	Declaration of Sylvia D. Hall-Ellis, Ph.D.

Petitioners Amazon.com, Inc., Amazon.com Services LLC, and Amazon Web Services, Inc. (“Petitioners” or “Amazon”) respectfully request *inter partes* review of claims 1-18 of U.S. Patent No. 10,735,488 (“the ’488 patent”), which Audio Pod IP, LLC (“Patent Owner” or “PO”) purportedly owns.

I. INTRODUCTION

The challenged claims relate to downloading two segments of media content from two different servers. The claims require downloading a first segment from a first server and then selecting, based on server performance statistics, a second server for downloading a second segment. But these steps were described in many references and were conventional in content distribution networks (“CDNs”) before the ’488 patent’s earliest possible priority date in December 2005. The challenged claims should be cancelled.

II. BACKGROUND AND STATE OF THE ART

A. Selecting Servers Based on Performance Statistics Was Known.

By the 1990s, CDNs were widely used to distribute content from multiple servers. (EX-1002 ¶¶33.) CDNs routed client requests to the optimal server using server performance statistics such as the time for information to travel between a server and client, packet loss, bandwidth, and/or server load. (*Id.*; EX-1081, 51; EX-1082, 1; EX-1016, Abstract, ¶¶[0030]-[0061].) This process was often handled

by domain name system (“DNS”) servers that map a request to the identified server(s). (EX-1002 ¶33; EX-1016 ¶¶[0024]-[0025]; EX-1081, 52.)

In 2002, Young disclosed routing media content requests to an optimal server based on performance statistics. (EX-1002 ¶34.) After making a request, the client obtains a list of servers having the requested content and ranks those servers based on performance statistics. (EX-1008, Abstract.) The client then downloads a portion of the content from each listed server, re-ranks the servers based on download performance, and then chooses the optimal server for downloading the remainder of the content. (*Id.*) If the chosen server’s performance drops below a threshold, the next best server is selected. (*Id.*)

Similar server-selection processes were described in Leighton (EX-1032), Copley (EX-1009, Abstract), and Seed (EX-1011 ¶[0024]), among many other references. (EX-1002 ¶35.) The ’488 patent acknowledges that automatically selecting a second server was known. (EX-1001, 10:47-54 (“This server replacement occurs in the same manner that is customarily used”).)

B. Storing Media Content in Segments Was Known.

Segmenting media content into multiple smaller segments was well known by 2005, as the ’488 patent admits. (EX-1001, 2:26-30 (“commercially released” audiobook segmented into 24 files).) Such segmentation was described in many references. (*E.g.*, EX-1080 ¶¶[0027], [0029] (file “sliced into smaller playback files”);

EX-1030, 13:14-27 (audio file divided into a “file for each sentence or paragraph”), claim 22; EX-1083 ¶¶[0043] (segmenting audio presentation), [0056]-[0057]; EX-1084 ¶[0002]; EX-1085, claim 1; EX-1086, Abstract; EX-1002 ¶36.)

For example, Yoshimura disclosed dividing original media content into segments stored on servers:

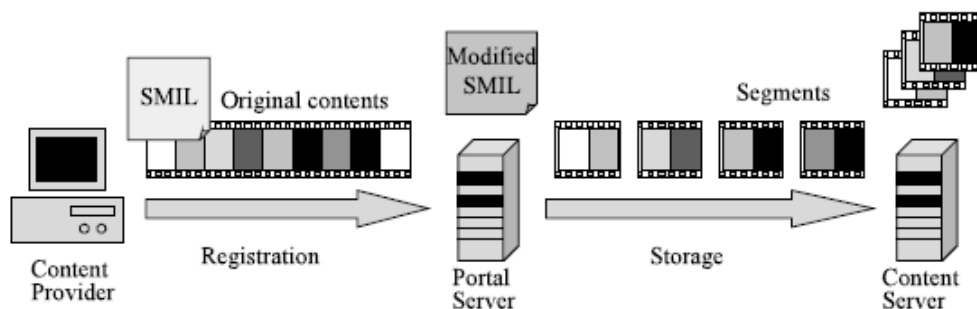


Fig. 3 Content segmentation and SMIL modification at portal server.

(EX-1006, Fig. 3; *id.*, 1781; EX-1002 ¶37.)

III. THE '488 PATENT

A. Overview

The '488 patent discloses a system for delivering digital media data. (EX-1001, Abstract.) Its purported advance is “segmenting an audio stream into a plurality of small digital audio files” that can be “transmitted, loaded, and played, in a specific order[.]” (*Id.*, 2:45-51.) The segments are stored on multiple servers. (*Id.*, 16:11-21.) A client can download a server list and select a “primary server.” (*Id.*, 10:21-25.) If that server encounters performance issues or fails, the client selects

another server. (*Id.*, 9:58-10:27, 10:47-56.) The '488 patent admits that (i) segmenting media content was known (*id.*, 2:26-30), and (ii) “server replacement” was known (*id.*, 10:47-54). (EX-1002 ¶38.)

B. Claims

Claims 1-18 are challenged in this Petition. Claims 1 and 10 are independent.

Claim 1 is representative and recites:

A method of downloading digital content to be rendered, comprising:

- [a] downloading from a network accessible server to a client device a list of content servers that are capable of serving requested digital content;
- [b] tracking service level statistics for the content servers in the list of content servers;
- [c] selecting a first content server to serve the requested digital content from the list of content servers in dependence upon the service level statistics;
- [d] downloading a first segment of the requested digital content from the first content server to the client device for rendering;
- [e] in the event of a degradation in service from the first content server, selecting a second content server to replace the first content server in serving the requested digital content from the list of content servers in dependence upon the service level statistics, wherein the server replacement is imperceptible to a user of the client device; and
- [f] downloading a second segment of the requested digital content from the second content server to the client device for rendering;
- [g] wherein the requested digital content is a digital media stream that includes the first and second segments, wherein the first content server is a first library server having the digital media stream stored thereon, and

wherein the second content server is a second library server having a copy of the digital media stream stored thereon.

C. Prosecution

During prosecution, the applicant distinguished the prior art on limitations requiring that the “requested digital content” be a “digital media stream that includes” segments and the claimed content servers both having a copy of the media stream. (EX-1095, 86-92.) Although these limitations were well known, the Examiner allowed the claims. (*Id.*, 49-53.)

D. Priority

The '488 patent's earliest possible priority date is December 13, 2005. (EX-1001, 1-2.) Petitioners do not concede that the claims are entitled to that priority date.

IV. LEVEL OF ORDINARY SKILL IN THE ART

A POSITA is “a person of ordinary creativity, not an automaton.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). Here, a POSITA would have had at least a bachelor's degree in electrical engineering, computer engineering, or computer science, and at least three years of industry or academic experience in the design, development, and/or implementation of content rendering and/or distribution systems. (EX-1002 ¶¶27-31); *see In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Work experience could substitute for formal education and additional formal education could substitute for work experience. (EX-1002 ¶29.)

V. CLAIM CONSTRUCTION

No claim terms require construction to resolve the obviousness challenges here. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). For purposes of this proceeding only, Petitioners assume the claims are not invalid under §112.

VI. STATEMENT OF PRECISE RELIEF REQUESTED

A. Grounds

The Board should cancel the claims as obvious under §103 on the following Grounds:

Ground	Challenged Claims	References
1A	1-3, 5-12, 14-18	Young
1B	1-3, 5-12, 14-18	Young and Yoshimura
1C	2, 4, 11, 13	Ground 1A or 1B and Freedman
2A	1, 4-10, 13-18	Leighton
2B	1, 4-10, 13-18	Leighton and Seed
2C	2-4, 11-13	Ground 2A or 2B and Freedman

Additional support is included in the Declaration of Professor Ketan Mayer-Patel, Ph.D. (EX-1002.)

B. Status of References as Prior Art

Each following reference is prior art under pre-AIA §102(b) because it published more than one year before the '488 patent's earliest possible priority date of December 13, 2005:

Reference	Publication Date	Exhibit
Young	November 5, 2002	EX-1008
Leighton	August 22, 2000	EX-1032
Yoshimura	September, 2003	EX-1006; <i>see</i> EX-1097
Seed	August 21, 2003	EX-1011
Freedman	January 2, 2003	EX-1016

The references are analogous art because each is from the same field of endeavor as the '488 patent, e.g., content distribution and/or rendering. (EX-1002 ¶22); *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000 (Fed. Cir. 2016). They are also pertinent to a particular problem the inventor was focused on, e.g., efficient and effective distribution and/or rendering of content. (*Id.*)

VII. GROUND 1A: CLAIMS 1-3, 5-12, AND 14-18 WOULD HAVE BEEN OBVIOUS IN VIEW OF YOUNG.

Young discloses a CDN that tracks server performance and routes media content requests to an optimal server. (EX-1002 ¶41.) In response to a client request

for a media file, Young’s client obtains a list of servers that host the requested content. (EX-1008, Abstract.) The client performs a series of steps relating to server selection and downloads.

First, the client pings each server on the list and prioritizes them based on performance (e.g., latency). (*Id.*) The client then downloads a portion of the file from the highest priority server, a portion from the second highest priority server, and so on until it has received a portion from every server in the list. (*Id.*, 2:3-15.) The downloaded portions comprise either the same portion of the file from each server or “consecutive or contiguous portions of the file” from each server. (*Id.*; *see also id.*, 4:39-57.) Those steps are referred to herein as the “First Stage” for ease of reference.

Having monitored each server’s throughput during the First Stage, the client selects the best server to complete the download in steps referred to herein as the “Second Stage.” (*Id.*, Abstract.) If that server’s performance drops below a threshold, the client selects the next best server based on the previously obtained statistics. (*Id.*)

An overview of Young’s process is shown in Figure 2:

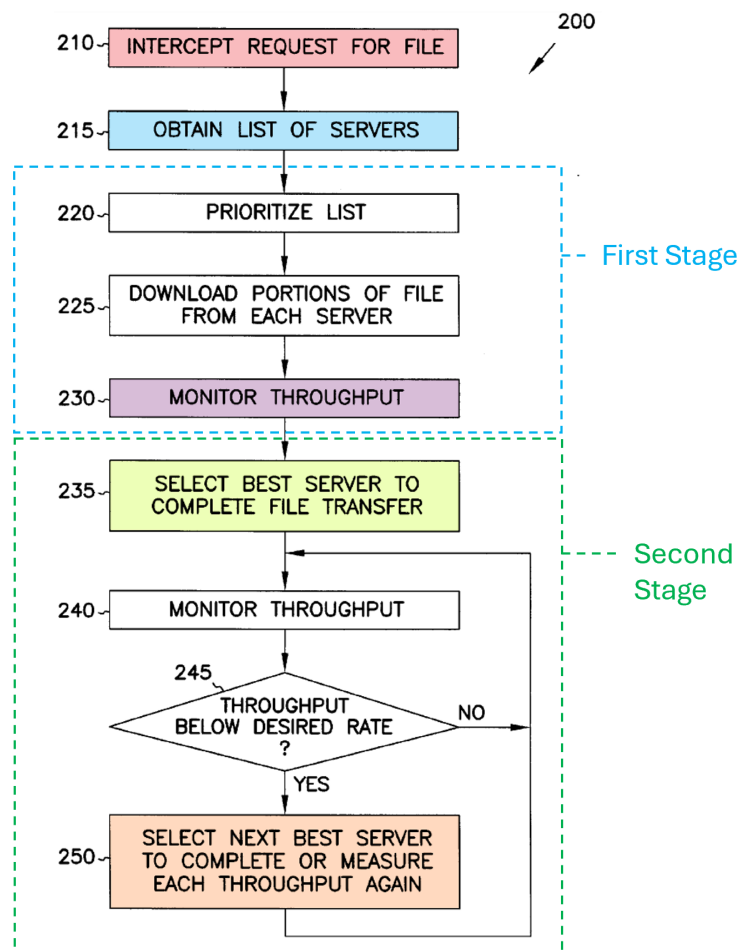


FIG. 2

(EX-1008, Fig. 2¹; EX-1002 ¶¶41-43.)

