

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETFLIX, INC.,
Petitioner,

v.

VIDEOLABS, INC.,
Patent Owner.

Case No. IPR2023-00630

U.S. Patent No. 7,440,559

**DECLARATION OF ANTHONY WECHSELBERGER
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,440,559**

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PETITIONER’S EXHIBIT LIST

Exhibit Number	Description
1001	U.S. Patent No. 7,440,559 to Muhonen, et al., “System and Associated Terminal, Method and Computer Program Product for Controlling the Flow of Content,” filed on October 22, 2003 (“the ’559 patent”).
1002	File History of the ’559 patent (Application No. 10/690,692 (’559 patent FH)).
1003	Declaration of Anthony Wechselberger.
1004	U.S. Patent Application Publication No. 2003/0023427 to Cassin filed on July 26, 2001 (“Cassin”).
1005	U.S. Patent No. 7,243,136 to Huston filed on January 17, 2001 (“Huston”).
1006	U.S. Patent No. 7,447,486 to Tamura filed on March 25, 2003 (“Tamura”).
1007	U.S. Patent No. 6,996,627 to Carden filed on May 25, 1999 (“Carden”).
1008	U.S. Patent No. 7,721,337 to Syed filed on October 26, 2001 (“Syed”).
1009	U.S. Patent No. 6,669,564 to Young filed on June 27, 2000 (“Young”).
1010	U.S. Patent No. 6,732,183 to Graham filed on May 4, 2000 (“Graham”).
1011	U.S. Patent Application Publication No. 2002/0023264 to Aaltonen filed on June 29, 2001 (“Aaltonen”).
1012	U.S. Patent Application Publication No. 2002/0087997 to Dahlstrom filed on December 27, 2001 (“Dahlstrom”).

1013	U.S. Patent No. 6,507,727 to Henrick filed on October 13, 2000 (“Henrick”).
1014	U.S. Patent No. 6,112,226 to Weaver filed on October 22, 1997 (“Weaver”).
1015	U.S. Patent Application Publication No. 2002/0059624 to Machida filed on August 1, 2001 (“Machida”).
1016	<i>Starz Entm’t, LLC v. VL Collective IP, LLC</i> , Joint Claim Construction Chart, pages 1-16 (Dkt. 64), C.A. 21-1448-JLH (D. Del.).
1017	<i>VideoLabs, Inc. v. Amazon.com, Inc.</i> , Opening Claim Construction Brief filed by Defendants, pages 1-32 (Dkt. 48), C.A. 6-22-cv-00079 (W.D. Tex.).
1018	<i>VideoLabs, Inc. v. Amazon.com, Inc.</i> , Patent Owner’s Responsive Claim Construction Brief, pages 1-32 (Dkt. 63), C.A. 6-22-cv-00079 (W.D. Tex.).
1019	<i>VideoLabs, Inc. v. Netflix Inc.</i> , Motion to Dismiss for Failure to State a Claim filed by Petitioner, pages 1-5 (Dkt. 15).
1020	<i>VideoLabs, Inc. v. Netflix Inc.</i> , Opening Brief in Support re Motion to Dismiss for Failure to State a Claim filed by Petitioner, pages 1-31 (Dkt. 16).
1021	<i>VideoLabs, Inc. v. Netflix Inc.</i> , Answering Brief in Opposition re Motion to Dismiss for Failure to State a Claim filed by Patent Owner, pages 1-32 (Dkt. 18).
1022	<i>VideoLabs, Inc. v. Netflix Inc.</i> , Reply Brief re Motion to Dismiss for Failure to State a Claim filed by Petitioner, pages 1-18 (Dkt. 19).
1023	<i>Starz Entm’t, LLC v. VL Collective IP, LLC</i> , Claim Construction Order, pages 1-4 (Dkt. 88).

I. INTRODUCTION

1. My name is Anthony Wechselberger, and I have been retained by counsel for Netflix Inc. (“Netflix” or “Petitioner”) to submit this Declaration in support of Netflix’s petition for *Inter Partes* Review (“IPR”) and cancellation of claims 1–24 (the “Challenged Claims”) of U.S. Patent No. 7,440,559 (“the ’559 patent”) (Ex. 1001), which I understand has been assigned to VideoLabs Inc. (“VideoLabs” or “Patent Owner”).

2. I have been asked to opine on whether the ’559 patent is anticipated and/or rendered obvious by the prior art. My opinions are based on my years of education, research and experience, as well as my investigation and study of relevant materials. The materials that I considered for this Declaration include all exhibits cited in this Declaration.

3. I may rely upon these materials, my knowledge and experience, and/or additional materials to rebut arguments raised by Patent Owner. Further, I may also consider additional documents and information in forming any necessary opinions, including documents that may not yet have been provided to me.

4. My analysis of the materials produced in this investigation is ongoing and I will continue to review any new material as it is provided. This Declaration represents only those opinions I have formed to date. I reserve the right to revise,

supplement, and/or amend my opinions stated herein based on new information and on my continuing analysis of the materials already provided.

5. I am being compensated at my standard consulting rate for my time spent working on issues in this matter. I am also being reimbursed for any reasonable and customary expenses associated with my work and testimony. I have no financial interest in, or affiliation with, Petitioner or Patent Owner. My compensation is not dependent upon the outcome of, or my testimony in, the present IPR or any litigation proceedings.

II. QUALIFICATIONS

6. I am qualified by education and experience to testify as an expert in the field of digital content management systems for wireless devices. My academic and professional background is in electrical engineering and communication sciences, and I have been working in those fields since the completion of my M.S. in electrical engineering approximately 43 years ago. My background and qualifications are supplemented in my curriculum vitae, attached as Appendix A hereto. Here, I provide a summary of my qualifications and professional experience.

7. I received a Bachelor of Science degree in electrical engineering from the University of Arizona in 1974 and a Master of Science degree in electrical engineering from San Diego State University in 1979. In addition, in 1984, I

completed the Executive Program for Scientists and Engineers at the University of California at San Diego.

8. I am currently the President of Entropy Management Solutions (“EMS”), a position I have held since I founded the company in 1999. In this capacity, I perform consulting services related to technology and business development, content management, distribution and merchandising, systems engineering, and product design in the areas of industrial and consumer broadband and multimedia technologies and associated commercial systems. As a result of my twenty-five years of extensive technology experience in corporate life, and continuing as President of EMS, I have worked with various aspects of Internet, cable, broadcast and satellite television programming distribution, including systems and equipment used at satellite uplinks and cable head-ends, such as real-time computer control systems and associated databases used in conjunction with consumer appliances, such as set-top boxes.

9. I have over four decades of experience working with high technology systems related to military, commercial, and consumer communication systems, networks, and appliances. I have held various design, leadership, and executive positions in, for example, engineering, operations, sales and marketing, and product management at leading companies, such as TV/COM International, Inc. (TV/COM) and Oak Communications, Inc. (Oak), in those fields. As Vice President at Oak

Communications (in the 1980s), Chief Technology Officer at TV/COM (in the 1990s), and a consulting systems engineer (1999 to present), I have specialized in the areas of digital communications technologies, systems and networks, including infrastructures, communications equipment and associated signal processing, network management and command-and-control, and information security as used for content management, merchandising, and delivery to the receivers/consumers of information/content.

10. Consumer appliances are often the receivers/consumers of the communications systems I've worked with, and I've been involved, for example, in the design, manufacturing, sales, and servicing of consumer appliances, such as set-top boxes (STBs), since the early 1980s. My experience includes the development of terrestrial broadcast, satellite uplink, and cable head-end commercial equipment for television transmissions, as well as consumer appliance equipment, such as STBs and other home-based or home-networked devices. These architectures included computer control systems for networks and associated network device command and control, and for management of content distribution and consumer appliance functions. For example, these systems are addressable. "Addressability" enables the system operator to control the delivery of content and network services, network sourcing and receiving devices (*e.g.*, servers and transmission equipment and PC or STB receivers), and the consumer experience. Examples are delivery of software or

data files, for which purchased or subscription services or content is available, electronic program guides, and à la carte functions such as pay-per-view (PPV) and video-on-demand (VOD).

11. Of particular relevance to this matter, I have direct experience in the design and operation of centralized computer control systems used to support two-way addressable wired and wireless digital broadband content delivery systems. These computer control systems maintained a database of authorized users including their appliance types and subscription choices as well as supported real-time interaction with the appliance with respect to the types of information being received (*e.g.*, EPG data and updates, requests for on-demand content, change in subscription choices, parental control functions, and home shopping and polling).

12. In particular, control over the downloading of data for storage in a set top box (STB) was integral to the technologies I was involved with throughout the 1980s and 1990s. Examples are EPG data, subscription and on-demand program entitlements, and executables for controlling STB functions and functionality. And as a participant and supplier of STBs for the digital television (DTV) industry in the late 1990s I was well aware of the arrival of the digital video recorder (DVR) appliances that became available from TiVo and ReplayTV in 1999. This got our attention because not only was the flow of data files to consumer appliances being controlled, but now (then) so would be multimedia files. Thus, the concepts found

in the challenged '559 patent were well-known to me and the broadband industry at large well before its October 2003 priority date.

13. I have been a participant in the development and evolution of modern consumer digital audio and digital video communications systems and technologies. In 1991, my employer, TV/COM, and I began to participate in the newly formed International Organization for Standardization (ISO) MPEG-2 digital television standards initiatives, and in the following year, we participated in both the European Digital Video Broadcast (DVB) and U.S. Advanced Television Systems Committee (ATSC) forums (which were based upon MPEG-2). By the mid-1990s, as the technologies and standards in support of digital television (DTV) moved towards implementation, the dawn of the Internet age also arrived. This had a dramatic impact on the way broadband systems engineers like myself began to plan for the future. This is because the concept of convergence—the melding of traditional broadband communications systems and equipment, computers, and computer networks, with that of the telecommunications world—was changing the communications infrastructure and technology landscape. When television distribution went all-digital, the information of television became simply “data” and it became possible for the technologies of digital television, computers and computer networks, and the telephony industry (which was in the midst of its transition to digital infrastructure that began in the 1970s) to coalesce. Support for on-line and

real-time Internet services demanded a high-performance two-way data transmission capability, and so broadband network providers began to upgrade their distribution infrastructures accordingly.

14. In conjunction with this convergence, as TV/COM's Chief Technology Officer, I directed the expansion of our network products into broadband data communications generally, from its initial focus on digital television. Networks became more advanced in order to support real-time interaction between consumers and various information sources, and interactive and on-line applications led to rapid adoption of client-server information access architectures. The ubiquitous set-top box began to evolve from a minimalist appliance towards its current status as a communications hub of the consumer's media room. This was supported by the exponential increase in the capabilities of powerful yet inexpensive integrated circuits, such as microprocessors and memory that allowed STBs to become more software driven and support advanced digital signal processing (DSP) needs.

15. In my consulting work, I have continued to work with technologies, equipment and network infrastructures for content generation, distribution, and consumption. My current work involves both traditional and newly developing architectures and distribution channels. As an example of the latter, I am the chief security systems architect on behalf of the five major Hollywood studios for their "Digital Cinema Initiatives" (DCI) consortium. DCI has developed and evolved the

requirements and specifications for transitioning first-run theatrical movie releases from film to digital files for distribution and exhibition display. I am responsible for all elements of command and control and digital rights management (DRM) for the digital cinema system design and implementation.

16. I also represent DCI at the Society of Motion Picture and Television Engineers (SMPTE), which has developed and is continuing to develop a set of internationally recognized standards for global adoption of digital cinema. The migration to all-digital distribution impacts other content distribution channels, such as early window release for hospitality, airplane, and cable/satellite video-on-demand (VOD), as well as newer so called “over-the-top” (OTT) distribution channels based on Internet distribution. I have also been a strategy and technology consultant to content management and distribution entities in these areas.

17. I am currently a member of the Society of Cable & Telecommunications Engineers (SCTE), the Society of Motion Picture and Television Engineers (SMPTE) and the Institute of Electrical and Electronic Engineers (IEEE). I have previously been a member of the International Organization for Standardization (ISO), Motion Picture Experts Group (MPEG), the Digital Video Broadcast (DVB) group, and as Chief Technology Officer of TV/Com International I was a voting member of the Advanced Television Systems Committee (ATSC).

18. I am an inventor on U.S. Patent No. 4,531,020, issued July 23, 1985, and entitled “Multi-layer Encryption System for the Broadcast of Encrypted Information” and U.S. Patent No. 5,113,440, issued May 12, 1992, and entitled “Universal Decoder.” I am an inventor on two patent applications: Application No. 10/028,113, filed December 21, 2001 and entitled “Storage and Delivery of Electronic Media Content with Advertising” (abandoned); and Application No. 63/091,518, filed October 14, 2020 and entitled “Remote Audience Participation at Live Events.” I have participated in U.S. patent prosecution, and have a general understanding of the process, and of the novelty and non-obviousness requirements for patentability.

19. As a result of the qualifications set forth *supra*, I consider myself to be knowledgeable about and an expert in the field of digital content staging, management and delivery in wired and wireless systems.

III. SCOPE OF OPINIONS

20. I have been asked to provide my opinions regarding whether:

- Claims 1, 2, 4, 7, 8, 10, 13, 14, 16, 19, 20 and 22 of the '559 patent are anticipated by Cassin (Ex. 1004) (Ground I);
- Claims 1-24 of the '559 patent would have been obvious to a person of ordinary skill in the art (“POSITA”) at the time of the alleged invention in view of Cassin (Ex. 1004) and Houston (Ex. 1005) (Ground II); and

- Claims 1-24 of the '559 patent would have been obvious to a POSITA at the time of the alleged invention in view of Houston (Ex. 1005) (Ground III).

21. This Declaration, including the exhibits cited herein, sets forth my opinions on these topics. In short, it is my opinion that Cassin anticipates claims 1, 2, 4, 7, 8, 10, 13, 14, 16, 19, 20 and 22 of the '559 patent; Cassin and Houston render obvious claims 1-24 of the '559 patent; and Houston renders obvious claims 1-24 of the '559 patent.

IV. MATERIALS REVIEWED AND CONSIDERED

22. The materials I considered and relied upon in preparing my Declaration and forming my opinions include all exhibits cited to in this Declaration, including the '559 patent, the '559 file history, and the relevant prior art, as I discuss below.

23. I also have relied on my academic and professional experience in reaching the opinions expressed in this Declaration.

V. LEVEL OF ORDINARY SKILL IN THE ART

24. In rendering the opinions set forth in this Declaration, I was asked to consider the patent claims and the prior art through the eyes of a POSITA. The “art” is the field of technology to which a patent is related. I understand that the purpose of using the viewpoint of a POSITA is for objectivity.

25. I considered factors such as the educational level and years of experience of those working in the pertinent art; the types of problems encountered

in the art; the teachings of the prior art; patents and publications of other persons or companies; and the sophistication of the technology. I understand that a POSITA is not a specific real individual, but rather a hypothetical individual having the qualities reflected by the factors discussed above.

26. Taking these factors into consideration, it is my opinion that a POSITA as of the time of the alleged invention of the '559 patent would have had a bachelor's degree in electrical or computer engineering, or a closely related scientific field such as computer science, and two years of work experience with multimedia content transmission and management. Alternatively, any lack of experience could be remedied with additional education (*e.g.*, a master's degree), and likewise, a lack of education can be remedied with additional work experience (*e.g.*, 4-5 years).

VI. STATEMENT OF LEGAL PRINCIPLES

A. Claim Construction

27. I understand that terms appearing in the patent claims are to be interpreted according to their "ordinary and customary meaning" in an IPR proceeding. In determining the ordinary and customary meaning, the words of a claim are first given their plain meaning as they would have been understood by a POSITA at the time of the alleged invention, in light of the specification and file history. I understand that treatises and dictionaries may be consulted, albeit under limited circumstances, to determine the meaning attributed by a POSITA at the time

of the alleged invention. I have followed this approach in my analysis and have applied the ordinary and customary meaning of those terms throughout my analysis in this Declaration.

28. I understand that the words of the claims should be interpreted as they would have been understood by a person of ordinary skill in the art at the time the alleged invention was made (not today).

B. Anticipation

29. I understand that if each and every element of a claim is disclosed in a single prior art reference, then the claimed invention is anticipated and not patentable under pre-AIA 35 U.S.C. § 102. In order for the invention to be anticipated, each element of the claimed invention must be described or embodied, either expressly or inherently, in a single prior art reference. I also understand that a reference inherently discloses a claim limitation when that claim limitation is necessarily present in the reference.

C. Obviousness

30. I have been informed that a patent claim is invalid as “obvious” under pre-AIA 35 U.S.C. § 103 in light of one or more prior art references if it would have been obvious to one of ordinary skill in the art, taking into account (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any so-called “secondary considerations”

of non-obviousness, which include: (i) “long felt need” for the claimed invention, (ii) commercial success attributable to the claimed invention, (iii) unexpected results of the claimed invention, and (iv) “copying” of the claimed invention by others.

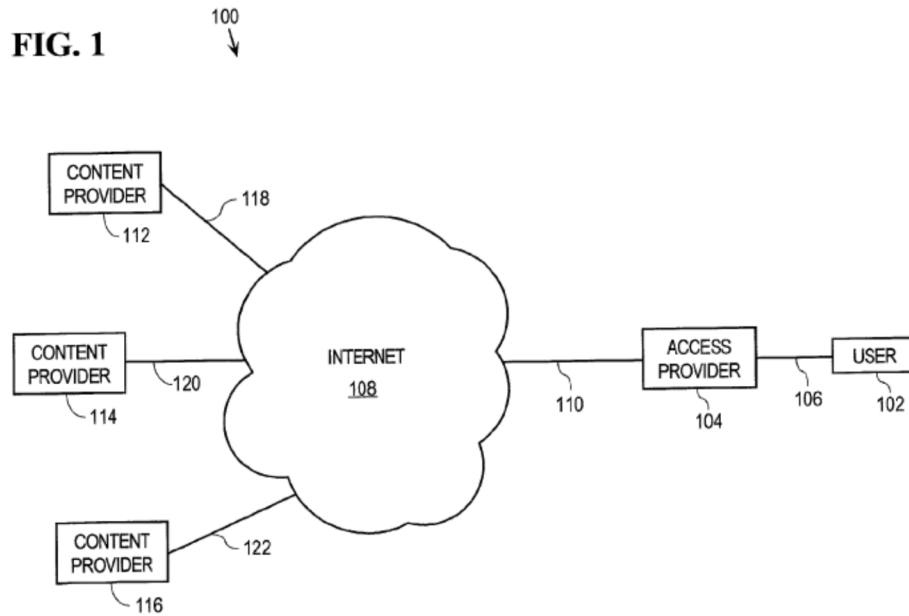
31. I have been informed that a claim can be obvious in light of a single prior art reference or multiple prior art references. To be obvious in light of a single prior art reference or multiple prior art references, there must be a reason to modify the single prior art reference, or combine two or more references, in order to achieve the claimed invention. This reason may come from a teaching, suggestion, or motivation to combine, or may come from the reference or references themselves, the knowledge of one skilled in the art, or from the nature of the problem to be solved, and may be explicit or implicit from the prior art as a whole. I have been informed that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. I also understand it is improper to rely on hindsight in making the obviousness determination.

VII. TECHNOLOGY BACKGROUND AND DISCUSSION OF THE PRIOR ART

32. It is my opinion that all of the elements of claims 1-24 were already known in the prior art before the priority date of the '559 patent. Accordingly, I conclude that there is nothing novel or non-obvious about the alleged invention disclosed in the '559 patent.

A. Systems for Delivery and Downloading of Multimedia Content from Remote Devices

33. It was well-known before 2003 how to download content from a remote device over a network. For example, it was known to deliver data to mobile terminals through broadcast channels, and to do so simultaneously to a plurality of user terminals. Ex. 1006, 1:28-30, 40-44. It was also known to download rich content such as images and music to mobile terminals via wireless networks such as cellular phone systems. *Id.* 2:16-20. By 2000, after the dot-com boom of the late 1990s, the popularity of the Internet increased such that users were turning from traditional media sources, such as television and newspaper, to the Internet to obtain media content. Ex. 1007, 1:12-16. A user may visit media servers that contain information from numerous types of content providers. *Id.*, 1:16-19. It was known that a conventional arrangement for providing Internet content to a user from a plurality of various content providers was as diagrammed below:



Ex. 1005 at Fig. 1, 1:44-48.

Additionally, different methods for transmitting/receiving data via a cellular phone had been developed well before to 2003, so that users can enjoy content having a large amount of data, such as video and music, on their cellular phones. Ex. 1006, 1:17-20.

34. Those of ordinary skill in the art would have understood that client programs and servers can provide for automatic delivery of multimedia content, such as entertainment content, to a remote client. Ex. 1007, 1:7, 1:29-34; Ex. 1009, Abstract; *see also* Ex. 1010, Abstract. It was also known to implement automatic delivery of digital content to client recipients via “push” methods, wherein the recipient needn’t have previously issued a content request. Ex. 1008, 1:37-38, 2:61-63, 5:17-22. It was also known to have a client device automatically store such

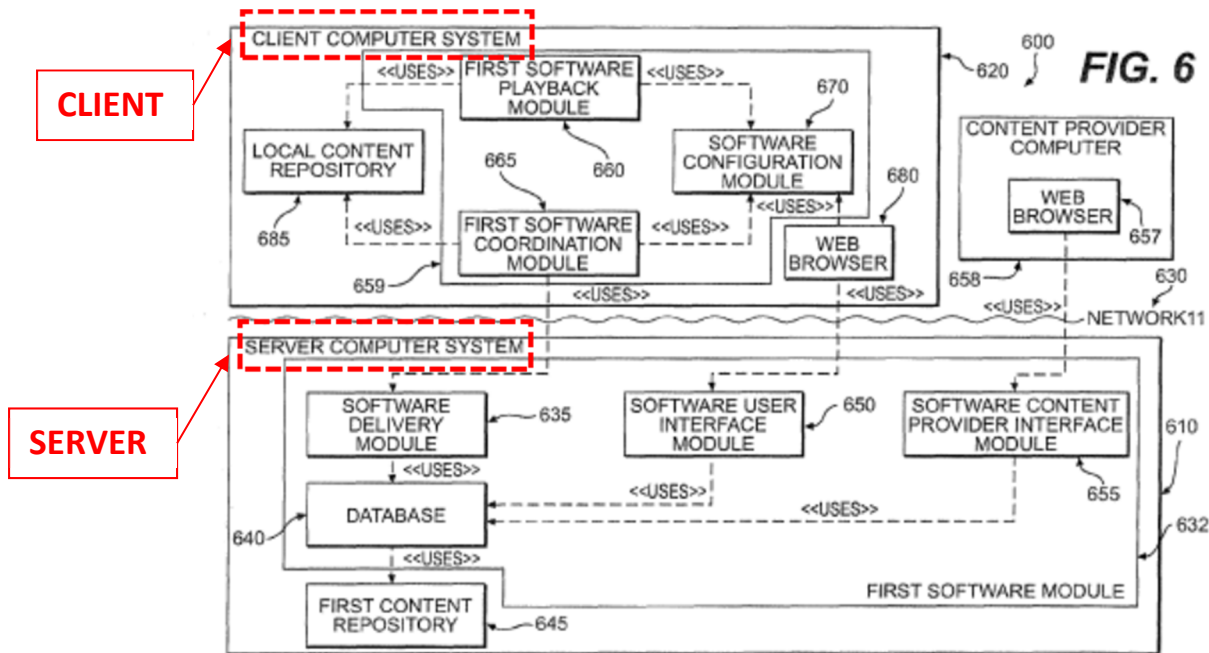
pushed content for later playback. Ex.15, [0011], [0012]. Prior to the alleged invention of the '559 patent, that the problem that transmission of content could be limited by network bandwidth and/or connection rates of mobile devices, was already well-known. Ex. 1013, 1:42-57. A common goal amongst developers was to improve network capacity and efficiency from a transmitter to a terminal. *Id.* Further, it was known and common sense for content that was expired or had become dated should be deleted from the device. *See, e.g.*, Ex. 1015, [0024, 259].