A. Claim 1

1. Preamble

The preamble recites “[a] method of downloading digital content to be rendered.”

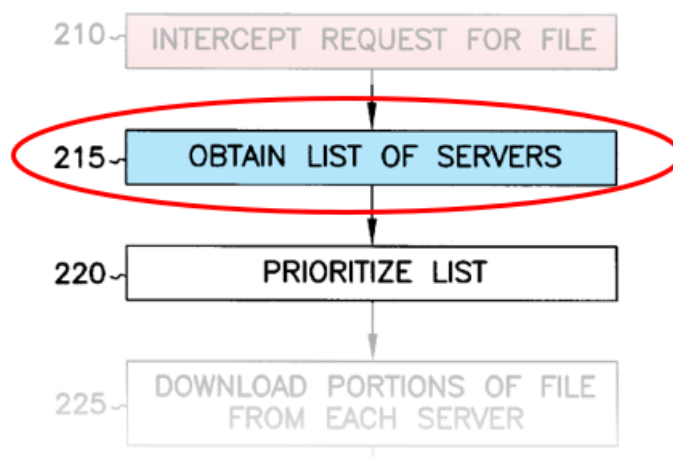
¹ Figures herein may be colored and/or annotated for clarity.

Young discloses a method for downloading digital media files for display including routing media content requests to an optimal server based on performance statistics. (EX-1008, Abstract, 3:66-4:5; EX-1002 ¶44.) Accordingly, Young discloses the preamble. (*Id.*)

2. Element 1[a]: Downloading a List of Content Servers

Element 1[a] recites “downloading from a network accessible server to a client device a list of content servers that are capable of serving requested digital content.”

Young’s client computer contains software for accessing media content and an “applet” that identifies servers containing the requested content. (EX-1008, 3:66-4:38; EX-1002 ¶46.) Young’s applet obtains a list of content servers capable of serving the requested content, as shown at step 215:



(EX-1008, Fig. 2 (excerpt); *id.*, 4:16-21 (applet may “automatically” “obtain a list of servers”), 4:28-30 (applet “obtains the list of possible servers”), 3:66-4:5, 1:66-

2:3, claim 7 (“obtains a list of servers having a copy of [the] desired file”); EX-1002 ¶46.) The list is downloaded from the network accessible server. (EX-1008, 2:1-3 (list “may be hidden text in an hypertext markup language (HTML) page, or may actually be provided by a link on a server”), 4:28-30 (list obtained “from the server identified by the initial link”); EX-1002 ¶46.)

Accordingly, Young discloses or renders obvious downloading from a network accessible server (e.g., server identified by initial link) to a client device a list of content servers that are capable of serving requested digital content (e.g., a list of servers that contain the desired content). (EX-1002 ¶¶45-47.)

3. Element 1[b]: Tracking Service Level Statistics

Element 1[b] recites “tracking service level statistics for the content servers in the list of content servers.”

Young discloses or renders obvious tracking such statistics. (EX-1002 ¶¶48-52.) Young prioritizes the list of servers (step 220) by measuring the latency (response time) of each server. (EX-1008, 4:31-38, Fig. 2.) Latency is measured by sending a “ping” to each server on the list and “keeping track of the amount of time for each server to respond.” (*Id.*) Young then downloads a portion of the requested file from each server in the list (step 225) and measures the throughput of each server during the download (step 230). (*Id.*, 4:39-57, 2:5-13, Fig. 2.) Each server’s ping is used to improve the measured throughput’s accuracy and “obtain a better indication

of true bit rate.” (*Id.*, 4:41-45.) Young then selects the best server to download the rest of the requested file (step 235). (*Id.*, 4:54-57, 2:5-13, Fig. 2; EX-1002 ¶49.)

Young continues to track the selected server’s throughput (step 240) and determines a “desired [throughput] rate” for it. (EX-1008, 4:58-5:3; EX-1002 ¶50.) The desired rate is a minimum threshold for server performance and is a percentage of the server’s throughput (determined at step 230). (EX-1008, 5:1-6.) If the throughput of the selected server falls below the desired rate (step 245), a second server (as determined from steps 225-235) is selected (step 250). (*Id.*, 4:60-62, 2:16-22.) The download continues using the second server as its throughput is monitored. (*Id.*, 4:60-65.)

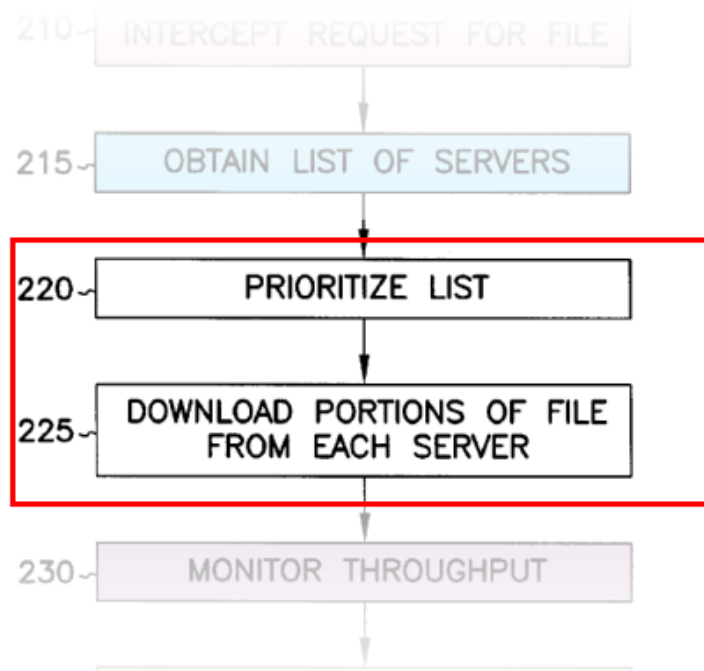
The service level statistics (e.g., ping/latency, throughput, and bit rate) of each server are tracked by the applet. For example, ping is tracked to provide the preliminary ranking and further to obtain a “better indication of true bit rate.” (EX-1008, 4:41-45; EX-1002 ¶51.) Additionally, throughput and bit rate are tracked to rank servers, calculate the “desired rate” for selected servers, and select the next best server if necessary. (EX-1008, 4:40-57, 5:1-9.)

Young therefore discloses or renders obvious tracking service level statistics (e.g., ping, throughput, and/or bit rate) for the content servers in the list of content servers. (EX-1002 ¶¶48-52.)

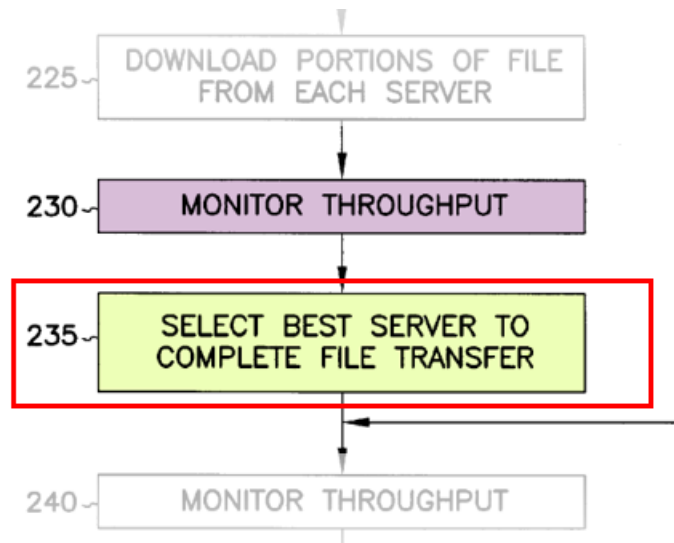
4. Element 1[c]: Selecting a First Content Server

Element 1[c] recites “selecting a first content server to serve the requested digital content from the list of content servers in dependence upon the service level statistics.”

Young discloses this limitation. First, Young prioritizes the servers on the list using service level statistics (e.g., ping) and downloads a portion of the requested file from each server on the list starting with the “highest priority server” (step 225):



(EX-1008, Fig. 2 (excerpt), 4:39-40, 2:10-13, 5:10-19, 4:31-38, claim 11; EX-1002 ¶54.) Next, Young selects the “best server” for downloading the rest of the requested file (step 235):



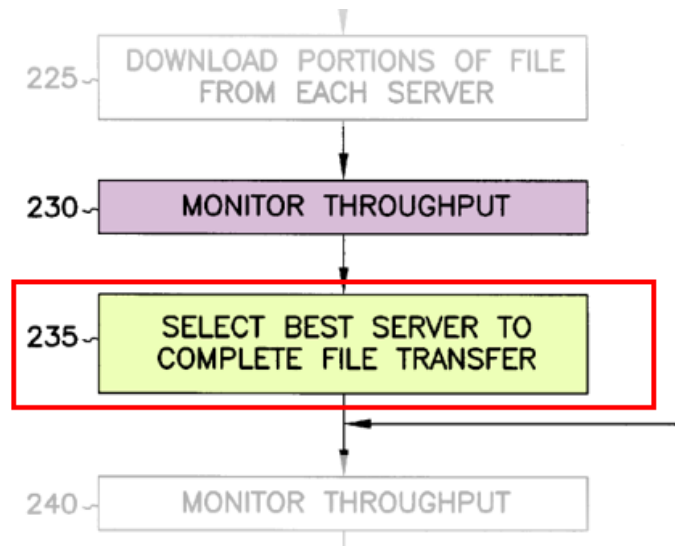
(EX-1008, Fig. 2 (excerpt), 4:54-57 (the “highest throughput server which is selected as the optimal server”), 5:10-19, claim 11 (“selecting an optimal server”); EX-1002 ¶54.) This server is selected based on the service level statistics, e.g., throughput, ping, and bit rate. (*Id.*; EX-1008, 4:39-57 (tracking service level statistics and selecting “the optimal server” based on the statistics); *supra* §VII.A.3; EX-1002 ¶54.)

Thus, Young discloses selecting a first content server (“best server” at step 235) to serve the requested digital content from the list of content servers in dependence upon the service level statistics (e.g., ping, throughput, and/or bit rate). (EX-1002 ¶¶53-55.)

5. Element 1[d]: Downloading a First Segment

Element 1[d] recites “downloading a first segment of the requested digital content from the first content server to the client device for rendering.” Young discloses this limitation in two ways. (EX-1002 ¶¶56-60.)