B. U.S. Patent Application Publication No. 2003/0023427 to Cassin (Ex. 1004)

35. Cassin was filed on July 26, 2001 and published on January 30, 2003. Accordingly, I understand Cassin qualifies as prior art under pre-AIA § 102(a) and (e). I also understand that Cassin was not disclosed to the Patent Office during prosecution of the '559 patent and was therefore not considered by the Patent Office.

36. Cassin describes the delivery of media content (including audio and video) via a network to a remote device. Ex. 1004, [0099]; *see also id.*, Fig. 1. I provide an annotaed version of Fig. 6 below, which depicts the system for implementing media content delivery. The system includes a server and a client. The client can be a portable device, a wireless device, or a portable wireless device, for example. *Id.*, [0141]. The server and client both include software modules. *Id.*, [0143-144]. The database 640 stores information related to the media content

available to users of the system in the form of metadata. *Id.*, [0146]. Cassin teaches that the content repository 645 can store media files. *Id.*



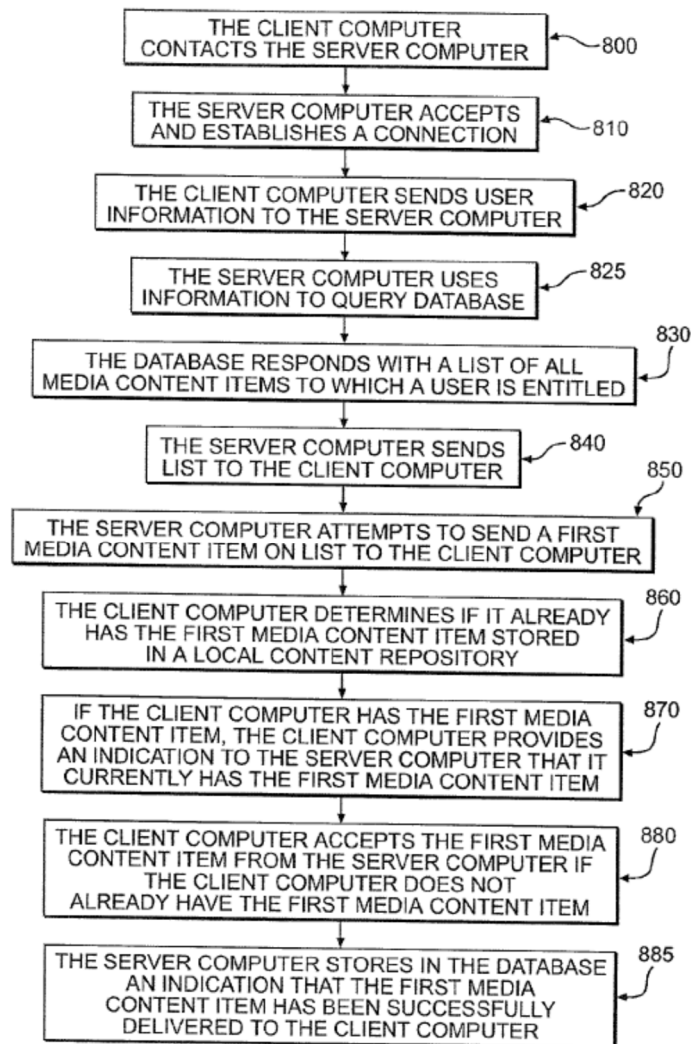
Ex. 1004 at Fig. 6 (annotated).

37. I in one preferred embodiment, Cassin discloses the remote client and server can operate according to two protocols. *Id.*, [0164]. According to the first protocol, as illustrated in Fig. 8 (reproduced below), the client sends user information to the server. *Id.* Cassin discloses that "user information" can be information about the user of the client computer, such as user registration or account information. *Id.*, [0154]. The server queries the database 640 based on the received user information, and the server obtains a list of all content that the user is entitled. *Id.* The server sends the list to the client, and then the server attempts to send a first media content item from the list to the client. *Id.* In the event, the client already has

the media content item stored in its local content repository 685, the client provides an indication to the server, which notifies the server that the client already has the first media content item. In that case, the server will then offer the next media item on the list. *Id.*; *see also id.*, Fig. 8.

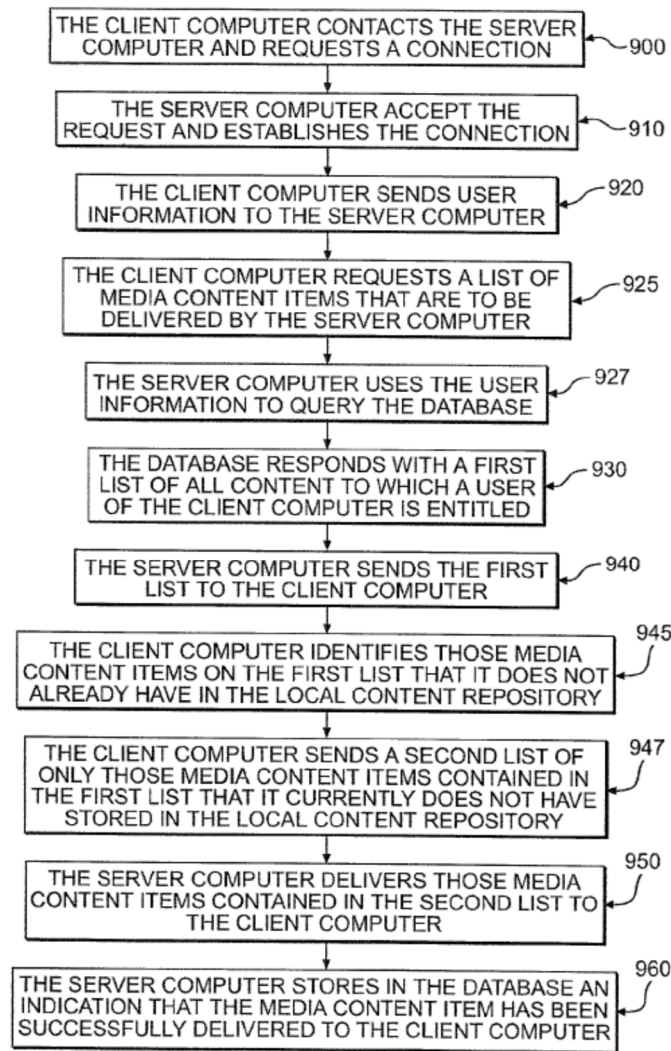
38. The '559 patent discloses that the “indication” can be a “listing of at least one piece of content stored in memory of the terminal.” *Id.*, [0133-137, 164]; Cls. 131-133. As I discuss in detail in my invalidly analysis below, Cassin discloses this, and more. For example Cassin Claim 130 claims a device that “receives from the remote device a second indication that the remote device will accept the media content delivery unless the remote device already has the media content.” *Id.*, Cl. 130. The “device” is the server of Fig. 8 (reproduced below). Dependent Claim 131 recites that the “first indication includes a first list of a first group of media content items including a least a first media content item, which is the media content.” *Id.*, Cl. 131. This limitation provides a list that identifies the media content items to which the remote device is entitled. Dependent Claim 132 then recites that the “second indication includes a second list of a second group of media content items including at least a second media content item, which is the media content.” *Id.*, Cl. 132. This limitation provides a list that identifies the media content items associated with the remote device. Notably, the list can be either content items the remote device already has, or a list of content items it does not already have, as identifiable

by the list received of Claim 131. Finally, dependent Claim 134 then recites that the second group of media content items is “a group of media content items that the remote device will accept for delivery,” *Id.*, Cl. 133. Thus, Cassin discloses that the second indication, which is received by the server, can be a list or one or more identified media content items that the remote device already has, or a list of content items it is entitled to, but does not already have.

**FIG. 8**

Ex. 1004 at Fig. 8.

39. I have reproduced Fig. 9, which illustrates a flowchart of the second protocol. Ex. 1004, Fig. 9, [0166]. At step 920, the client sends user information to the server. *Id.* In response to the client's request, the server queries database 640 using the user information, and database 640 responds with a first list of all content to which the user is entitled. *Id.* at step 945, the client then identifies the media content items on the first list that it does not already have in the local content repository 685, and at step 947, the client sends a second list including only those media content items contained in the first list that it currently does not have stored in the local content repository 685. *Id.* At step 950, the server then delivers those media content items contained in the second list to the client. *Id.*

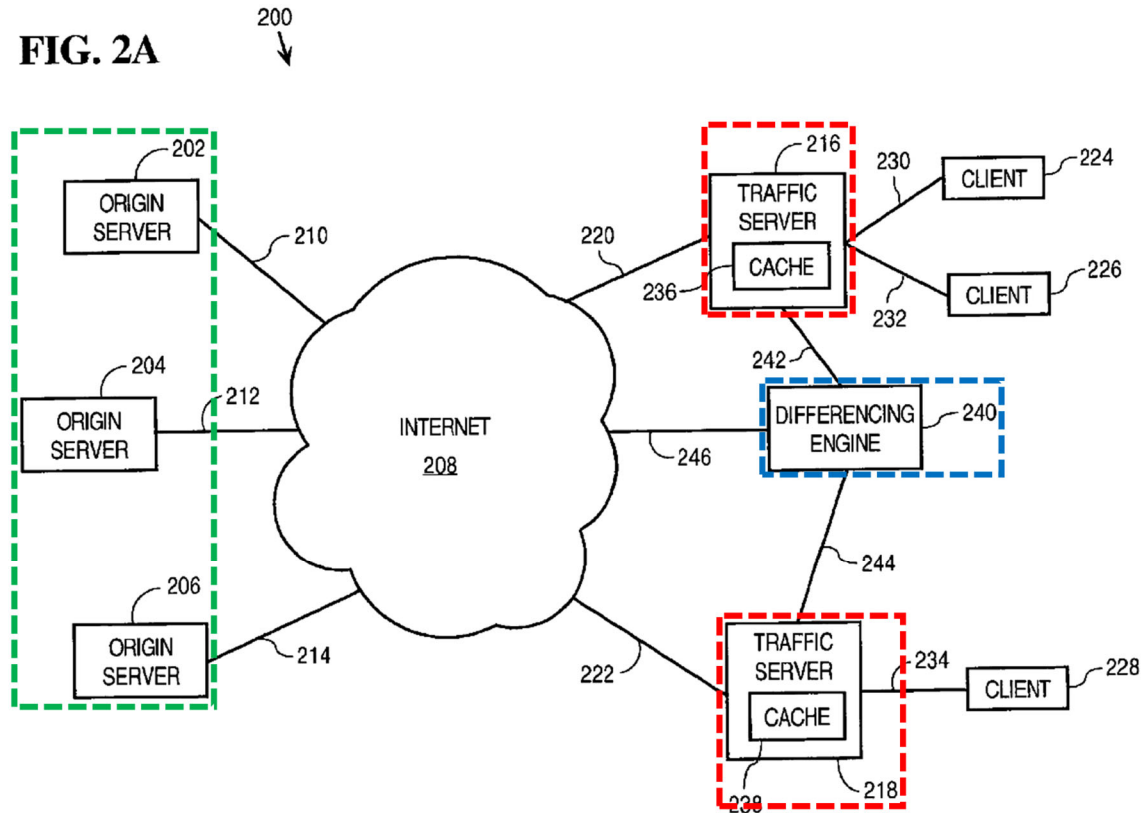
**FIG. 9**

Ex. 1004 at Fig. 9.

C. U.S. Patent No. 7,243,136 to Huston (Ex. 1005)

40. I understand that Huston was filed on January 17, 2001, published on January 17, 2002, and issued on July 10, 2007, and Huston is, therefore, prior art under pre-AIA § 102(a) and 102(e). I understand that during prosecution of the '559 patent, Huston was not disclosed to the Patent Office and as such was not considered by Patent Office.

41. Huston discloses managing and providing content to users over a communications link. Ex. 1005, Abstract. I have reproduced Fig. 2A, from Huston below, which shows the Huston system includes a differencing engine 240 marked in a blue, dashed rectangle, that is communicatively coupled to traffic servers 216, 218, marked in dashedred rectangles, via communications links 242, 244, respectively, and to Internet 208 via a communications link 246. *Id.*, 6:15-18. I have indicated within a green, dashed rectangle, origin servers 202, 204, 206, which host content from one or more content providers. *Id.*, 5:44-46. According to the invention, (i) origin servers make content available to the Internet via communication links 210, 212, 214, (ii) from the Internet content is provided to traffic servers over communication links 220, 222, and (iii) traffic servers provide content to clients. *Id.*, 5:49-58. Huston discloses that the differencing engine 240 may be co-located with the origin servers 202, 204, 206. *Id.*, 7:38-49.

FIG. 2A

Ex. 1005 at Fig. 2A (annotated).

42. The differencing engine 240 selectively causes content on traffic servers 216, 218 to be refreshed, which can mean getting deleted from the traffic servers 216, 218 and/or being replaced with newer versions of the deleted content from the origin servers 202, 204, 206. *Id.*, 6:18-26. The differencing engine 240 can delete content from the traffic servers 216, 218 by issuing one or more “delete” commands to the traffic servers 216, 218. *Id.*, 6:33-41. To determine the selection of content to be deleted from the traffic servers 216, 218, the versions of content stored on caches 236, 238 are compared with the versions of the corresponding content stored on the origin servers 202, 204, 206. *Id.*, 6:42-48. Huston discloses that the

differencing engine 240 may request from the origin servers 202, 204, 206 information about the versions of data stored on the origin servers 202, 204, 206 that are also stored on the traffic servers 216, 218 in order to determine differences between content stored on the traffic servers 216, 218 and the origin servers 202, 204, 206. *Id.*, 6:66-7:5.

D. Other Evidence Regarding the State of the Art

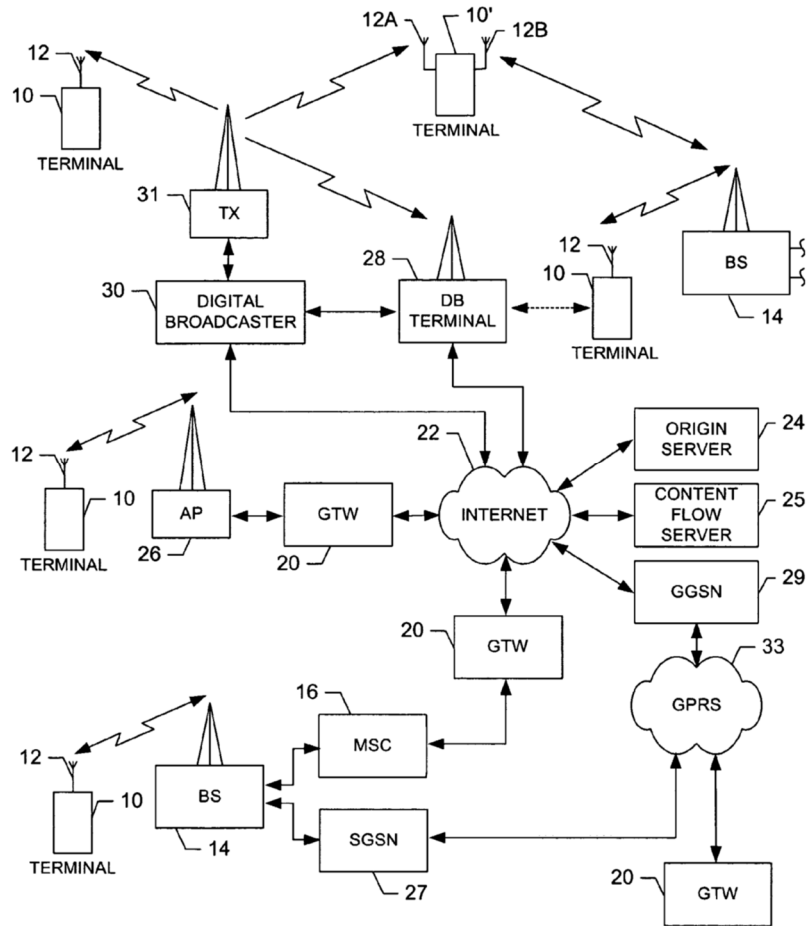
43. Exhibits 1006-1015 are additional prior art refers that provide more information regarding the state of the art, level of ordinary skill in the art, common knowledge in the art, and/or common sense in the art. These prior art references are pertinent to understanding the background of the '559 patent and my invalidity analysis.

VIII. SUMMARY OF THE '559 PATENT

44. The '559 patent is directed to an improved system and associated terminal, method and computer program product for controlling the flow of content to mobile terminals that are operable with mobile telecommunication and digital broadcast networks. Ex. 1001 at 2:57-62. As the '559 patent acknowledges, “[d]igital broadband data broadcast networks [were] known,” including the goal to achieve “efficient delivery of digital services.” *Id.*, 1:58-67, 2:8-11. The specification of the '559 patent admits that the concept of downloading content to mobile terminals was well-known in the art, including the issues of when to deliver

new pieces of content to the mobile terminal and what new pieces of content to deliver. *Id.*, 2:25-39. The '559 patent alleges that “current techniques for downloading content can suffer from inefficient content flow control between the mobile terminal and the server or content provider.” *Id.*, 2:47-49.

45. The '559 patent proposes to solve this alleged problem using “a terminal capable of sending “a content status including terminal status information” to a content flow manager, which can control the flow of content to the terminal. *Id.*, 3:10-20. The “content status” includes status information regarding the terminal. *Id.*, 10:60-67. The “terminal status information” includes information that accounts for user preferences, capabilities of the terminal and/or previous contents stored by the terminal, and remaining storage capacity of the memory of the terminal. *See id.*, 3:1-4, 12:18-30. Fig. 1 (reproduced below) “is a schematic block diagram of a wireless communications system according to one embodiment of the present invention including a cellular network and a data network to which a terminal is bi-directionally coupled through wireless RF links.” *Id.*, 4:9-13.



Ex. 1001, Fig 1.

46. The '559 patent discloses that “the control flow manager can be capable of controlling the terminal to download one or more pieces of content from the source of content based upon server status information including a listing of available piece(s) of content from the source.” *Id.*, 3:31-36. For example, the source of content (such as origin server 24 or digital broadcast receiver 28) is associated with the network entity operating the content flow manager. *Id.*, 12:37-43. The '559 patent discloses that the “content flow manager can be operated by any of a number of network entities to control the flow of content from any one or more of a number

of content sources, whether the network entity operating content flow manager comprises, or is separate from, the content source(s).” *Id.*, 11:49-53. In particular, the content flow manager can be operated by a processor of a “content flow server 25 or the like.” *Id.*, 11:35. Thus, the content flow manager can be operated by a content source, such as a content origin server or a content flow server.

47. Based upon the terminal status information and/or the server status information, the content flow manager can control the flow of content to the terminal, such as by instructing the terminal to delete at least one piece of specified content from the memory of the terminal and/or download at least one piece of specified content from the source of content. *Id.*, 3:18-36. For example, the content flow manager can “designate the expired piece(s) of content as the piece(s) of content to delete from memory of the terminal.” *Id.*, 13:4-10.¹

¹ I observe that each of the ’559 patent’s independent claims include the limitation that the terminal send status information in the form of “a content status including terminal status information,” suggesting there is some distinction between the two status information types. However, the ’559 specification uses these terms interchangeably (*italics added*): “Advantageously, the *terminal status* information can include information regarding the terminal that accounts for user preferences, capabilities of the terminal and/or previous contents stored by the terminal.” Ex.

B. Challenged Claims

48. The '559 patent has four independent claims, claims 1, 7, 13, and 19, and twenty dependent claims, claims 2-6, 8-12, 14-18 and 20-24. I have been asked to opine on the validity of all claims 1-24, which are listed below:

1[pre] An apparatus comprising:
1[a][1] a processor configured to receive, from a terminal located remote from the apparatus, a content status including terminal status information, and
1[a][2] configured to receive server status information regarding a source of content, wherein the server status information comprises a listing of at least one piece of content available from the source,
1[a][3] wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information and the server status information, and
1[b] wherein the at least one piece of content available from the source, and the content for which the processor is configured to control the flow, comprise multimedia content.
2 An apparatus according to claim 1, wherein the terminal comprises a memory, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from the source.

1001 at 3:1-4. The same is attributed to content status: “the *contact status* includes status information regarding the terminal ... reflect user preferences, capabilities of the terminal, previous contents stored by the terminal ...” *Id.*, 10:66-11:2. The blurring of term distinction is repeated elsewhere. *See, e.g., Id.*, 12:10, 12:18-33. Thus, the POSITA would have understood that similar functionality found in the prior art reads upon both terms, as claimed.

3 An apparatus according to claim 2, wherein the terminal status information comprises a listing of at least one piece of content stored in the memory of the terminal, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.
4 An apparatus according to claim 2, wherein the server status information comprises a listing of at least one piece of available content from the source, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to download at least one piece of content from the source based upon the listing of at least one available piece of content from the source.
5 An apparatus according to claim 2, wherein the processor is configured to determine if the memory of the terminal includes at least one piece of content to delete, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to delete at least one piece of content when the processor determines that the memory of the terminal includes at least one piece of content to delete.
6 An apparatus according to claim 5, wherein the processor is further configured to determine if source includes at least one available piece of content for the terminal to download, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to download at least one available piece of content when the processor determines that the source includes at least one available piece of content for the terminal to download.
7[pre] An apparatus comprising:
7[a][1] a controller operable with a terminal including a memory configured to store at least one piece of content, wherein the controller is configured to send a content status including terminal status information comprising a listing of at least one piece of content stored in the memory, wherein the controller is configured to send the content status to a remote network entity, and
7[a][2] receive a response to the content status from the network entity that instructs the controller to perform one or more actions to thereby control a flow of content to the terminal based upon the terminal status information, and

7[b] wherein the at least one piece of content stored in the memory, and the content for which the network entity is configured to control the flow, comprise multimedia content.
8 An apparatus according to claim 7, wherein the controller is configured to receive a response that instructs the controller to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.
9 An apparatus according to claim 8, and wherein the controller is configured to receive a response that instructs the controller to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.
10 An apparatus according to claim 8, wherein the controller is configured to receive a response that instructs the controller to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.
11 An apparatus according to claim 8, wherein the controller is configured to send the content status such that the network entity determines if the memory of the terminal includes at least one piece of content to delete, and wherein the controller is configured to receive a response that instructs the controller to delete at least one piece of content when the network entity determines that the memory of the terminal includes at least one piece of content to delete.
12 An apparatus according to claim 11, wherein the controller is configured to send the content status such that the network entity further determines if the source includes at least one available piece of content for the terminal to download, wherein the controller is configured to receive a response that further indicates if the source includes at least one available piece of content, and wherein the controller is further configured to download the at least one available piece of content when the network entity determines that the source includes at least one available piece of content.
12[a] wherein the controller is configured to send the content status such that the network entity further determines if the source includes at least one available piece of content for the terminal to download, wherein the controller is configured to receive a response that further indicates if the source includes at least one available piece of content, and wherein the controller is further configured to download the at least one available piece of content when the network entity determines that the source includes at least one available piece of content.

13[pre] A method for controlling a flow of content, the method comprising:
13[a] receiving, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal; and
13[b] sending, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,
13[c] wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.
14 A method according to claim 13, wherein sending a response comprises sending a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.
15 A method according to claim 14, and wherein sending a response comprises sending a response that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.
16 A method according to claim 14, wherein sending a response comprises sending a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.
17 A method according to claim 14 further comprising: determining if the memory of the terminal includes at least one piece of content to delete, wherein sending a response comprises sending a response that instructs the terminal to delete at least one piece of content when the memory of the terminal is determined to include at least one piece of content to delete.
18 A method according to claim 17 further comprising: determining if the source includes at least one available piece of content for the terminal to download, wherein sending a response comprises sending a response that further instructs the terminal to download at least one available piece of content when the source is determined to include at least one available piece of content.
19[pre] A computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:

19[a] a first executable portion configured to receive, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal; and
19[b] a second executable portion configured to send, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,
19[c] wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.
20 A computer-readable storage medium according to claim 19, wherein the second executable portion is configured to send a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.
21 A computer-readable storage medium according to claim 20, wherein the second executable portion is configured to send a response that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.
22 A computer-readable storage medium according to claim 20, wherein the second executable portion is configured to send a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.
23 A computer-readable storage medium according to claim 20 further comprising: a third executable portion configured to determine if the memory of the terminal includes at least one piece of content to delete, wherein the second executable portion is configured send a response that instructs the terminal to delete at least one piece of content when the second executable portion determines the memory of the terminal includes at least one piece of content to delete.
24 A computer-readable storage medium according to claim 23, wherein the third executable portion is further configured to determine if the source includes at least one available piece of content for the terminal to download, and wherein the second executable portion is configured to send a response that further instructs the terminal to download at least one available piece of

content when the second executable portion determines the source includes at least one available piece of content.”