First, Young discloses downloading, in the Second Stage, a portion of the multimedia file from the first server, i.e., the “server which is selected as the optimal server.” (EX-1008, 4:54-57, 5:10-28, claim 11 (download desired file); *supra* §VII.A.4; EX-1002 ¶57.)



(EX-1008, Fig. 2 (excerpt).)

Second, Young also discloses downloading, in the First Stage, a portion of the requested media from each of the servers on the list. (EX-1008, Fig. 2 (step 225), 4:39-46; *supra* §§VII.A.3-VII.A.4; EX-1002 ¶58.)

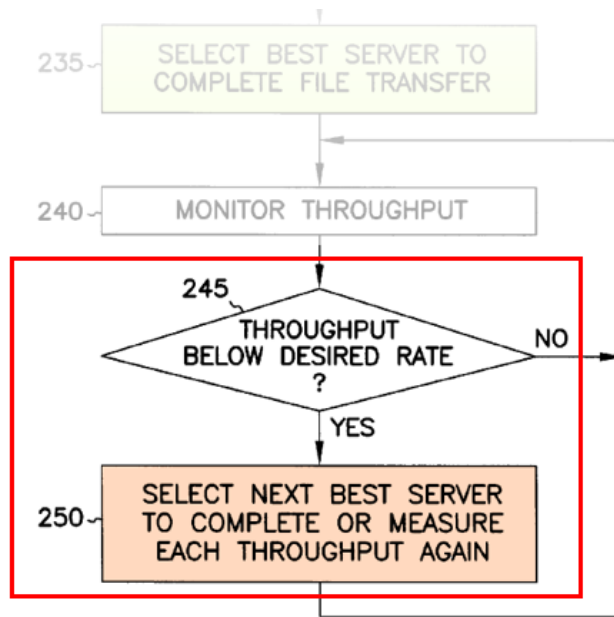
In either case, the downloaded segments are displayed on Young’s client. (*See* EX-1008, 3:66-4:5 (PC with “common browser application which is used to access and *properly display* information stored on a network” that “contains multimedia data[.]” (emphasis added)), 4:5-67; EX-1002 ¶59.)

Accordingly, Young discloses or renders obvious downloading a first segment of the requested digital content (the portion downloaded at step 235 or step 225) from the first content server (optimal or best server selected at step 235) to the client device for rendering (e.g., display). (EX-1002 ¶¶56-60.)

6. Element 1[e]: Selecting a Second Server

Element 1[e] recites “in the event of a degradation in service from the first content server, selecting a second content server to replace the first content server in serving the requested digital content from the list of content servers in dependence upon the service level statistics, wherein the server replacement is imperceptible to a user of the client device.”

Young discloses that, “[i]f the performance [of the optimal server] falls below a desired rate ..., a different server may be selected.” (EX-1008, 4:60-65; *id.*, claims 7 (“monitoring the throughput of the selected optimal server and selecting a new optimal server if the throughput falls below a desired level”), 11, 20.) The second server may be the “next server on the previously generated performance ranked list” or “the performance of each server may be redetermined.” (*Id.*) Thus, this second server is selected based on the tracked service level statistics (e.g., ping, throughput, bit rate, and/or a percentage of the throughput). (*Id.*, 4:58-62, 5:1-6; *supra* §VII.A.3; EX-1002 ¶62.) The selection of the second server, based on service degradation, is shown in Figure 2:



(EX-1008, Fig. 2 (excerpt); EX-1002 ¶62.)

A POSITA would have understood that the server replacement is imperceptible to a user of the client device because the server replacement process is automated and designed to optimize download speed for purposes of achieving an uninterrupted rendering to a client. (EX-1008, 5:33-38; EX-1002 ¶63.) Indeed, the '488 patent admits that the claimed “imperceptible” server replacement was “customarily used” in the industry. (EX-1001, 10:47-54 (“This server replacement occurs in the same manner that is customarily used That is, the transaction is retried following the server replacement process without the upper levels of client software logic or the user becoming aware that it has occurred.”).)

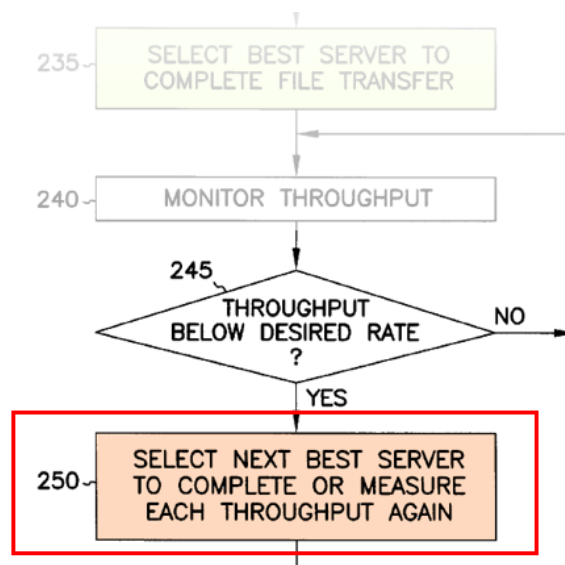
Thus, Young discloses or renders obvious, in the event of a degradation in service from the first content server (e.g., performance of the optimal server falling

below a desired rate), selecting a second content server to replace the first content server in serving the requested digital content from the list of content servers (e.g., selecting the next best server in the performance ranked list or as determined by measuring server performance again) in dependence upon the service level statistics (e.g., ping, throughput, bit rate, and/or percentage of throughput), wherein the server replacement is imperceptible to a user of the client device. (EX-1002 ¶¶61-64.)

7. Element 1[f]: Downloading a Second Segment

Element 1[f] recites “downloading a second segment of the requested digital content from the second content server to the client device for rendering.” Young discloses or renders obvious this limitation in two ways. (EX-1002 ¶¶65-69.)

First, Young discloses that, after selecting a second server (“next best server” in step 250 of Figure 2), the client downloads the remaining segments of the multimedia content from that server:



(EX-1008, Fig. 2 (excerpt); *id.*, 4:60-5:6, 5:10-28; EX-1002 ¶¶66.)

Second, Young discloses downloading, in the First Stage, a second segment (“portion”) of the requested content from the second server. (EX-1008, 4:45-57, Fig. 2 (step 225).) For example, Young’s first, and likely fastest, server would download a first segment of the content in the First Stage. (*Id.*; *see also id.*, 4:31-38 (disclosing prioritizing servers before downloading portions in step 225); EX-1002 ¶¶67.) The later ranked servers would all download subsequent portions of the content (e.g., the second prioritized server would download a portion, the third prioritized server would download a portion, and so on). (*Id.*) The first server would then be selected in the Second Stage (step 235) to continue the download of the requested content. (*Supra* §VII.A.4; EX-1002 ¶¶67.) If the first server experienced a sufficient degradation in service, one of the later-prioritized servers would then continue the download. (*Supra* §VII.A.6; EX-1002 ¶¶67.) That later-prioritized server would have already downloaded a second segment of the requested content in the First Stage (step 225). (EX-1002 ¶¶67.)

The downloaded segments (portions) are then rendered on Young’s client PC. (*Supra* §VII.A.5; EX-1002 ¶¶68.) Young therefore discloses or renders obvious this limitation. (EX-1002 ¶¶65-69.)

8. Element 1[g][i]: Digital Media Stream Including First and Second Segments

Element 1[g][i] recites “wherein the requested digital content is a digital media stream that includes the first and second segments.”

Young discloses downloading requested “information” containing “multimedia data” via a network (e.g., the Internet). (EX-1008, 3:66-4:10.) Young further discloses downloading different segments of a requested multimedia data from different servers. (*Id.*, Abstract, 1:59-63, 4:51-57, 4:58-5:9, 5:19-21, Fig. 2 (step 225 (“download portions of file from each server”)); *supra* §§VII.A.5, VII.A.7; EX-1002 ¶¶71.) A POSITA would have understood Young’s “multimedia data” to include a media stream with multiple segments. (*Id.*)

Thus, Young discloses or renders obvious requested digital content that is a digital media stream (e.g., requested information comprising multimedia data) that includes the first and second segments (e.g., first and second portions). (EX-1002 ¶¶70-72.)

9. Element 1[g][ii]: First Library Server

Element 1[g][ii] recites “wherein the first content server is a first library server having the digital media stream stored thereon.”

Young discloses that the servers on the performance ranked list store content including the requested content (e.g., digital media stream) (*supra* §§VII.A.2,

VII.A.8) and that the client computer can download the requested content from them (*supra* §§VII.A.5, VII.A.7). Accordingly, a POSITA would have understood Young’s servers to be library servers. (EX-1002 ¶¶74.) Young therefore discloses or renders obvious this limitation. (*Id.* ¶¶73-74.)

10. Element 1[g][iii]: Second Library Server

Element 1[g][iii] recites “wherein the second content server is a second library server having a copy of the digital media stream stored thereon.”

Young discloses that each server in the performance ranked list, and therefore the second server in the list, stores a copy of the requested digital media stream. (*Supra* §VII.A.9; EX-1002 ¶¶75-76.) Thus, Young discloses or renders obvious this limitation for the reasons discussed above. (*Id.*)

B. Claim 2

Claim 2 depends from claim 1 and further recites “wherein the service level statistics include operational service levels.”

Young discloses tracking service level statistics relating to the operation of each server including latency, throughput, and bit rate. (*Supra* §VII.A.3; *see also* EX-1008, Abstract (tracking statistics “as the file is downloaded”), 2:5-18, 4:39-54, claims 1, 4-7, 11; EX-1002 ¶¶79.) A POSITA would have understood these as operational service level statistics. (EX-1002 ¶¶79.) Thus, Young discloses or renders obvious this limitation. (*Id.* ¶¶78-81.)

C. Claim 3

Claim 3 depends from claim 1 and further recites “wherein the service level statistics include data throughput levels.”

Young discloses tracking “throughput measurements.” (*Supra* §VII.A.3; *see also* EX-1008, Abstract, 5:1-9, claims 1, 4, 5, 7, 11, 15, 16, 20-22; EX-1002 ¶83.) Thus, Young discloses or renders obvious this limitation. (EX-1002 ¶¶82-84.)

D. Claim 5

Claim 5 depends from claim 1 and further recites “wherein the service level statistics are updated during the downloading of the first segment.”

Young discloses this limitation in two ways.

First, while “a first portion of the file” is downloaded from a server, “[t]he throughput of such server is tracked [], such as by a bits per second indication.” (EX-1008, 4:39-67; *see also id.*, claims 7 (“monitoring the throughput of the selected optimal server”), 11, 20, 21 (“monitoring the throughput as the selected optimal server downloads the rest of the file”); *supra* §VII.A.3; EX-1002 ¶86.) A POSITA would have understood that Young’s throughput is updated during the downloading of the first segment in the First Stage. (*Id.*)

Second, during the Second Stage, Young discloses monitoring (and therefore updating) the performance of the optimal server. (*Id.*) To the extent the segment downloaded by the optimal server in the Second Stage comprises the “first segment,”

this limitation is also disclosed in the Second Stage alone, or in combination with the First Stage. (*Id.*)

Thus, Young discloses or renders obvious this limitation. (EX-1002 ¶¶85-87.)

E. Claim 6

1. Element 6[a]: Rendering Segments

Claim 6 depends from claim 1. Element 6[a] recites “further comprising successively rendering the first and second segments on the client device without reconstructing the digital content.”

As discussed above, Young discloses or renders obvious downloading first and second segments to a client device (e.g., computer) for rendering. (*Supra* §§VII.A.1, VII.A.5, VII.A.7; EX-1002 ¶89.) The segments are accessed using a conventional computer with “a common browser application which is used to access and properly display information” such as “multimedia data.” (EX-1008, 3:66-4:7; EX-1002 ¶89.) Thus, a POSITA would have understood that the first and second segments may be rendered on the client device (e.g., computer) in the web browser. (EX-1002 ¶89.)

Young further discloses downloading consecutive segments of content by downloading a first segment from a first server and selecting a second server for “continuation of the transmission” (e.g., for downloading a second segment).

(EX-1008, 4:58-67; *see also supra* §§VII.A.5, VII.A.7.) At least because Young never discloses reconstructing the digital content, a POSITA would have understood that the first and second segments may be rendered on Young’s client without reconstructing the content. (EX-1002 ¶¶90.)

Accordingly, Young discloses or renders this limitation obvious. (*Id.* ¶¶88-91.)

2. Element 6[b]: No Interruption in Rendering

Element 6[b] recites “wherein the server replacement does not cause an interruption in the successive rendering of the first and second segments.”

The ’488 patent admits that this limitation was known. (EX-1001, 10:47-54 (“This server replacement occurs in the same manner that is customarily used That is, ... without the upper levels of client software logic or the user becoming aware that it has occurred.”).)

Young discloses or renders obvious that the server replacement does not cause an interruption in the successive rendering of the first and second segments for the reasons explained above regarding the server replacement being imperceptible. (*Supra* §VII.A.6; EX-1002 ¶¶92-94.) Young therefore discloses or renders obvious every limitation of claim 6. (EX-1002 ¶¶88-95.)

F. Claim 7

Claim 7 depends from claim 1 and further recites “wherein the first content server consists of one or more server devices.”

Young discloses a “highest priority server” from which a portion of a file is downloaded. (*Supra* §VII.A.4; EX-1002 ¶¶97.) Thus, Young discloses a first content server consisting of one or more server devices. (EX-1008, 1:16-22 (“several computers, referred to as servers”); EX-1002 ¶¶97.) Young therefore discloses this limitation. (EX-1002 ¶¶96-98.)

G. Claim 8

Claim 8 depends from claim 1 and further recites “further comprising tracking service level statistics related to a connection established between the client device and the first content server.”

Young’s service level statistics (e.g., ping/latency, throughput, and bit rate) relate to a connection established between the client device and the content server. (*Supra* §§VII.A.3-VII.A.4, VII.A.6; EX-1002 ¶¶100.) And, after selecting an optimal server as the first content server (*see supra* §VII.A.4), Young’s applet continues to track service level statistics related to the connection between the client device and the optimal server to detect when performance falls below a desired rate and to reprioritize the servers. (EX-1008, 4:58-67 (“The throughput may further be monitored at 240 from the optimal server because performance may change over time[.]”),

5:1-11; *see also supra* §§VII.A.3, VII.A.6; EX-1002 ¶100.) Thus, Young discloses this limitation. (EX-1002 ¶¶99-101.)

H. Claim 9

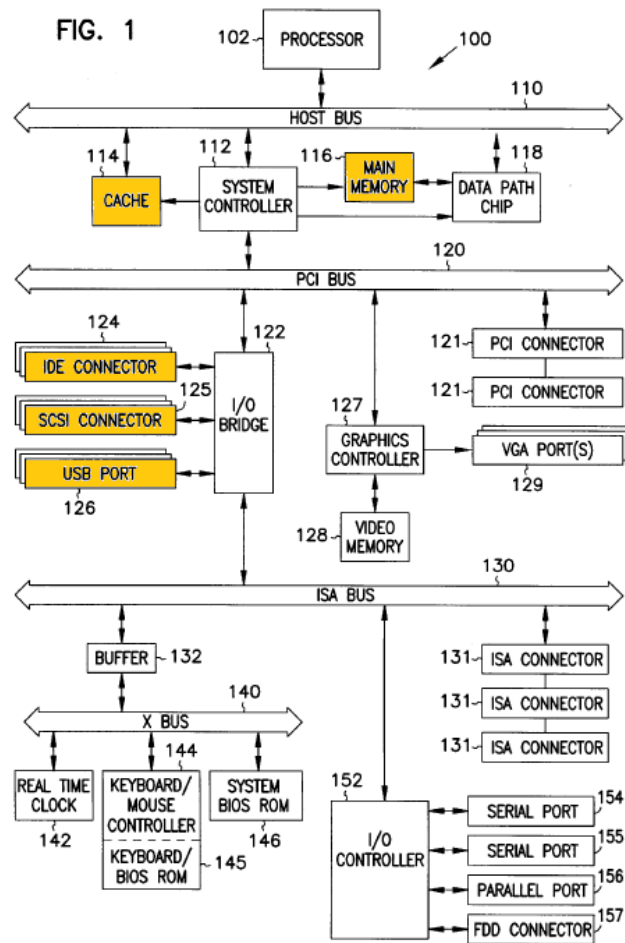
Claim 9 depends from claim 1 and further recites “wherein the requested digital content includes audio content, audio/video content, video content, text content, static image content, moving image content, user-entered content, advertising content, or a combination thereof.”

Young’s requested digital content comprises “multimedia data,” which a POSITA would have understood to include audio content, audio/video content, video content, text content, static image content, and/or moving image content. (EX-1008, 3:66-4:7; EX-1002 ¶103.) Accordingly, Young discloses or renders this limitation obvious. (EX-1002 ¶¶102-04.)

I. Claim 10

Claim 10 recites “[a] non-transitory computer-readable storage medium having stored thereon instructions which, when executed by a processor of a computing device, cause the computing device to” perform the steps of claim 1.

Young discloses a “personal computer system” including an applet “stored on computer readable medium such as cache 114, main memory 116 or disk drives which are coupled to IDE connector 124, SCSI connector 125 or USB port 126”, as depicted in Figure 1:



(EX-1008, Fig. 1, 2:54-55, 5:29-41.) Young’s personal computer system including the applet comprises a “non-transitory computer readable storage medium” that includes instructions for performing the steps described in claim 10. (*Id.*, 2:48-53, 3:66-5:44, claims 20-22, 24; EX-1002 ¶106.) Thus, Young discloses the preamble. (*Id.*)

After the preamble, claim 10 merely recites the same limitations as claim 1. (EX-1002 ¶107.) Young discloses or renders obvious each of those limitations and thus renders obvious claim 10. (*Supra* §VII.A; EX-1002 ¶¶105-08.)

J. Claims 11-12 and 14-18

Claims 11-12 and 14-18 depend from claim 10 and recite the same limitations as claims 2-3 and 5-9, respectively. Accordingly, claims 11-12 and 14-18 would have been obvious in view of Young for the reasons discussed above. (*Supra* §§VII.B-VII.H; EX-1002 ¶109.)

VIII. GROUND 1B: CLAIMS 1-3, 5-12, AND 14-18 WOULD HAVE BEEN OBVIOUS IN VIEW OF YOUNG AND YOSHIMURA.

As discussed above, Young renders obvious claims 1-3, 5-12, and 14-18. (*Supra* §VII.) These claims would also have been obvious in further view of Yoshimura. (EX-1002 ¶¶110-30.) Petitioners incorporate the discussion of Young from Ground 1A here, and discuss below only the limitations for which Yoshimura is relevant.

Yoshimura discloses a content delivery network (“CDN”) with a plurality of servers where different segments of a media stream can be downloaded from different servers. (EX-1006, 1779-80, Fig. 1; EX-1002 ¶110.) Yoshimura’s servers are selected and change based on changing conditions (e.g., when a mobile client moves to a different location, a new “best” server may be selected to continue the download). (*Id.*)

A. Claim 1

1. Elements 1[d], 1[f], and 1[g][i]

To the extent PO argues that claim 1 requires the content to be stored on the server in pre-defined “segments” and that Young does not disclose doing so, it would have been obvious to store Young’s content as a plurality of segments in view of Yoshimura. (EX-1002 ¶¶111-17.)

Yoshimura discloses a CDN that divides digital media content streams into multiple digital files, with each file containing a segment of the content:

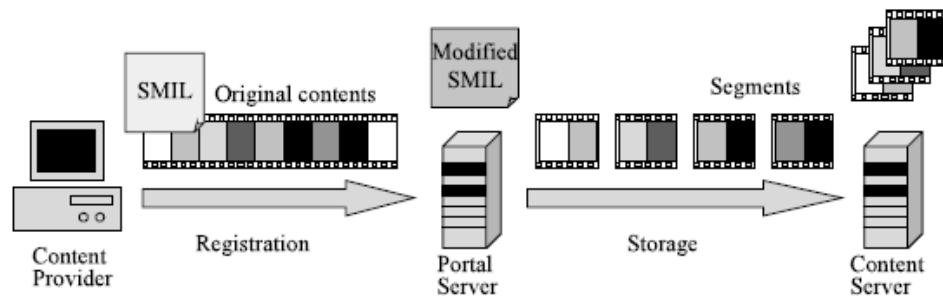


Fig. 3 Content segmentation and SMIL modification at portal server.

(EX-1006, Fig. 3; *id.*, 1780.) Yoshimura provides an example in which an audio file “content-A.mp4” is segmented and stored as three audio files (“content-A-{1,2,3}.mp4”). (*Id.*, 1780-81; EX-1002 ¶112.) The segmented audio files are provided to the content servers. (EX-1006, 1780, Fig. 3; EX-1002 ¶112.)

A POSITA would have been motivated to segment the media content in Young’s system, and to store the segmented media stream on the servers as a plurality of audio files as taught by Yoshimura, for many reasons. (EX-1002 ¶¶113-17.)

First, Yoshimura teaches that “dividing content into several segments ... leads to efficient cache memory and network resource utilization.” (EX-1006, 1780.) A POSITA would have been motivated to segment the multimedia content described in Young to achieve these benefits. (EX-1002 ¶114.)

Second, Young recognizes that download “performance may change over time for very large files.” (EX-1008, 4:59-60.) Yoshimura explains that content segmentation is “effective especially for large streaming content.” (EX-1006, 1780.) Thus, a POSITA would have been motivated to segment Young’s media files, especially larger ones, to reduce download times and reduce the likelihood that the selected server’s performance decreases during such downloads. (EX-1002 ¶115.)