Independent claims 1, 7, 13, and 19 of the '559 patent include two apparatus claims, directed to content flow manager functionality (claim 1) and a remote terminal functionality (claim 7), and a method and computer-readable storage medium having program code, both directed to content flow manager functionality (claims 13 and 19 respectively). So while the form of the claims are different and include only minor variations, they recite similar core limitations, such as receiving or sending “a content status including terminal status information,” sending or receiving “a response to the content status ... that instructs ... to perform one or more actions ... to control the/a flow of content” and to “control the flow of content to the terminal based upon the terminal status information.” For this reason, the claims and claim elements can be organized into like groups, wherein the invalidity analysis and evidence supporting the analysis is the same or very similar. For example, although independent claim 1 is drafted from the perspective of the control flow manager and independent claim 7 is drafted from the perspective of the remote terminal, the evidence and analysis for the corresponding limitation of the respective claim is the same or very similar. Using the claim element breakdown I have used below in my

analysis, the following are like groups, and it is appropriate to analyze these limitations together:

- The preambles of independent claims 1, 7, 13, 19.
- Elements 1[a][1], 7[a][1], 13[a], 19[a].
- Elements 1[a][3], 7[a][2], 13[b], 19[b].
- Elements 1[b], 7[b], 13[c], 19[c].
- Claims 2, 8, 14, 20.
- Claims 3, 9, 15, 21.
- Claims 4, 10, 16, 22.
- Claims 5, 11, 17, 23.
- Claims 6, 12, 18, 24.

C. The '559 Patent File History (Ex. 1002)

49. The '559 patent issued from U.S. Patent Appl. No. 10/690,692 (“the '692 application”), which was filed on October 22, 2003. Ex. 1001.

50. During prosecution of the '692 application, the Examiner rejected claims 1-24 as being anticipated by U.S. Patent No. 5,450,482 to Chen et al. (“Chen”) in a Non-final Office Action. Ex. 1002, 90. In response, the applicant amended independent claim 1, adding the limitation “wherein the at least one piece of content available from the source, and the content for which the processor is configured to control the flow, comprise *multimedia content* consumable by the terminal” *Id.*, 71 (emphasis added). Similarly, the applicant amended independent

claims 7, 13, and 19 to recite “wherein the at least one piece of content stored in the memory, and the content for which the network entity is configured to control the flow, comprise ***multimedia content*** consumable by the terminal.” *Id.*, 72-75 (emphasis added).

51. The applicant asserted that “Chen discloses a network automatic call distribution system (ACD) for a network including a number of switches interconnecting a number of telephones and operator switches.” *Id.*, 78. In distinguishing the prior art, the applicant contended that “Chen discloses switch status including a listing of switches and services available from those switches[,]” not “a server status including a listing of content available from the source, similar to the claimed invention.” *Id.*, 79-80 (emphasis in original). Therefore, the applicant contended, Chen purportedly did not “teach or suggest a network entity controlling the flow of content to a terminal based on terminal status information, as well as server status information for a source of content, the server status information including a listing of ***one or more pieces of content available from the source***” as recited in claim 1. *Id.*, 78 (emphasis added). The applicant also argued that Chen purportedly did not disclose a terminal status including a listing of ***content stored in memory of the terminal*** as recited in claims 7, 13 and 19. *Id.*, 79-80 (emphasis added).

52. In a Final Office Action, the Examiner maintained the rejection that claims 1-24 are anticipated by Chen. *Id.*, 64-65. To overcome the prior art rejection, the applicant amended claims 1, 7, 13 and 19 to recite a terminal that is *remote*, and argued that the cited prior art purportedly did not disclose “*multimedia* content.” *Id.*, 42-47, 51-53 (emphasis added).

53. In response to the prior art rejection in the second Non-final Official Action, the applicant argued, without any amendment, that the cited reference, Aubault (U.S. Patent Application Publication No. 2005/0086318), did not qualify as prior art. *Id.*, 22-23.

54. The Examiner allowed the claims and the ’559 patent issued on October 21, 2008. Ex. 1001.

D. Claim Construction (37 C.F.R. § 42.104(b)(3))

55. I understand that in the litigation, *VideoLabs, Inc. v. Netflix Inc.*, Case 1:22-cv-00229 (D. Del.), neither Petitioner nor Patent Owner proposed any constructions for any terms in the claims of the ’559 patent. For the purposes of this proceeding, I have been asked to analyze the claims assuming the ordinary and customary meanings of the claim terms apply, as they would have been understood by a POSITA at the time of the alleged invention of the ’559 patent.

56. Claims 2, 8, 14, 20 all include the limitation “to at least one of delete at least one piece of content from the memory of the terminal, or download at least one

piece of content from a source.” A POSITA would understand that the ordinary and customary meaning of this limitation means that if a prior art reference discloses only deleting at least one piece of content from the memory of the terminal, then the claim limitation is satisfied. Likewise, a POSITA would understand that if a prior art reference discloses only downloading at least one piece of content from a source, then the claim limitation is satisfied.

57. In addition, I have been informed that the court in a related litigation, *Starz Entm’t, LLC v. VL Collective IP, LLC*, Case No. 1:21-cv-01448 (D. Del.), entered a claim construction order, which included a construction for the term “download,” which is a term recited in claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24. The court construed “download” to mean “copy and store in memory of the terminal for subsequent use.” *Starz Entm’t, LLC v. VL Collective IP, LLC*, Claim Construction Order, page 3 (Dkt. 88), Case No. 1:21-cv-01448 (D. Del.) (Ex. 1023). I have been asked to consider and apply this construction as an additional part of my analysis.

58. In my opinion, under either the construction of “download” as provided by the court in the *Starz* case or the ordinary and customary meaning of “download,” the prior art references Cassin and Huston teach all of the elements of the claims of the ’559 patent as provided in Grounds 1-3.

IX. PRIORITY DATE OF THE '559 PATENT

59. I have been informed that a patent is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the latter application as required by the “written description” requirement of 35 U.S.C. §112. I have been informed that for an earlier patent application to have an adequate written description of the invention it must show, within the four corners of the earlier application, that the inventors were in possession of the invention at the time the earlier application was filed. I have also been informed that in order to satisfy the written description requirement, a POSITA, reading the original disclosure, must immediately discern the limitation at issue in the claims. I have been further informed that it is insufficient if the limitations are obvious variants of the disclosure in the specification.

60. I understand that the '559 patent, filed on October 22, 2003, claims no other priority. The references I have used in Grounds 1-3 are prior art to the October 22, 2003 priority date.

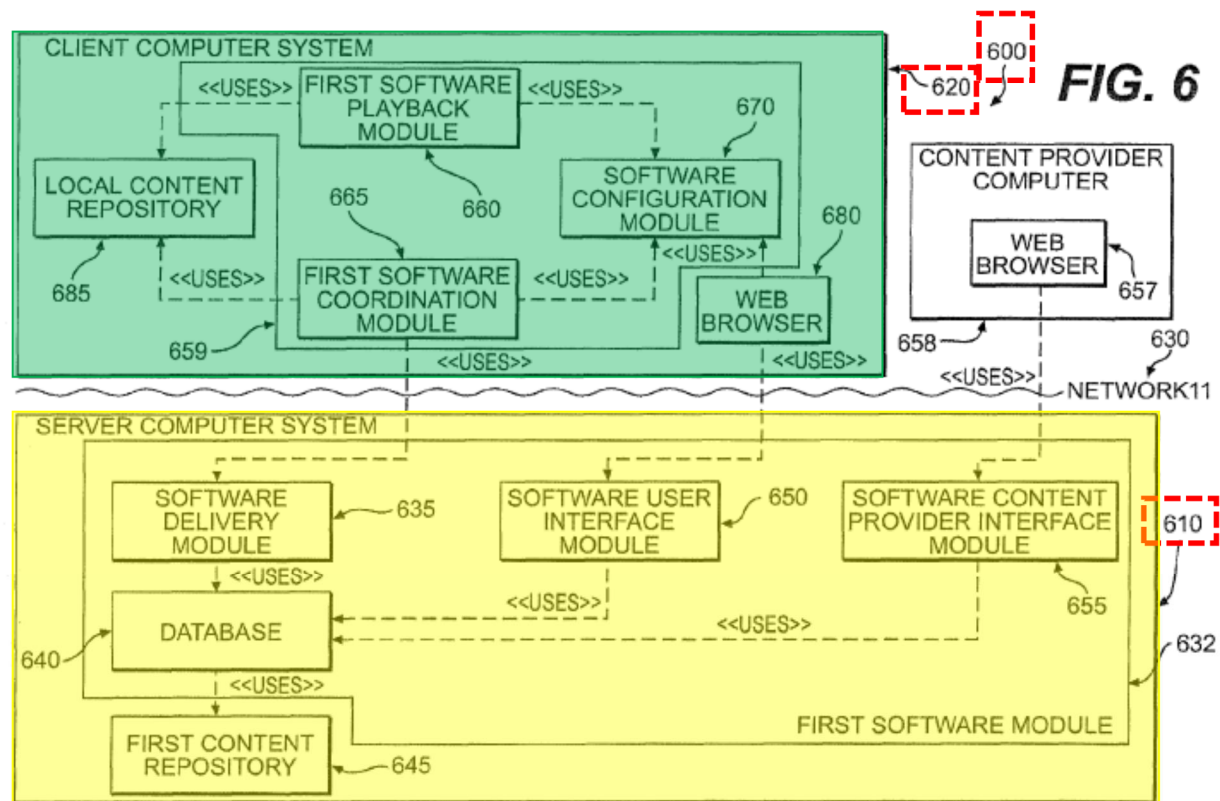
X. APPLICATION OF THE PRIOR ART TO CLAIMS 1–24**A. Ground 1: Cassin Anticipates Claims 1, 2, 4, 7, 8, 10, 13, 14, 16, 19, 20, and 22 of the '559 Patent**

61. Cassin discloses each limitation of claim 1, as explain below.

1. Claim 1**a. 1[pre]: “An apparatus comprising:”**

62. If the preamble is considered to be limiting, Cassin discloses the preamble in claim 1. Cassin discloses a system and method for implementing a media content delivery and playback scheme that controls the flow of content for the reasons described below. Ex. 1004, [0140] (“FIG. 6 depicts a system 600 for implementing a media content delivery and playback scheme in accordance with a preferred embodiment of the present invention”).

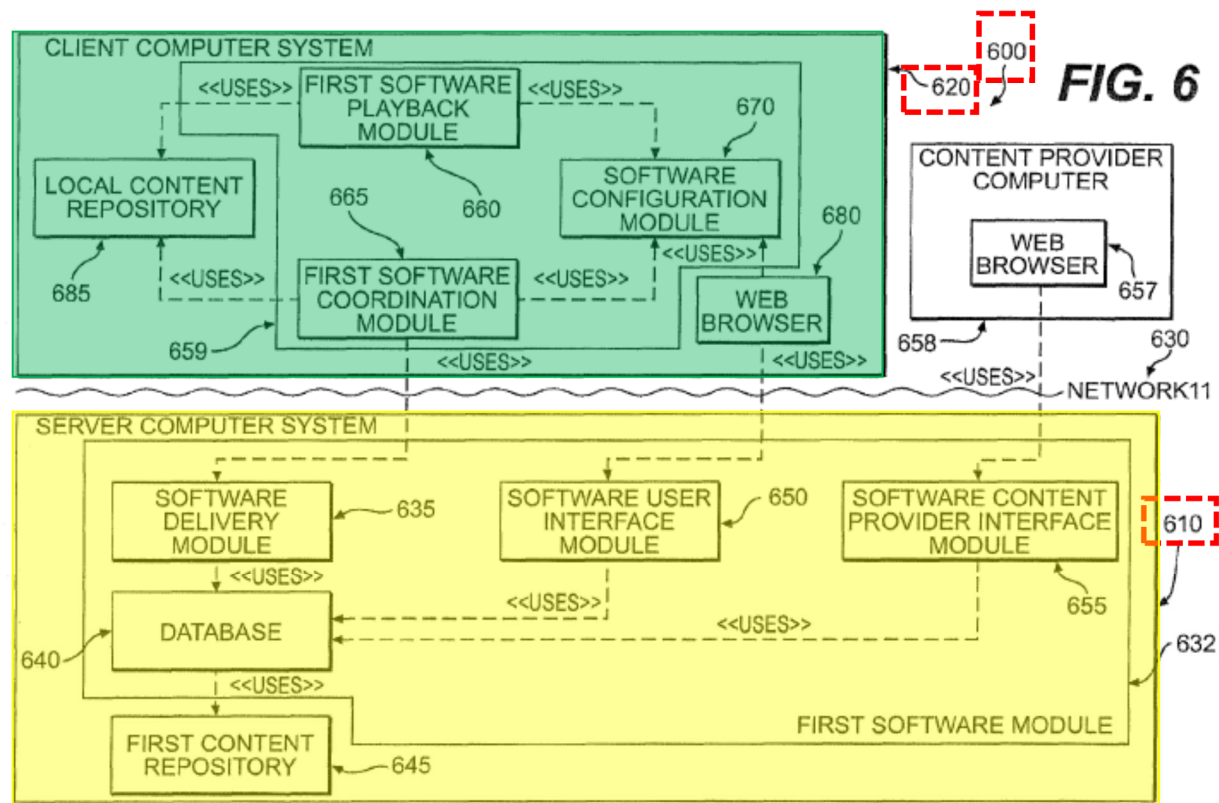
63. I have reproduced Fig. 6 below, which depicts system 600 that includes a server computer system 610 that has a server computer with a first processor, as shown in yellow, which is the claimed apparatus in claim 1, the ’559 patent’s content flow manager. *Id.*, Fig. 6, [0140] (“[t]he system includes a server computer system 610 including at least a server computer (not shown) having a first processor (not shown).”) The server computer has a processor that executes instructions stored in a first software module. *Id.*, [0142] (“[t]he processor of the server computer executes instructions including a first software module 632, which may be stored in a storage device associated with the server computer”).



Ex. 1004, Fig. 6 (annotated).

- b. 1[a][1]: “a processor configured to receive, from a terminal located remote from the apparatus, a content status including terminal status information, and”

64. Cassin discloses this limitation. I have reproduced an annotated version of Fig. 6 below.



Ex. 1004 at Fig. 6.

65. Cassin’s server computer system, as illustrated in Fig. 6 in yellow, is remote from client computer system 620 in green. *Id.*, Fig. 6, [0140]. A POSITA would have understood that the server computer system disclosed in Cassin, could also be referred to interchangeably as a “server” or a “server computer.” The client computer system is the claimed *terminal located remote from the apparatus*. *Id.*, Fig. 6. A POSITA would have also understood that Cassin’s client computer system, could also be referred to interchangeably as a “client” or a “client computer.”

66. The server, which is the claimed *apparatus*, has “a processor” that executes instructions including a first software module 632. *Id.*, [0140] (“the system

600 includes at least a portion of a network 630 by which the server computer system 610 and the client computer system 620 are coupled to each other. The network 630 may be implemented as a local area network, wide area network, a public access network (e.g., the Internet), or a combination of networks.”) Because the network that couples the server and the client to each other can be implemented with a local area network, a wide area network, or the Internet, the “*terminal is located remote from the apparatus.*”

67. In a preferred embodiment, Cassin discloses how system 600 is configured to control the flow of content according to two protocols as depicted in Figs. 8 and 9. *Id.*, [0164-0168]. Under both protocols (Fig. 8 and Fig. 9), the client computer first contacts the server computer to request a connection, and the server computer accepts and establishes the connection (both Figs). *See id.* The client computer sends user information (information about the user of the client computer) to the server (both Figs.) and can also request a list of content from the server that should be delivered (Fig. 9; step 925). *See id.* Both user information from the client and the request for a list of content are “*content status including terminal status information*” provided to the server. *See id.*; *see also id.*, [0012] (“the remote device initiates the session by making a request for a connection with the device. The device may establish the connection in response to the request”); *id.*, (“The status

information in the content status can include any of a number of different pieces of information regarding the terminal 10 and the contents stored therein”).

68. The server computer receives the user information and/or the client’s request for a list of content and queries database 640 based on the user information. Database 640 stores information related to the system in the form of metadata, including descriptions of packages, series, and episodes. *Id.*, [0146]. (“The information must include metadata about the media content available to the system, including for example, descriptions of packages, series and episodes.”) Multimedia content in the form of media files are stored in the first content repository 645, and the contents of this repository may be accessible via the metadata database. *See id.* (“the media files may be stored within a first content repository 645 associated with the server computer system 610. The contents of the first content repository 645 may be accessible via the database 640.”); *id.*, [0164, 0166], Figs. 8 (step 825), 9 (step 927). The database responds with a listing of all content to which the user is entitled (both Figs). *Id.* The server computer sends this listing to the client (Figs. 8 and 9). *Id.*

69. According to the first protocol (Fig. 8), the server computer attempts to send the first media content item on the list to the client computer (step 850). *Id.* The client computer determines whether it has the media content item already stored in the memory of its local content repository 685 (step 860), and if so, the client

computer sends an indication, or “*a content status including terminal status information*,” to the server computer that “it currently has the media content item” stored (step 870). *Id.*

70. According to the second protocol (Fig. 9), after the server computer sends to the client computer the content listing to which the user is entitled (step 940), “the client computer identifies those media content items on the first list that it does not already have in [its] local content repository 685” (step 945). *Id.*, [0166]. In step 945, “the client computer would send a second list of only those media content items contained in the first list that it does not already have in the local content repository 685.” *Id.* This second list is also “*a content status including terminal status information*.” The client computer then sends to the server computer a list of those media content items that it does not have (step 947). *Id.*, Cl. 133. The client’s list of content items that it does not have that is sent to the server computer is another *content status including terminal status information*. *Id.* The server computer then delivers those media content items from the client’s list to the client (step 950). *Id.*

- c. **1[a][2]: “configured to receive server status information regarding a source of content, wherein the server status information comprises a listing of at least one piece of content available from the source,”**

71. Cassin discloses “*configured to receive server status information regarding a source of content, wherein the server status information comprises a*

listing of at least one piece of content available from the source.” As discussed above in paragraphs 62-70, which is incorporated by reference herein, the server computer system has a first content repository 645 that stores multimedia content in the form of media files, which is accessed via database 640. Ex. 1004, [0146]. As I discussed in relation to limitation 1[a][1], after the server computer receives user information and/or the client’s list of content, the server then queries database 640 based on the user information. *Id.*, [0164, 0166], Figs. 8, 9. The server then receives from the database a list of all content to which the user is entitled, which is “*server status information regarding a source of content.*” *See id.* The list returned from the database query identifies at least one piece of media content available from the first content repository 645 (the source). This satisfies “*a listing of at least one piece of content available from the source.*” *Id.*

- d. **1[a][3]: “wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information and the server status information, and”**

72. Cassin discloses this limitation. As discussed above in relation to limitations 1[a][1] and 1[a][2] in paragraphs 62-71, which is incorporated by reference herein, the server computer system 610 (the content flow manager “*network entity*”) is configured to receive content status from the remote client computer (the terminal), which includes user information, a request for a list of

media content that should be delivered, an indication from the client computer informing the server computer that the client computer already has the media content item stored in its memory, and/or a list of media content items that the client does not have. Ex. 1004, [0164, 0166]. *Id.*, [0133-0137, 0164, 0166], Cls. 130-132. As further discussed above, the server computer also receives a list of all content to which the user is entitled (the “*server status information*”), from the server computer’s database 640 and the content repository 645 (the “*source*”). *Id.*, [0146, 0164, 0166].

73. According to the first protocol (Fig. 8), in response to the content status and server status information, the server computer “*control[s] the flow of content to the terminal*” by sending the client computer the list of content the client is entitled to (step 840) and then attempting to send the first media content item on the list to the client (step 850). *Id.* If the client computer has the first media content item on the list, then the client computer sends an indication to the server computer that it currently has the first media content item stored in its local content repository 645 (step 870), and the server will offer the next media content item on the list. *Id.*

74. I will refer to the next media content item on the list as the second media content item. If the client does not have the second media content item stored in its local content repository, the client will accept the second media content item from the server (step 880). *Id.*; *see also id.*, [0012, 0085, 0133-0137, 0164], Cls. 130-133.

In that case, the server computer instructs the client computer to download the second media content item. *Id.* In other words, the server computer is “*configured to send*” to the client, a “*response to the content status,*” which “*instructs*” to the client to download the second media content item, which satisfies the limitation of performing “*one or more actions to thereby control the flow of content to the terminal.*” The instruction to download the second media item is “*based upon the terminal status information*” (the indication) and “*the server status information*” (the list of content the client is entitled). *Id.* Thereby, the server computer controls the flow of content to the client computer. *Id.*

75. The process repeats, as Cassin discloses “[t]hereafter, steps 850-880 are repeated for each media content item, as necessary.” *Id.*, [0164].

76. According to the second protocol (Fig. 9), after the server computer sends to the client the content listing to which the user is entitled, which is the “*server status information,*” the client computer identifies those media content items on the listing that it does not already have in its local content repository 685 (step 945). *Id.*, [0166]. The client computer would then “send a second list of only those media content items contained in the first list that it currently does not have stored in the local content repository 685” (step 947). *Id.* The client’s second list that is sent to the server computer is another “*content status including terminal status information.*” *Id.* The server computer then “*control[s] the flow of content*” to the

client computer by delivering from its database 640 and first content repository 645 those media content items from the client's list. *Id.* In other words, the server computer *instructs* the client computer “*to perform one or more actions to thereby control the flow of content to the terminal,*” which in this case the server instructs the client to download those media content items from content listing to which the user is entitled that are on the client list the client sent to the server. *Id.*

- e. **1[b]: “wherein the at least one piece of content available from the source, and the content for which the processor is configured to control the flow, comprise multimedia content.”**

77. Cassin discloses this limitation. Both the server computer's database and first content repository 645 and the client computer's local content repository 685 are configured to store various types of multimedia content including “music, videos and multimedia programming.” *Id.*, [151] (“[t]he first software coordination module 665 contacts the server computer and coordinates the delivery of any new media content files for a user of the client computer. ... Using a client computer in accordance with the present invention, a user can have access to a wide variety of media content, including original and re-purposed data, music, videos and multimedia programming.”) *See also, e.g., id.* [146, 152, 156].

2. Claim 2

- a. **“An apparatus according to claim 1, wherein the terminal comprises a memory, and wherein the processor is configured to send, to the terminal, a**

response to the content status that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from the source.”

78. Cassin discloses this limitation. The client computer system 620 (the “*terminal*”) has a local content repository 685 to store media content in the form of media files. Ex. 1004, Fig. 6, [0156] (“[t]he second software module may also access a local content repository 685 to store media content in the form of media files.”) Local content repository 685, is memory or may be a storage device, such as a hard drive. *Id.*

79. As discussed above in paragraphs 62-77, which are incorporated by reference herein, in Fig. 8, steps 870 and 880, the server computer uses the information in the indication received from the client computer to offer the next media content item on the list, which is an instruction to the client computer to accept or “download” the media content item from the server computer’s first content repository 645 (the source), if the client computer does not have that media content item. *See* paragraphs 62-77; *see also* Ex. 1004, [0164, 0166]; Figs. 8, 9], Cl. 133. Paragraph [0165] of Cassin confirms that when the client computer accepts the media content item from the server, the media content file is then downloaded. *Id.*, [0165] (“After the media content item has been successfully downloaded, in step 880 . . .”).