Third, segmenting media content was widely known and supported, as the ’488 patent admits. (*Supra* §II.B; EX-1002 ¶116.) Accordingly, storing Young’s media stream as multiple segments represents the simple substitution of one known element (audio content stored as multiple segments) for another (one large, unsegmented file) to obtain predictable results (more efficient storage and faster content delivery). (EX-1002 ¶116); *KSR*, 550 U.S. at 417. This combination uses a known technique (storing media stream as segments) to improve a similar device and method (Young’s multimedia CDN) in the same way. (*Id.*) Similarly, this combination applies a known technique (storing segmented media content) to a known

device and method (Young’s CDN) that is ready for improvements and yields predictable results. (*Id.*)

Because content segmentation was well known and widely used (*supra* §II.B), a POSITA would have reasonably expected success in segmenting Young’s media stream (as taught by Yoshimura). (EX-1002 ¶117.)

2. Element 1[e]

Element 1[e] recites that “the server replacement is imperceptible to a user of the client device.” This limitation was known in the art and would have been obvious over Young. (*Supra* §VII.A.6.) It also would have been obvious in view of Yoshimura.

Yoshimura teaches that the purpose of segmenting media files is to allow for the playback of the segments “seamlessly.” (EX-1006, 1785.) Particularly in view of this teaching, a POSITA would have been motivated to implement Young’s CDN, with segmented media streams as taught by Yoshimura, such that the downloading of content and replacement of servers “is imperceptible to a user” and provides for “seamless” rendering. (EX-1002 ¶119.)

Thus, Young and Yoshimura together disclose, or at least render obvious, every limitation of claim 1, and the claim as a whole would have been obvious. (*Id.* ¶¶111-21.)

B. Claim 6

1. Element 6[a]: Rendering Segments

Claim 6 depends from claim 1. Element 6[a] recites “further comprising successively rendering the first and second segments on the client device without reconstructing the digital content.”

As discussed above for claim 1, it would have been obvious to store Young’s digital content as a plurality of segments. (*Supra* §VIII.A.1.)

Yoshimura further discloses downloading and successively rendering segments of media content individually without reconstructing the media content. (EX-1006, 1785 (dividing media content into “four segments” and “receiv[ing] and play[ing] back the subsequent segments seamlessly”); *see also id.*, 1779 (“streaming segments are scheduled to be pre-fetched just before clients request the segment”), 1780 (client can determine “which segments are the next to the segments currently served”); EX-1002 ¶124.) Thus, a POSITA would have understood that each segment is rendered without reconstructing the media content. (EX-1002 ¶124.) Rather, each individual file is downloaded and rendered on its own. (*Id.*) Accordingly, this limitation would have been obvious in view of Young and Yoshimura. (*Id.* ¶¶122-25.)

2. Element 6[b]: No Interruption in Rendering

Element 6[b] recites “wherein the server replacement does not cause an interruption in the successive rendering of the first and second segments.” The ’488 patent admits this was known, and Young discloses or renders this limitation obvious for the reasons discussed above. (*Supra* §§VII.A.6, VII.E.2.) Moreover, Yoshimura teaches that the purpose of segmenting media files is to allow for the playback of the segments “seamlessly.” (EX-1006, 1785.) Particularly in view of this teaching, a POSITA would have been motivated to implement Young’s CDN, with segmented media streams as taught by Yoshimura, such that the downloading of content and replacement of servers “does not cause an interruption in the successive rendering” of the media segments, but instead provides for “seamless” rendering. (EX-1002 ¶127.)

Thus, Young and Yoshimura render claim 6 obvious. (EX-1002 ¶¶122-29.)

C. Claim 10

Claim 10, which also recites downloading segments from different servers, would have been obvious in view of Young and Yoshimura for the reasons described above for claim 1. (*Supra* §§VII.A, VIII.A; EX-1002 ¶130.)

D. Claim 15

Claim 15 depends from claim 10 and recites the same limitations as claim 6. Accordingly, claim 15 would have been obvious in view of Young and Yoshimura for the reasons discussed above. (*Supra* §VIII.B.)

IX. GROUND 1C: CLAIMS 2, 4, 11, AND 13 WOULD HAVE BEEN OBVIOUS IN VIEW OF YOUNG, FREEDMAN, AND OPTIONALLY YOSHIMURA.

As discussed above, claims 1 and 10 would have been obvious in view of Young alone (Ground 1A) and in combination with Yoshimura (Ground 1B). (*Supra* §§VII-VIII.) Claims 2, 4, 11, and 13, which depend from claims 1 or 10, would have been obvious in further view of Freedman. (EX-1002 ¶¶131-43.)

A. Claims 2 and 11

Claim 2 depends from claim 1 and further recites “wherein the service level statistics include operational service levels.” Claim 11 depends from claim 10 and recites the same limitation.

Freedman discloses a CDN that collects performance statistics related to the “quality of service” of client-server connections and routes client requests to servers that are selected based on the performance statistics. (EX-1016, Abstract, ¶¶[0009]-[0013]; EX-1002 ¶133.) Freedman tracks a wide range of statistics including “the number of bytes transmitted, the duration of connection (including the duration of each phase of the connection), loss seen in the connection, latency between client

and server as measured and used, variance in latency ..., the maximum/average measurements of the size of the network connection between the client and server, [and] overall and instantaneous throughput,” as well as the “the time the first packet on the connection was received ... or sent,” the “[n]umber of packets received ... [and] sent,” the “[n]umber of duplicate packets sent,” the “Max Smooth Round Trip Time ... [and] Min Smooth Round Trip Time during the connection.” (EX-1016 ¶¶[0030]-[0045].) Freedman also discloses tracking the “[t]ime spent in each phase” of the connection. (*Id.* ¶¶[0046]-[0053].) This data can be “generated by any convenient mechanism” on a “per-connection” basis and tracked “at a configurable interval (e.g., once per second).” (*Id.* ¶[0060].)

Because the statistics Freedman tracks relate to the quality of service of Freedman’s servers when in operation, a POSITA would have understood them to include operational service levels. (EX-1002 ¶134.) Accordingly, claims 2 and 11 would have been obvious in view of Young and Freedman. (*Id.* ¶¶132-34.)

It would have been obvious to combine Young and Freedman to track service level statistics as taught in Freedman in Young’s system, and a POSITA would have been motivated to do so, for several reasons. (*Id.* ¶¶135-39.)

First, Young suggests doing so because it teaches selecting a “best” server to provide requested content. (EX-1008, Abstract.) A POSITA would have been motivated to track service level information as taught by Freedman to obtain “detailed

information about the quality of the connections” in order to better identify a best server in Young’s system. (EX-1016 ¶¶[0029]-[0030]; EX-1002 ¶136.)

Second, Young sought to “provide[] improved information regarding the best server from which to obtain a desired file” and thereby “download files quickly.” (EX-1008, 2:23-26; EX-1002 ¶137.) A POSITA would have understood that tracking additional service level statistics as taught by Freedman to more accurately select a best server would further these goals. (EX-1002 ¶137.)

Third, because gathering service level statistics for servers connected on a network was widely known and expressly disclosed by Freedman, tracking service level statistics as taught by Freedman in Young’s system represents nothing more than a simple addition of one known element (Freedman’s service level statistics) to another (Young’s service level statistics) to obtain predictable results (improved selecting of a best server). (*Supra* §II.A; EX-1002 ¶138); *KSR*, 550 U.S. at 417. Similarly, this combination uses a known technique (tracking service level statistics as taught by Freedman) to improve a similar device and method (Young’s system and server selection) in the same way (e.g., tracking additional statistics and improved server selection). (*Id.*) Moreover, this combination applies a known technique (tracking service level statistics) to a known device and method (Young’s system and server selection method) that is ready for improvement and yields predictable results (e.g., tracking additional statistics and improved server selection). (*Id.*)

For these same reasons, a POSITA would have had a reasonable expectation of success in combining Young and Freedman. (EX-1002 ¶139.) A POSITA would have also had a reasonable expectation of success because both Young and Freedman track service level statistics and use the tracked statistics to determine what server a client request should be directed to. (EX-1008, Abstract, 1:6-8, 1:57-2:22, 4:31-5:9; EX-1016, Abstract, ¶¶[0009]-[0014], [0021]-[0022], [0024]-[0025], [0027]-[0029], Figs. 2-3, claims 1, 5-8, 10-13, 15-19; EX-1002 ¶139.)

B. Claims 4 and 13

Claim 4 depends from claim 1 and further recites “wherein the service level statistics include connection metrics or disconnection metrics.” Claim 13 depends from claim 10 and recites the same limitation.

As discussed above, Young and Freedman each disclose tracking service level statistics for connections between a client device and a server. (*Supra* §§VII.A.3, IX.A.) For example, Young tracks the latency, throughput, and bit rate, and detects when a failure condition occurs (e.g., throughput dropping below a threshold). (*Supra* §VII.A.3; EX-1002 ¶142.) And, Freedman discloses tracking additional information including timing information of a connection (e.g., when a connection was made, the time in each phase of the connection, and when it disconnected) and performance information such as the amount of data transmitted in total and at a given

time, latency, connection size and throughput. (*Supra* §IX.A; EX-1002 ¶142.) Accordingly, a POSITA would have understood that Young and Freedman track connection metrics and disconnection metrics. (EX-1002 ¶142.) It would have been obvious to use Freedman’s connection/disconnection metrics in Young’s system for the reasons discussed above. (*Supra* §IX.A; EX-1002 ¶142.) A POSITA also would have had a reasonable expectation of success in doing so. (*Id.*) Thus, Young and Freedman render claims 4 and 13 obvious. (EX-1002 ¶¶141-43.)

X. GROUND 2A: CLAIMS 1, 4-10, AND 13-18 WOULD HAVE BEEN OBVIOUS IN VIEW OF LEIGHTON.

A. Claim 1

1. Preamble

The preamble recites “[a] method of downloading digital content to be rendered.”

Leighton discloses a system for providing requested web content to a requesting client device. (EX-1032, 2:26-31; EX-1002 ¶144.) Leighton’s web content is digital content because the web content is, “e.g., images, audio, video, or the like” that is stored as digital files on servers. (EX-1032, 5:23-26; EX-1002 ¶144.) And, a POSITA would have understood that Leighton’s web content is downloaded to a client device when accessed. (EX-1032, 1:16-34 (well known to access “files (e.g., text, graphics, images, sound, video, etc.)” over the Internet), 3:17-37 (“server []

serves the object back to the client”), 12:53-62 (redirecting to a new server mid-stream is “especially helpful for audio and video downloads”); EX-1002 ¶144.) Thus, Leighton discloses or renders obvious the preamble. (EX-1002 ¶144.)

2. Element 1[a]: Downloading a List of Content Servers

Element 1[a] recites “downloading from a network accessible server to a client device a list of content servers that are capable of serving requested digital content.”

When Leighton’s client requests an embedded object “(e.g., text, graphics, image, sound, video, etc.),” a DNS server provides the client with a list of ghost servers (also called hosting servers) that host the requested content. (EX-1032, 3:17-37, 3:57-65 (“the top level DNS server returns a list of low-level DNS servers”), 12:13-16, 12:18-25 (“The low level DNS servers ... [return] a list of [server] names”), 5:54-57 (functionality of top-level and low-level DNS servers can be implemented on a single server), 10:36-41 (DNS server provides server list); EX-1002 ¶146.) Leighton’s ghost servers are content servers because they store media content that clients request. (EX-1032, 3:5-7, 2:59-62, 12:37-39, 6:26-30, 5:42-6:3, claim 1; EX-1002 ¶146.) And, Leighton’s ghost servers are capable of serving requested digital content. (EX-1032, 3:5-7 (“The actual content to be served is preferably supported on a set of hosting servers (sometimes referred to as ghost servers).”), 3:27-

37 (“Embedded objects for the page preferably are served from particular hosting servers identified by the top- and low-level DNS servers.”); EX-1002 ¶146.)