80. When the server in Cassin delivers the media content item to the client, and the client accepts the media content item, the media content item is “download[ed]” as construed in the *Starz* court and according to the plain and ordinary meaning of “download.” Specifically, when the media content item has been downloaded by the client, a copy of the media content item has been stored in the memory of the client for subsequent use. *Id.*, [0156, 0164-0165].

3. Claim 4

- a. **“An apparatus according to claim 2, wherein the server status information comprises a listing of at least one piece of available content from the source, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to download at least one piece of content from the source based upon the listing of at least one available piece of content from the source.”**

81. Cassin discloses this limitation. *See* paragraphs 62-80, which are incorporated by reference herein.

82. The source of content for the server computer system (the claimed apparatus) is the first content repository 645, which stores multimedia content in the form of media files, which is accessed via database 640. Ex. 1004, [0146] (“the media files may be stored within a first content repository 645 associated with the server computer system 610.”) After the server queries content metadata database 640 based on the user information received from the client computer system, the server computer receives from database 640 a listing of all content from the first

content repository 645 to which the user is entitled, *i.e.*, content that is available to the client. *Id.*, [0164, 0166], Figs. 8, 9. This listing is “*the server status information comprises [comprising] a listing of at least one piece of available content from the source.*” *Id.*, [0164, 0166], Figs. 8, 9.

83. Based on the indication received from the client computer, as described in paragraphs 62-76, the server computer is “*configured to send*” to the client computer a response that instructs the client computer (the “*terminal*”) to download at least one media file from first content repository 645 (“*content from the source*”) that was identified in the listing. *See id.* [0164, 166], Figs. 8, 9.

84. *See also* paragraphs 78-80.

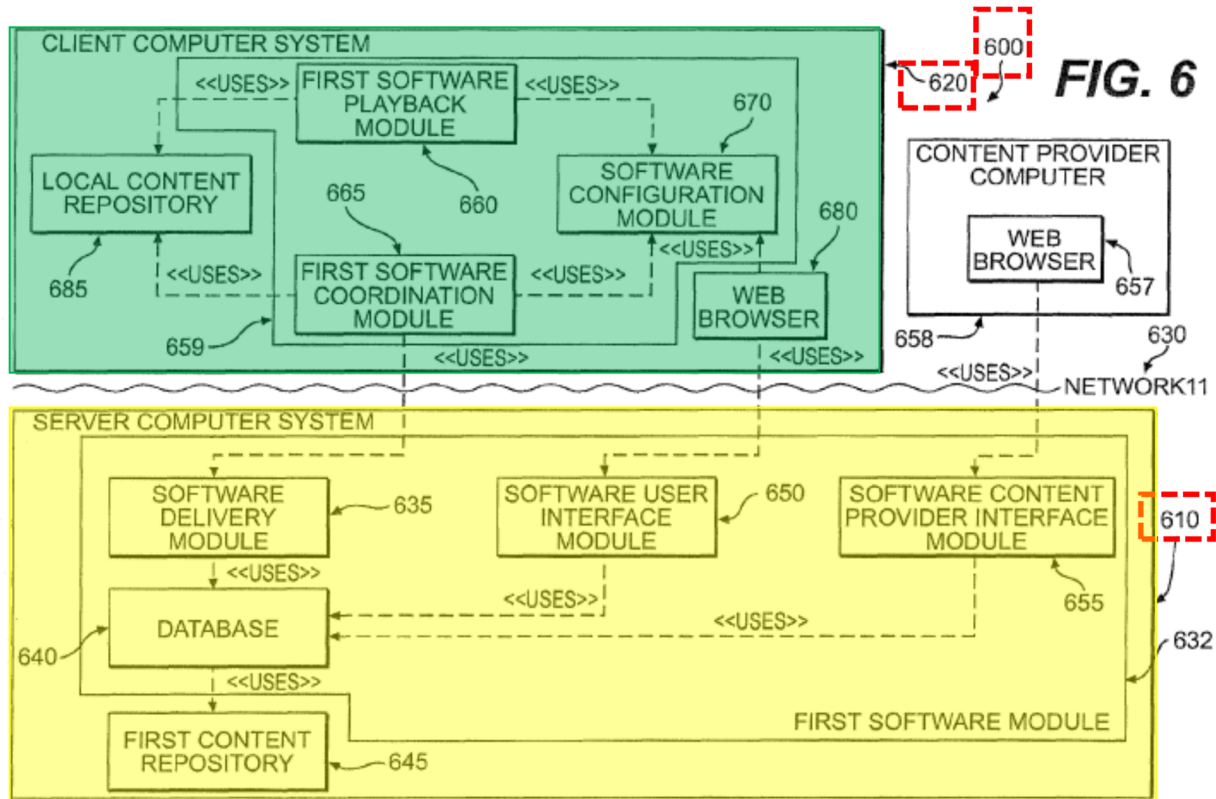
4. Claim 7

a. 7[pre]: “An apparatus comprising:”

85. If the preamble is considered to be limiting, Cassin discloses the preamble in claim 7. Cassin discloses a system and method for implementing a media content delivery and playback scheme that controls the flow of content for the reasons described below. Ex. 1004, [0140]. (“FIG. 6 depicts a system 600 for implementing a media content delivery and playback scheme in accordance with a preferred embodiment of the present invention.”)

86. I have reproduced Fig. 6 below. The Cassin system includes a client computer system that has a client computer with a processor, as shown in green in

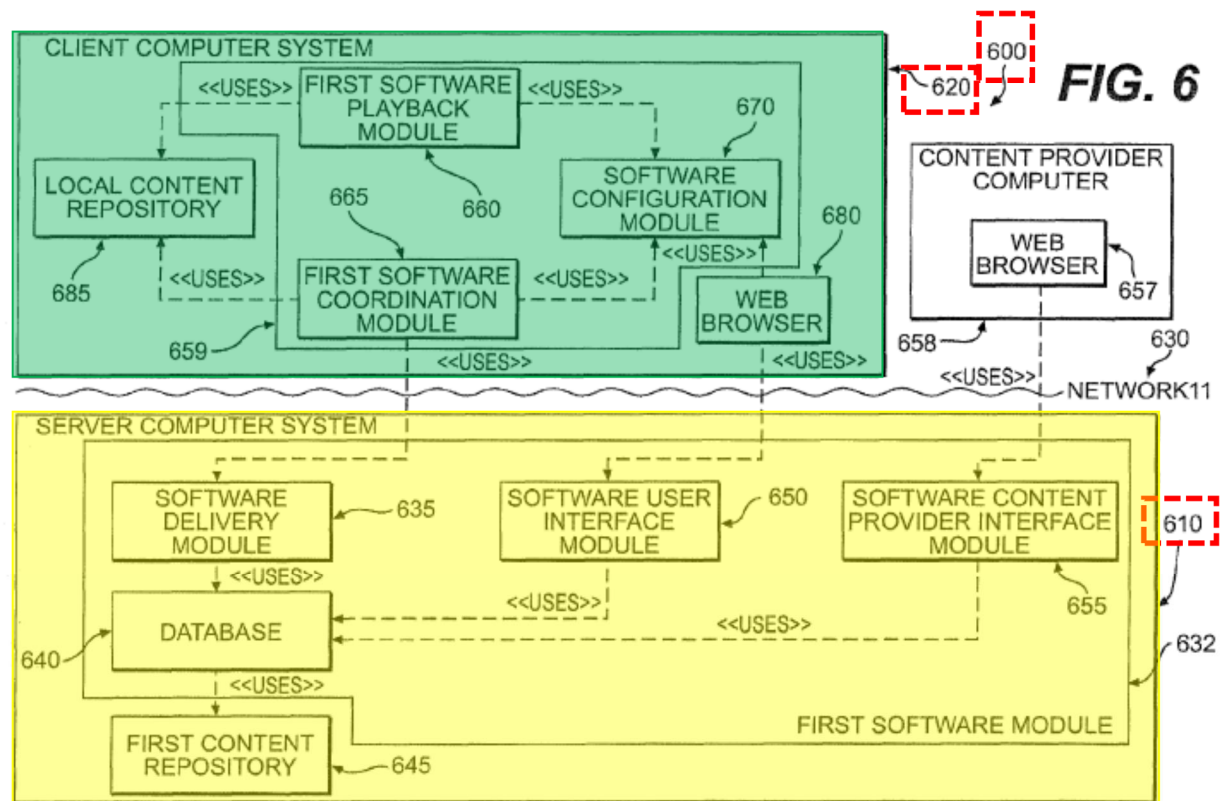
Fig. 6 below, which is the claimed “apparatus.” *Id.*, [0140], Fig. 6 (green). *Id.*, [0140] (“[t]he system also includes a client computer system 620 including at least a client computer (not shown) having a processor (not shown)”).



Ex. 1004, Fig. 6 (annotated).

- b. 7[a][1]: “a controller operable with a terminal including a memory configured to store at least one piece of content, wherein the controller is configured to send a content status including terminal status information comprising a listing of at least one piece of content stored in the memory, wherein the controller is configured to send the content status to a remote network entity, and”

87. Cassin discloses this limitation. I have reproduced the annotated version of Fig. 6 below.



Ex. 1004, Fig. 6 (annotated).

88. The client computer system 620 (the “terminal”) has a second software module 659 that includes a first software coordination module 665 (“a controller operable with a terminal”) that coordinates the exchange of information with the server computer system 610. Ex. 1004, [0151], Fig. 6. (“[t]he first software coordination module 665 contacts the server computer and coordinates the delivery of any new media content files for a user of the client computer.”) The second software module has a local content repository, or a memory, to store media content in the form of media files. *Id.*, [0156], Fig. 6. (“[t]he second software module may also access a local content repository 685 to store media content in the form of media

files. The local content repository 685 may be a storage device, such as a hard drive, random access memory . . . or any of a number of storage devices that are well-known to those skilled in the art.”). In other words, the client’s local content repository 685 is memory that is “configured to store at least one piece of content.”

89. The controller in Cassin is “*configured to send a content status including terminal status information comprising a listing of at least one piece of content stored in the memory.*” Cassin discloses that the “first software coordination module 665 contacts the server computer and coordinates the delivery of any new media content files for a user of the client computer.” *Id.*, [0151].

90. In one embodiment, Cassin discloses how system 600 is configured to control the flow of content as depicted in Fig. 8, which describes a first protocol. *Id.*, [0164-0165]. According to the first protocol, (Fig. 8), the client computer first contacts server computer system 610 to request a connection, and the server computer accepts and establishes the connection (both Figs). *Id.* The client computer sends user information (information about the user of the client computer) to the server (step 820). *Id.* The user information from the client is “*content status including terminal status information*” provided to the server. *Id.*; *see also id.*, [0012] (“the remote device initiates the session by making a request for a connection with the device. The device may establish the connection in response to the request. The device may establish the connection in response to the request.”).

91. The server computer receives the user information and queries its database 640 based on the user information. The database responds with a listing of all content to which the user is entitled (both Figs). *Id.* The server computer sends this listing to the client (Fig. 8). *Id.* The server computer then attempts to send the first media content item on the list to the client computer (step 850). *Id.* The client computer determines whether it has the media content item already stored in the memory of its local content repository 685 (step 860), and if so, the client computer sends an indication, or a *content status including terminal status information*, to the server computer that “it currently has the media content item” stored (step 870). *Id.* The indication can include a list of the media content items already stored on the client computer. *Id.*, [0133-137, 164]; Cls. 130-133. Moreover, a POSITA would have understood that a list can include one item.

92. To further explain, Claim 130 of Cassin recites a device, which is the server computer system, which “receives from the remote device a *second indication* that the remote device will accept the media content delivery unless the remote device already has the media content.” *Id.*, Cl. 130. Claim 132 further describes that the “second indication includes a second list of a second group of media content items including at least a second media content item, which is the media content.”) *Id.*, Cls. 130-132. The scope of Claim 132 is broad, and the indication the device receives from the remote device includes a second list of media content items, which

can include a listing of media content items that the client computer already has (as expressly described in paragraph [0164] of Cassin). In other words, the indication contains a listing of media content items that the client computer already has is a list of media content items that the remote device will not accept for delivery from the device.