Leighton therefore discloses or renders obvious downloading from a network accessible server to a client device a list of content servers (e.g., ghost server list) that are capable of serving requested digital content (e.g., embedded web content). (EX-1002 ¶¶145-47.)

3. Element 1[b]: Tracking Service Level Statistics

Element 1[b] recites “tracking service level statistics for the content servers in the list of content servers.”

Leighton discloses tracking service level statistics using top- and low-level DNS servers. (EX-1032, 10:1-11 (network map “determines where to direct the request” and “is updated continually based on network conditions and traffic”), 11:7-11 (table of ghost servers “is continually updated based on network conditions and traffic in such a way to [e]nsure load balancing and fault tolerance”), 11:35-37 (“low-level DNS servers monitor the various ghost servers to take into account their loads”), 10:54-11:6, 11:21-26; EX-1002 ¶149.) Leighton further explains that this functionality can be implemented on the client instead of a separate server. (EX-1032, 5:54-57 (DNS functionality may be separated into a “hierarchy” and implemented on remote servers or client), 9:57-59, 12:53-67 (client software monitors the status of the network); EX-1002 ¶149.)

Leighton therefore discloses or renders obvious tracking service level statistics (e.g., network conditions, network traffic, and ghost server loads) for the content servers (e.g., ghost servers) in the list of content servers (e.g., list of ghost servers). (EX-1002 ¶¶148-50.)

4. Element 1[c]: Selecting a First Content Server

Element 1[c] recites “selecting a first content server to serve the requested digital content from the list of content servers in dependence upon the service level statistics.”

Leighton discloses selecting a ghost server “close to the client machine, that is not overloaded, and that is most likely to already have ... the required file.” (EX-1032, 5:37-41; EX-1002 ¶152.) Leighton selects such a server from the list of ghost servers using maps and lookup tables that are based on service level statistics. (*Supra* §X.A.3; EX-1032, 5:54-57 (DNS functionality may be separated and implemented on server or client), 10:54-61 (“low level DNS server ... is responsible for returning the IP address of one of the ghost servers 36 on the network”), 11:35-37 (“The low-level DNS servers monitor the various ghost servers to take into account their loads while translating virtual ghost names into real addresses.”), 12:8-13; EX-1002 ¶152.) Thus, Leighton discloses or renders obvious selecting a first content server (e.g., ghost server) to serve the requested digital content from the list of content servers (e.g., list of ghost servers) in dependence upon the service level

statistics (e.g., using mappings based on collected statistics such as network conditions, traffic, and ghost server loads). (EX-1002 ¶¶151-53.)

5. Element 1[d]: Downloading a First Segment

Element 1[d] recites “downloading a first segment of the requested digital content from the first content server to the client device for rendering.”

Leighton discloses downloading digital content such as audio and video to a client device for rendering. (EX-1032, 2:64-67 (“content is automatically sent to the location where it is requested”), 4:17-22 (“embedded objects are served from the hosting servers ... to the client machine that initiated the request”), 5:23-32 (content includes “images, audio, video, or the like”), 12:26-56, 12:59-62 (media player); *supra* §X.A.1; EX-1002 ¶155.) Leighton therefore discloses this limitation because downloading requested content (e.g., audio or video) is downloading at least a first segment of the requested content. (EX-1002 ¶155.)

To the extent PO argues that the claim requires the content to be stored on the server in segments, it would have been obvious to store Leighton’s web content (e.g., audio and video) as a plurality of segments that can be downloaded individually, as was well known and conventional. (EX-1001, 2:16-18; *supra* §II.B; EX-1002 ¶156.) Accordingly, it would have been obvious, and a routine design choice, to store Leighton’s audio and video content in segments. (EX-1002 ¶156.) And, Leighton

discloses downloading a first segment of content before switching servers and downloading a second segment of content. (*See* EX-1032, 12:53-62 (when downloading “audio and video,” “the user can be directed to an alternate server in mid-stream”); EX-1002 ¶156.) Leighton therefore renders this limitation obvious. (EX-1002 ¶¶154-57.)

6. Element 1[e]: Selecting a Second Server

Element 1[e] recites “in the event of a degradation in service from the first content server, selecting a second content server to replace the first content server in serving the requested digital content from the list of content servers in dependence upon the service level statistics, wherein the server replacement is imperceptible to a user of the client device.”

Leighton discloses selecting a second content (ghost) server from the list when “it is deemed that the client’s connection can be improved by changing the server.” (EX-1032, 12:59-67; *id.* (“user can be directed to an alternate server in mid-stream”); *id.*, 12:53-55 (performance “improved by dynamically changing the server to which a client is connected based on changing network conditions”).) Leighton also discloses selecting a second server (e.g., “buddy” server) “if the ghost goes down.” (*Id.*, 13:1-4, 12:18-25 (if buddy system fails, client contacts “one of the other ghosts on the list”); EX-1002 ¶159.) A POSITA would have understood that “the client’s connection can be improved by changing the server” in the event of a degradation in

service from the first content server. (EX-1002 ¶159.) And, Leighton selects a second ghost server by using maps and lookup tables that are based on service level statistics, as discussed above. (*Supra* §X.A.4; EX-1002 ¶159.)

Additionally, Leighton’s system automatically selects a second server for improved performance without notifying or requiring input from a user of the client device. (EX-1032, 12:18-25, 12:53-67, 13:1-4; EX-1002 ¶160.) Accordingly, Leighton’s server replacement is imperceptible to a user of the client device. (EX-1002 ¶160.)

Leighton therefore discloses or renders obvious, in the event of a degradation in service from the first content server (e.g., when the client’s connection to a ghost server can be improved), selecting a second content server (e.g., second ghost server or “buddy” server) to replace the first content server (e.g., first ghost server) in serving the requested digital content (e.g., web content) from the list of content servers (e.g., ghost server list) in dependence upon the service level statistics (e.g., using mappings based on collected statistics such as network conditions, traffic, and ghost server loads), wherein the server replacement is imperceptible to a user of the client device (e.g., automatically selecting a second ghost server without notifying or requesting input from a user). (*Id.* ¶¶158-61.)

7. Element 1[f]: Downloading a Second Segment

Element 1[f] recites “downloading a second segment of the requested digital content from the second content server to the client device for rendering.”

Leighton discloses that the user can be “directed to an alternate server in mid-stream.” (EX-1032, 12:53-67; *id.*, 12:53-55 (change server), 13:1-4 (second “buddy” server).) The downloaded content is rendered on the client device, such as a media player. (*Supra* §X.A.5.) And, it would have been obvious for the stream to comprise multiple segments that can be individually downloaded. (*Id.*) Thus, downloading the remainder of the stream from a second server would include downloading a second segment of the requested digital content as claimed. (EX-1002 ¶163.) Accordingly, Leighton renders obvious downloading a second segment of the requested digital content (e.g., a chunk in the second portion of content) from the second content server (e.g., alternate ghost server) to the client device for rendering. (*Id.* ¶¶162-64.)

8. Element 1[g][i]: Digital Media Stream Including First and Second Segments

Element 1[g][i] recites “wherein the requested digital content is a digital media stream that includes the first and second segments.”

Leighton discloses that the requested web content can be a digital media stream (e.g., audio or video stream). (EX-1032, 12:53-67; EX-1002 ¶166.) And,

Leighton renders obvious that such content includes the first and second segments (e.g., first and second chunks), as discussed above. (*Supra* §§X.A.5, X.A.7; EX-1002 ¶¶165-66.)

9. Element 1[g][ii]: First Library Server

Element 1[g][ii] recites “wherein the first content server is a first library server having the digital media stream stored thereon.”

Leighton’s ghost servers are library servers because they store media content that clients request. (EX-1032, 3:5-7, 2:59-62, 12:37-39, 6:26-30, 5:42-6:3, claim 1; EX-1002 ¶168.) Leighton therefore discloses or renders obvious that the first content server (e.g., ghost server) is a first library server having the digital media stream (e.g., requested content such as audio or video) stored thereon. (EX-1002 ¶¶167-68.)

10. Element 1[g][iii]: Second Library Server

Element 1[g][iii] recites “wherein the second content server is a second library server having a copy of the digital media stream stored thereon.”

As discussed above, the ghost server selected as a second (e.g., alternate or buddy) ghost server contains a copy of the requested content so that the client device can continue to download the requested content using the second ghost server (*supra* §§X.A.6-X.A.7) and Leighton’s ghost servers are library servers (*supra* §X.A.9). (EX-1002 ¶170.) Therefore, Leighton discloses or renders obvious that the second

content server (e.g., alternate or buddy ghost server) is a second library server having a copy of the digital media stream (e.g., requested content such as audio or video) stored thereon. (*Id.* ¶¶169-71.)

B. Claim 4

Claim 4 depends from claim 1 and further recites “wherein the service level statistics include connection metrics or disconnection metrics.”

Leighton discloses “monitor[ing] the performance of the client’s connection” to ghost servers to “dynamically chang[e] the server to which a client is connected.” (EX-1032, 12:53-67; EX-1002 ¶173.) Leighton also discloses monitoring a client’s connection with a ghost server to detect “failure condition[s]” that cause the client to select a second ghost server. (EX-1032, 3:62-65, claim 4; *see also id.*, 12:13-25, 13:1-11; EX-1002 ¶173.) Accordingly, it would have been obvious that the service level statistics (e.g., collected statistics such as network and connection conditions, traffic, and ghost server loads) include connection metrics or disconnection metrics (e.g., metrics related to the performance of a client’s connection and failure conditions) in view of Leighton. (EX-1002 ¶¶172-74.)

C. Claim 5

Claim 5 depends from claim 1 and further recites “wherein the service level statistics are updated during the downloading of the first segment.”

Leighton discloses continuously monitoring and updating service level statistics used by Leighton’s DNS services for selecting ghost servers. (EX-1032, 10:1-11 (“The map preferably is updated continually based on network conditions and traffic.”), 11:7-11 (ghost server “table is continually updated based on network conditions and traffic in such a way to insure load balancing and fault tolerance”), 12:53-67 (continuously monitoring network conditions to “dynamically chang[e] the server to which a client is connected based on changing network conditions”); EX-1002 ¶176.) A POSITA would have understood that Leighton’s service level statistics are updated during the downloading of the first segment of media content because they are continually updated and also because Leighton discloses monitoring network conditions to change servers “mid-stream.” (See EX-1032, 12:53-67; EX-1002 ¶176.) Leighton therefore discloses or renders this limitation obvious. (EX-1002 ¶¶175-77.)

D. Claim 6

1. Element 6[a]: Rendering Segments

Claim 6 depends from claim 1. Element 6[a] recites “further comprising successively rendering the first and second segments on the client device without re-constructing the digital content.”

As discussed above, Leighton renders obvious downloading a first and second segment of digital media content for rendering on a client device. (*Supra* §§X.A.5,

X.A.7.) And a POSITA would have understood that segments of Leighton’s content are successively rendered as each segment makes up part of the content. (EX-1002 ¶179.) For example, Leighton explains that part of a media stream (e.g., a first segment) can be downloaded to a client device such as a media player, which a POSITA would have understood renders the segment, before a second segment is downloaded from a different ghost server when a second server is selected “mid-stream.” (EX-1032, 12:53-67; EX-1002 ¶179.) A POSITA would have also understood that the second segment is then rendered by the media player without reconstructing the digital content. (*Id.*)

Accordingly, this limitation would have been obvious in view of Leighton. (EX-1002 ¶¶178-80.)

2. Element 6[b]: No Interruption in Rendering

Element 6[b] recites “wherein the server replacement does not cause an interruption in the successive rendering of the first and second segments.”

Leighton discloses selecting a second ghost server automatically to improve the client’s connection to the server hosting the requested content and to avoid interruptions. (EX-1032, 2:64-67 (“content is automatically sent to the location where it is requested”), 10:42-53 (fault tolerance designed to “minimize[] the overall latency experienced by clients”), 13:1-11 (selecting a buddy ghost server “so that service is not interrupted”), 12:13-25 (DNS servers automatically provide “a list of

[ghost server] names” and, “[i]f for some reason the primary fault tolerance method for the ghosts (known as the Buddy system...) fails, the client browser will contact one of the other ghosts on the list.”); *see also id.*, 10:34-41, 10:54-61, 11:7-10, 11:35-59, 12:13, claim 6; *supra* §X.A.6, EX-1002 ¶182.) Thus, a POSITA would have understood that Leighton’s ghost server replacement does not cause an interruption in the successive rendering of the first and second segments—rather it is designed to prevent such an interruption. (EX-1002 ¶182.) Accordingly, this limitation would have been obvious in view of Leighton. (*Id.* ¶¶181-83.)

E. Claim 7

Claim 7 depends from claim 1 and further recites “wherein the first content server consists of one or more server devices.”

Leighton discloses that “a given server used in [Leighton’s] framework 35 includes a processor, an operating system (e.g., Linux, UNIX, Windows NT, or the like), a Web server application, and a set of application routines ... implemented in software.” (EX-1032, 6:4-13; EX-1002 ¶185.) Thus, Leighton discloses or renders obvious a first content server that consists of one or more server devices. (EX-1002 ¶¶184-86.)

F. Claim 8

Claim 8 depends from claim 1 and further recites “further comprising tracking service level statistics related to a connection established between the client device

and the first content server.”

Leighton discloses this limitation for the reasons discussed above. (*Supra* §§X.A.3, X.B; EX-1002 ¶¶187-88.)

G. Claim 9

Claim 9 depends from claim 1 and further recites “wherein the requested digital content includes audio content, audio/video content, video content, text content, static image content, moving image content, user-entered content, advertising content, or a combination thereof.”

Leighton discloses that the requested content includes “images, audio, video, or the like” (EX-1032, 5:23-26; *id.*, 12:53-59) and advertising content (*id.*, 8:17-19, 16:36-49). (EX-1002 ¶¶189-91.)

H. Claim 10

Claim 10 recites “[a] non-transitory computer-readable storage medium having stored thereon instructions which, when executed by a processor of a computing device, cause the computing device to” perform the steps of claim 1.

Leighton discloses that a “client” in Leighton’s system is “a personal computer ... that includes an operating system ... and that includes a Web browser ... having a Java Virtual Machine (JVM) and support for application plug-ins or helper applications” and “may also be a notebook computer, a handheld computing device (e.g., a PDA), an Internet appliance, or any other such device connectable to the

computer network.” (EX-1032, 5:13-22.) Accordingly, claim 10 would have been obvious for the reasons discussed above regarding claim 1. (*Supra* §X.A; EX-1002 ¶¶192-95.)

I. Claims 13-18

Claims 13-18 depend from claim 10 and recite essentially the same limitations of claims 4-9, respectively. Accordingly, claims 13-18 would have been obvious in view of Leighton for the reasons discussed above. (*Supra* §§X.B-X.G; EX-1002 ¶196.)

XI. GROUND 2B: CLAIMS 1, 4-10, AND 13-18 WOULD HAVE BEEN OBVIOUS IN VIEW OF LEIGHTON AND SEED.

As discussed above, Leighton renders obvious claims 1, 4-10, and 13-18. (*Supra* §X.) These claims would also have been obvious in further view of Seed. (EX-1002 ¶¶197-211.) Petitioners incorporate the discussion of Leighton from Ground 2A here, and discuss below only the limitations for which Seed is relevant.

A. Claim 1 – Elements 1[d], 1[f], and 1[g][i]

To the extent PO argues that claim 1 requires the content to be stored on the server in segments, it would have been obvious to store Leighton’s content as a plurality of segments in view of Seed. (EX-1002 ¶¶198-206.)

Seed discloses a CDN that delivers digital content from servers to end-users (clients). (EX-1011 ¶[0010] (“As used herein, an object includes, without limitation,

an audio file ..., a video file..., an image file ... and any other software or data file or object.”).) Seed discloses that “objects can be *segmented* into chunks” to “enhance the performance of the network.” (*Id.* ¶[0057] (emphasis added).) “By partitioning streams in this manner, a first part of an object can be served from edge servers quickly.” (*Id.*) The remaining chunks can also be stored on edge servers. (*Id.* ¶¶[0058] (“some or all of the objects may be permanently retained in edge server storage”), [0032].) Because Seed “partition[s] streams” by “segmenting” into “chunks” that can be stored and downloaded individually, Seed’s chunks represent segments of digital content. (*Id.* ¶¶[0057], [0010], [0054]; EX-1030, 13:14-34; EX-1002 ¶199.) And, the segments are downloaded for playback by the client device. (EX-1011 ¶[0051]; EX-1002 ¶199.)

Thus, Leighton and Seed render obvious downloading a first segment (e.g., a chunk) of the requested digital content (e.g., Leighton’s web content) from the first content server (e.g., ghost server) to the client device for rendering. (EX-1002 ¶200.)

A POSITA would have been motivated to combine the teachings of Leighton and Seed, and to store Leighton’s media objects as a plurality of segments that can be individually downloaded, for several reasons. (*Id.* ¶¶201-05.)

First, Leighton’s goal is to provide media content to clients “efficiently, effectively, and reliably,” and to “speed-up the delivery” of content. (EX-1032, 2:26-31; 2:43-45.) Seed teaches that segmentation “enhance[s] the performance of the

network” and avoids providing entire objects unnecessarily (e.g., when users exit before an object is completely served). (EX-1011 ¶[0057].) A POSITA therefore would have been motivated to segment the content served in Leighton to obtain the benefits Seed describes. (EX-1002 ¶202.)

Second, because segmenting media content was widely known, and given the similarities between Leighton’s and Seed’s CDN systems, storing Leighton’s content as segments that can be individually downloaded represents merely a simple substitution of one known element (segmented media stream) for another (single-file media stream) to obtain predictable results (improved performance and ability to serve individual segments). (EX-1032, 2:26-67; EX-1011 ¶[0057]; *supra* §II.B; EX-1002 ¶203); *KSR*, 550 U.S. at 417. This combination also uses a known technique (Seed’s chunking) to improve a similar device and method (Leighton’s CDN) in the same way. (*Id.*) Moreover, this combination applies a known technique (segmenting) to a known device and method (Leighton’s CDN) that is ready for improvement and yields predictable results (enhancing network performance). (*Id.*)

Third, it would have been obvious to try storing Leighton’s content as smaller segments (as taught by Seed) because it was one of a finite number of identified, predictable solutions for storing content on servers. (EX-1002 ¶204.) Only two options existed for storing Leighton’s content: (1) as a single file; or (2) as multiple segments. Both would have been obvious. (*Id.*)

A POSITA would have reasonably expected success in storing Leighton’s content in segments that can be individually downloaded, as taught by Seed, because the systems and their purposes are similar, storing content as multiple smaller segments was known, and the modification would have been trivial. (*Supra* §II.B; EX-1002 ¶205.) Accordingly, downloading a first and second segment of the requested digital content (e.g., a chunk of Leighton’s content) from the first and second content servers (e.g., ghost servers) to the client device for rendering would have been obvious in view of Leighton and Seed. (EX-1002 ¶¶198-206.)

B. Claim 6

Claim 6 depends from claim 1. Element 6[a] recites “further comprising successively rendering the first and second segments on the client device without reconstructing the digital content.”

As discussed above, Leighton and, optionally, Seed render obvious downloading a first and second segment of digital media content for rendering on a client device. (*Supra* §§X.A.5, X.A.7, X.D.1, XI.A.)

Seed discloses that each chunk (segment) of media content can be accessed and rendered independently of other chunks. (EX-1011 ¶[0057] (“[A] good percentage of requests for [] objects exit before the object is completely served. To exploit this kind of object usage and further enhance the performance of the network, objects can be segmented into chunks[.] ... By partitioning streams in this manner, a first

part of an object can be served from edge servers quickly[.]”); *supra* §X.A.5; EX-1002 ¶209.) Thus, a POSITA would have understood that each chunk can be downloaded and successively rendered independently, without reconstructing the content. (EX-1002 ¶209.)

Accordingly, this limitation would have been obvious in view of Leighton in view of Seed. (EX-1002 ¶¶207-10.) As discussed above, Leighton renders obvious element 6[b]. (*Supra* §X.D.2.)

C. Claim 10

Claim 10, which also recites downloading segments from different servers, would have been obvious in view of Leighton and Seed for the reasons described above for claim 1. (*Supra* §§X.A, XI.A; EX-1002 ¶211.)

D. Claim 15

Claim 15 depends from claim 10 and recites the same limitations as claim 6. Accordingly, claim 15 would have been obvious in view of Leighton and Seed for the reasons discussed above. (*Supra* §XI.B.)

XII. GROUND 2C: CLAIMS 2-4 AND 11-13 WOULD HAVE BEEN OBVIOUS IN VIEW OF LEIGHTON, FREEDMAN, AND OPTIONALLY SEED.

As discussed above, claims 1 and 10 would have been obvious in view of Leighton alone, or in combination with Seed. (*Supra* §§X-XI.) Claims 2-4 and 11-

13, which depend from claims 1 or 10, would have been obvious in further view of Freedman. (EX-1002 ¶¶212-24.)

A. Claims 2 and 11

Claim 2 depends from claim 1 and further recites “wherein the service level statistics include operational service levels.” Claim 11 depends from claim 10 and recites the same limitation.

The additional limitations of claims 2 and 11 would have been obvious in view of Leighton, Seed, and Freedman for the reasons discussed above. (*Supra* §IX.A; EX-1002 ¶213.)

A POSITA would have been motivated to combine Leighton and Freedman to track service level statistics as taught in Freedman for use in Leighton’s system for several reasons. (EX-1002 ¶¶214-19.)

First, Freedman suggests doing so because it explains that tracking service level statistics provides a “great deal of useful information” including “detailed information about the quality of the connections” of devices in a CDN that is useful to route client requests to an appropriate server. (EX-1016 ¶¶[0029]-[0030]; *id.* ¶¶[0009]-[0014]; EX-1002 ¶215.) A POSITA would have been motivated to track such information to improve Leighton’s CDN. (EX-1002 ¶215.)

Second, Leighton sought to “speed-up the delivery” of content and to provide content “reliably and economically.” (EX-1032, 2:43-48, 2:26-31; EX-1002 ¶216.)

A POSITA would have understood that tracking service level statistics as taught by Freedman, and thereby providing more information to Leighton's CDN for routing client requests to an appropriate server, would further these goals. (EX-1002 ¶216.)

Third, because gathering service level statistics for servers in a CDN was widely known and expressly disclosed by Freedman, tracking service level statistics as taught by Freedman represents nothing more than a simple addition of one known element (Freedman's service level statistics) to another (Leighton's service level statistics) to obtain predictable results (improved routing of client requests in Leighton's CDN). (*Supra* §§II.A, IX.A; EX-1002 ¶217); *KSR*, 550 U.S. at 417. Similarly, this combination uses a known technique (tracking service level statistics as taught by Freedman) to improve a similar device and method (Leighton's CDN) in the same way (e.g., tracking additional statistics and improved routing). (*Id.*) Moreover, this combination applies a known technique (tracking service level statistics in a CDN) to a known device and method (Leighton's CDN) that is ready for improvement and yields predictable results (e.g., tracking additional statistics and improved routing). (*Id.*)

For these same reasons, a POSITA would have had a reasonable expectation of success in combining Leighton and Freedman. (EX-1002 ¶218.) A POSITA would have also had a reasonable expectation of success because both Leighton and Freedman track service level statistics and use the tracked statistics to route client

requests to an appropriate server in a CDN by using DNS services. (EX-1032, 3:17-37, 3:57-65, 5:54-57, 9:57-59, 10:1-11, 10:36-41, 10:51-11:6, 11:7-11, 11:23-26, 11:35-37, 12:8-25, 12:53-67; EX-1016, Abstract, ¶¶[0009]-[0014], [0021], [0022], [0024]-[0025], [0027]-[0029], Figs. 2-3, claims 15, 19; EX-1002 ¶218.)

B. Claims 3 and 12

Claim 3 depends from claim 1 and further recites “wherein the service level statistics include data throughput levels.” Claim 12 depends from claim 10 and recites the same limitation.

Freedman discloses tracking “overall and instantaneous throughput” of servers in a CDN. (EX-1016 ¶[0030].) Accordingly, claims 3 and 12 would have been obvious in view of Leighton, Seed, and Freedman. (EX-1002 ¶¶220-22.)

C. Claim 4 and 13

Claim 4 depends from claim 1 and further recites “wherein the service level statistics include connection metrics or disconnection metrics.” Claim 13 depends from claim 10 and recites the same limitation.

Claims 4 and 13 would have been obvious in view of Leighton, Seed, and Freedman for the reasons discussed above. (*Supra* §IX.B; EX-1002 ¶¶223-24.)

XIII. SECONDARY CONSIDERATIONS OF NONOBVIOUSNESS

Where, as here, a strong *prima facie* obviousness showing exists, secondary considerations may not dislodge the obviousness conclusion. *Leapfrog Enters., Inc.*

v. Fisher-Price, Inc., 485 F.3d 1157, 1162 (Fed. Cir. 2007). Petitioners are aware of no evidence supporting a claim for secondary considerations.

XIV. CONCLUSION

Amazon requests the Board institute trial and cancel all challenged claims.²

XV. MANDATORY NOTICES, GROUNDS FOR STANDING, AND FEE PAYMENT

Pursuant to 37 C.F.R. §42.8(a)(1), the mandatory notices identified in 37 C.F.R. §42.8(b) are provided below as part of this Petition.

A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))

Amazon.com, Inc., Amazon.com Services LLC, and Amazon Web Services, Inc. are the real parties-in-interest.

B. Related Matters (37 C.F.R. §42.8(b)(2))

PO asserted the '488 patent against Petitioners in a patent infringement lawsuit captioned *Audio Pod IP, LLC v. Amazon.com, Inc. et al.*, No. 1:24-cv-00915 (E.D. Va., filed May 30, 2024), which was transferred to the Richmond Division, No. 3:24-cv-0407, on June 3, 2024 and consolidated with *Audio Pod IP, LLC v. Amazon.com, Inc.*, 3:24-cv-00406 (E.D. Va.), on January 15, 2025.

² Petitioners will address discretionary denial issues if raised by PO. See Memorandum from Acting Director Stewart, *Interim Processes for PTAB Workload Management* (March 26, 2025).

If this IPR is instituted and the above proceeding is not stayed, Petitioners hereby stipulate not to pursue in that proceeding any ground of invalidity, against any claim challenged herein, that was raised or reasonably could have been raised in this Petition.

Petitioners further filed the following IPR petitions challenging claims of related patents:

Case Number	Challenged Patent	Challenged Claims
IPR2025-00757	U.S. Pat. No. 10,091,266	1-13
IPR2025-00765	U.S. Pat. No. 8,738,740	12-17
IPR2025-00768	U.S. Pat. No. 10,805,111	1-16
IPR2025-00769	U.S. Pat. No. 9,954,922	1-20
IPR2025-00774	U.S. Pat. No. 8,738,740	1-6, 10, 11, 18
IPR2025-00777	U.S. Pat. No. 9,319,720	1-29
IPR2025-01003	U.S. Pat. No. 9,729,907	1-21

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Petitioners provide the following designation of counsel, all of whom are included in Customer No. 20,995 identified in Petitioners' Power of Attorney.

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D. Service Information (37 C.F.R. §42.8(b)(4))

Please direct all correspondence to lead counsel and back-up counsel at the addresses shown above. Petitioners also consent to electronic service by email to BoxSEAZNL2185L3LP@knobbe.com.

E. Grounds for Standing (37 C.F.R. §42.104(a))

Petitioners certify that the '488 patent is available for IPR and that Petitioners are not barred or estopped from requesting IPR on the identified grounds. This petition is being filed within one year of service of the original complaint against Petitioners in the district court litigation.

F. Payment of Fees (37 C.F.R. §42.15(a))

The Office may charge the §42.15(a) fee to Deposit Account No. 11-1410. Review of eighteen claims is requested. Payment for any additional fees due may be charged to the above-referenced Deposit Account.

Respectfully submitted,

KNOBBE MARTENS OLSON & BEAR, LLP

Dated: May 21, 2025

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APPENDIX

Listing of Claims from U.S. 10,735,488	
Claim 1	
1[pre]	A method of downloading digital content to be rendered, comprising:
1[a]	downloading from a network accessible server to a client device a list of content servers that are capable of serving requested digital content;
1[b]	tracking service level statistics for the content servers in the list of content servers;
1[c]	selecting a first content server to serve the requested digital content from the list of content servers in dependence upon the service level statistics;
1[d]	downloading a first segment of the requested digital content from the first content server to the client device for rendering;
1[e]	in the event of a degradation in service from the first content server, selecting a second content server to replace the first content server in serving the requested digital content from the list of content servers in dependence upon the service level statistics, wherein the server replacement is imperceptible to a user of the client device; and
1[f]	downloading a second segment of the requested digital content from the second content server to the client device for rendering;
1[g]	wherein the requested digital content is a digital media stream that includes the first and second segments, wherein the first content server is a first library server having the digital media stream stored thereon, and wherein the second content server is a second library server having a copy of the digital media stream stored thereon.
Claim 2	
--	The method of claim 1, wherein the service level statistics include operational service levels.

Listing of Claims from U.S. 10,735,488	
Claim 3	
--	The method of claim 1, wherein the service level statistics include data throughput levels.
Claim 4	
--	The method of claim 1, wherein the service level statistics include connection metrics or disconnection metrics.
Claim 5	
--	The method of claim 1, wherein the service level statistics are updated during the downloading of the first segment.
Claim 6	
6[a]	The method of claim 1, further comprising successively rendering the first and second segments on the client device without reconstructing the digital content,
6[b]	wherein the server replacement does not cause an interruption in the successive rendering of the first and second segments.
Claim 7	
--	The method of claim 1, wherein the first content server consists of one or more server devices.
Claim 8	
--	The method of claim 1, further comprising tracking service level statistics related to a connection established between the client device and the first content server.

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Claim 9	
--	The method of claim 1, wherein the requested digital content includes audio content, audio/video content, video content, text content, static image content, moving image content, user-entered content, advertising content, or a combination thereof.
Claim 10	
10[pre]	A non-transitory computer-readable storage medium having stored thereon instructions which, when executed by a processor of a computing device, cause the computing device to:
10[a]	download from a network accessible server a list of content servers that are capable of serving requested digital content;
10[b]	track service level statistics for the content servers in the list of content servers;
10[c]	select a first content server to serve the requested digital content from the list of content servers in dependence upon the service level statistics;
10[d]	download a first segment of the requested digital content from the first content server for rendering;
10[e]	in the event of a degradation in service from the first content server, select a second content server to replace the first content server in serving the requested digital content from the list of content servers in dependence upon the service level statistics, wherein the server replacement is imperceptible to a user of the client device; and
10[f]	download a second segment of the requested digital content from the second content server for rendering;

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10[g]	wherein the requested digital content is a digital media stream that includes the first and second segments, wherein the first content server is a first library server having the digital media stream stored thereon, and wherein the second content server is a second library server having a copy of the digital media stream stored thereon.
Claim 11	
--	The computer-readable storage medium of claim 10, wherein the service level statistics include operational service levels.
Claim 12	
--	The computer-readable storage medium of claim 10, wherein the service level statistics include data throughput levels.
Claim 13	
--	The computer-readable storage medium of claim 10, wherein the service level statistics include connection metrics or disconnection metrics.
Claim 14	
--	The computer-readable storage medium of claim 10, wherein the service level statistics are updated during the downloading of the first segment.
Claim 15	
15[a]	The computer-readable storage medium of claim 10, wherein the instructions, when executed by the processor, further cause the computing device to successively render the first and second segments on the client device without reconstructing the digital content, and
15[b]	wherein the server replacement does not cause an interruption in the successive rendering of the first and second segments.

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Claim 16	
--	The computer-readable storage medium of claim 10, wherein the first content server consists of one or more server devices.
Claim 17	
--	The computer-readable storage medium of claim 10, wherein the instructions, when executed by the processor, further cause the computing device to track service level statistics related to a connection established between the client device and the first content server.
Claim 18	
--	The computer-readable storage medium of claim 10, wherein the requested digital content includes audio content, audio/video content, video content, text content, static image content, moving image content, user-entered content, advertising content, or a combination thereof.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(d), the undersigned certifies that this **PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 10,735,488** contains 11,286 words according to the word-processing program used to prepare this paper. The foregoing word count complies with the 14,000-word type-volume limit specified by 37 C.F.R. §42.24(a)(1).

Dated: May 21, 2025

By: /Colin B. Heideman /
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,735,488** and **ACCOMPANYING EXHIBITS** are being served on May 21, 2025 via Federal Express overnight mail on counsel of record for U.S. Patent No. 10,735,488 at the Correspondence Address of record below:

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