93. This is further evidenced by Claim 133, which depends from Claim 132 and further narrows the scope of the second group of media content items to be “a group of media content items that the remote devices will accept for delivery from the device.” *Id.*, Cl. 133. I have been informed that under the doctrine of claim differentiation, two claims in the same patent will not have identical scope, and that there is an intended difference in scope between the two. Applying the doctrine of claim differentiation (and as I discussed in my overview of Cassin), a POSITA would have understood that Claim 133 narrows the scope of the second group of media content items to be “a group of media content items that the remote devices will accept for delivery from the device,” which necessarily means that Claim 132, which is broader than Claim 133, can include either a group of media content items that the remote devices will or will not accept for delivery from the device.

94. Accordingly, the controller in Cassin is configured to send an indication to the server, which is a “*content status including terminal status information comprising a listing of at least one piece of content stored in the memory.*”

95. The controller in Cassin “*is configured to send the content status to a remote network entity.*” Cassin discloses that the indication is sent to the server, and the server is a “*remote network entity.*” As illustrated in Fig. 6 (above) in yellow, Cassin’s server computer system 610, is remote from client computer system 620 in green. *Id.*, Fig. 6, [0140] (“the system 600 includes at least a portion of a network 630 by which the server computer system 610 and the client computer system 620 are coupled to each other. The network 630 may be implemented as a local area network, wide area network, a public access network (*e.g.*, the Internet), or a combination of networks.”) Because the network that couples the server and the client to each other can be implemented with a local area network, a wide area network, or the Internet, these two systems are remote from each other.

c. **7[a][2]: “receive a response to the content status from the network entity that instructs the controller to perform one or more actions to thereby control a flow of content to the terminal based upon the terminal status information, and”**

96. Cassin discloses this limitation. As discussed above in relation to limitation 7[a][1] in paragraphs 87-93, which is incorporated by reference herein, the client is configured to send an indication to the server that includes a list of media content items the client already has stored in its memory, which is “*content status including terminal status information.*”

97. The client receives “*a response*” from the server (the “*network entity*”), based on the content status “*that instructs the controller to perform one or more actions to thereby control a flow of content to the terminal.*” Specifically, the client computer receives from the server computer a list of content the client is entitled to (step 840) and then the server computer controls the flow of content to the client by attempting to send the first media content item on the list to the client (step 850). *Id.* If the client computer has the first media content item on the list, then the client computer sends the indication to the server computer that it currently has the first media content item stored in its local content repository 645 (step 870), and the server will offer the next media content item on the list. *Id.* I will refer to the next media content item on the list as the second media content item. If the client does not have the second media content item stored in its local content repository, *i.e.*, the second media content item is not in the indication, then the client will accept the second media content item from the server (step 880). *Id.*; *see also id.*, [0012, 0085, 0133-0137, 0164], Cls. 130-132. In that case, the client computer receives a response from the server that instructs the client to download the second media content item. *Id.* In other words, the client computer is configured to receive, based upon the content status, an instruction from the server to download the second media content item, which satisfies the limitation of performing “one or more actions” to “control the flow of content to the terminal.”

- d. **7[b]: “wherein the at least one piece of content stored in the memory, and the content for which the network entity is configured to control the flow, comprise multimedia content.”**

98. The evidence described for element 1[b] of Ground 1 meets element 7[b].

5. Claim 8

- a. **“An apparatus according to claim 7, wherein the controller is configured to receive a response that instructs the controller to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.”**

99. Cassin discloses this limitation. As discussed above in paragraphs 85-98, which is incorporated by reference herein, in steps 870 and 880, the server computer uses the information in the indication received from the client computer to offer the next media content item on the list, which is an instruction to the client computer to accept or “*download*” the media content item from the server computer’s first content repository 645 (the “*source of content*”), if the client computer does not have that media content item. *See* paragraphs 96-97. The client computer, which has first software coordination module 665 (the “*controller*”), is configured to receive a response from the server computer to download a media content item (“*at least one pieced of content*”) based on the indication. *See also* Ex. 1004, [0164], Fig. 8]. Paragraph 165 of Cassin confirms that when the client computer accepts the media content item from the server, the media content file is

then downloaded. *Id.*, [0165] (“After the media content item has been successfully downloaded, in step 880 . . .”).

100. When the client in Cassin accepts the media content item from the server, the media content item is “download[ed]” as construed in the *Starz* court and according to the plain and ordinary meaning of “download.” Specifically, when the media content item has been downloaded by the client, the media content item has been “cop[ied] and store[d] in memory of the terminal for subsequent use.” *Id.*, [0156, 0164-0165].

6. Claim 10

- a. **“An apparatus according to claim 8, wherein the controller is configured to receive a response that instructs the controller to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

101. Cassin discloses this limitation. *See* paragraphs 99-100, which is incorporated by reference herein.

102. The source of content for the server computer system (the claimed “network entity”) is the first content repository 645 that stores multimedia content in the form of media files, which is accessed via database 640. Ex. 1004, [0146] (“the media files may be stored within a first content repository 645 associated with the server computer system 610.”) After the server queries content metadata database 640 based on the user information received from the client computer

system, the server computer receives from database 640 a listing of all content from the first content repository 645 to which the user is entitled. *Id.*, [0164], Fig. 8. This listing is *the server status information comprises [comprising] a listing of at least one piece of available content from the source.* *Id.*, [0164], Fig. 8.

103. Based on the indication sent to the server computer, as described in paragraphs 96-97, the client computer is configured to receive from the server computer a response that instructs the client computer (the terminal) to download at least one media file from first content repository 645 (content from the source) that was identified in the listing. *See* paragraphs 99-100; *see also id.* [0164], Fig. 8.

7. Claim 13

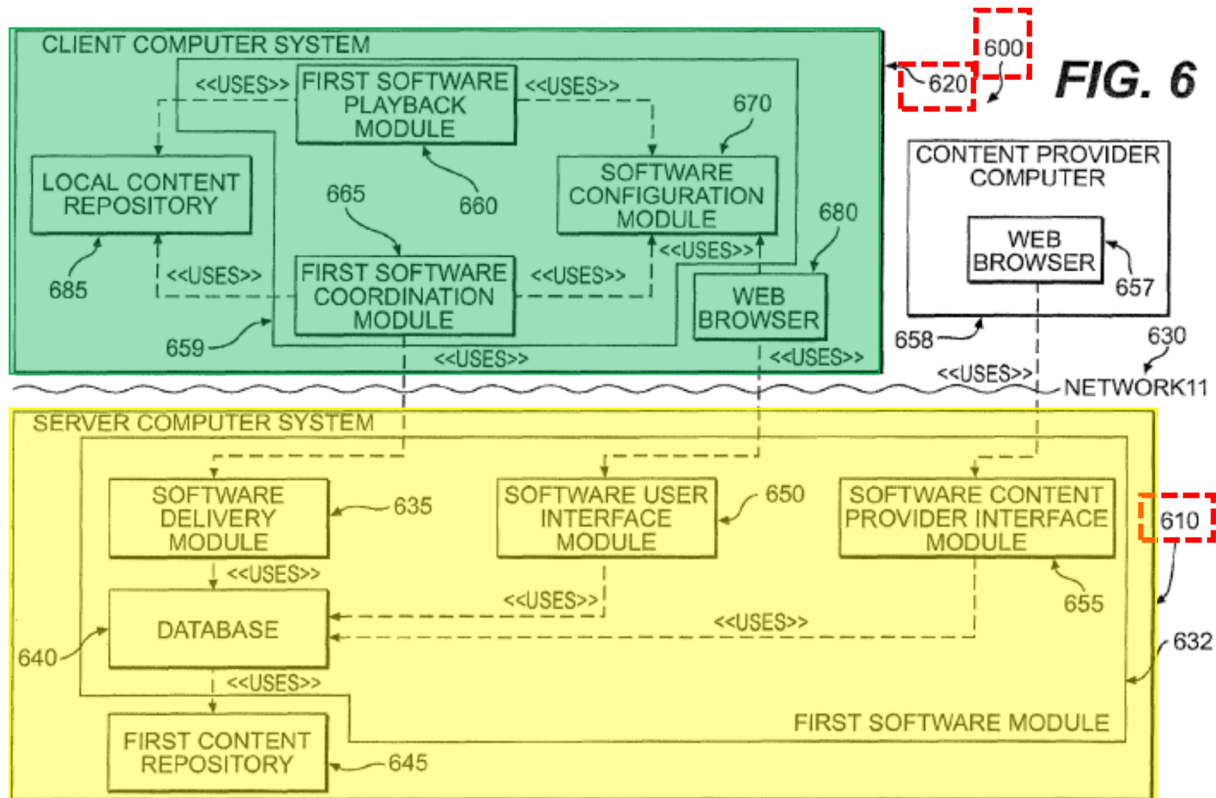
a. 13[pre]: “A method for controlling a flow of content, the method comprising:”

104. Cassin discloses this limitation. Cassin discloses a method for implementing a media content delivery and playback scheme that controls the flow of content. *See* Ex. 1004, [0140]. For example, the server computer in Cassin has a processor that executes instructions stored in a first software module. Cassin discloses “[t]he processor of the server computer executes instructions including a first software module 632, which may be stored in a storage device associated with the server computer.” *Id.*, [0142].

b. 13[a]: “receiving, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at

least one piece of content stored in a memory of the terminal; and”

105. Cassin discloses this limitation. I have reproduced an annotated version of Fig. 6 below.



Ex. 1004 at Fig. 6.

106. Cassin’s server computer system 610, as illustrated in Fig. 6 (above) in yellow, is a “network entity” that is remote from client computer system 620 in green, which is the claimed “terminal.” As I previously explained in paragraph 106, and incorporated herein, the server and client are communicatively coupled together and are therefore remote from each other. *See id.*, [0140].

107. Cassin discloses how system 600 is configured to control the flow of content as depicted in Fig. 8, which describes a first protocol. *Id.*, [0164-0165].

108. When the server computer receives user information from the client, the server computer queries its database 640 based on the user information. *Id.* The database responds with a listing of all content to which the user is entitled. *Id.* The server computer sends this listing to the client (Fig. 8). *Id.* The server computer then attempts to send the first media content item on the list to the client computer (step 850). *Id.* The client computer determines whether it has the media content item already stored in the memory of its local content repository 685 (step 860), and if so, the client computer sends an indication, or *a content status including terminal status information*, to the server computer that “it currently has the media content item” stored in its memory (step 870). *Id.* The indication received by the server computer includes a list of media content items already stored on the client computer. *Id.*, [0133-137, 164]; Cls. 130-133. Moreover, a POSITA would have understood that a list can include one item.

109. To further explain that the indication sent by the client computer and received by the server computer is “*a listing of at least one piece of content stored in a memory of the terminal*,” Claim 130 of Cassin recites a device, which is the server computer system, that “receives from the remote device a *second indication* that the remote device will accept the media content delivery unless the remote

device already has the media content.” *Id.*, Cl. 130. Claim 132 further describes that the “second indication includes a second list of a second group of media content items including at least a second media content item, which is the media content.”) *Id.*, Cls. 130-132. The scope of Claim 132 is broad, and the indication the device (server computer) receives from the remote device includes a second list of media content items, which can include a listing of media content items that the client computer already has (as expressly described in paragraph [0164] of Cassin). In other words, the indication contains a listing of media content items that the client computer already has is a list of media content items that the remote device will not accept for delivery from the device.

110. This is further evidenced by Claim 133, which depends on Claim 132 and further narrows the scope of the second group of media content items to be “a group of media content items that the remote devices will accept for delivery from the device.” *Id.*, Cl. 133. I have been informed that under the doctrine of claim differentiation, two claims in the same patent will not have identical scope, and that there is an intended difference in scope between the two. Applying the doctrine of claim differentiation, a POSITA would have understood that Claim 133 narrows the scope of the second group of media content items to be “a group of media content items that the remote devices will accept for delivery from the device,” which necessarily means that Claim 132, which is broader than Claim 133, can include

either a group of media content items that the remote devices will or will not accept for delivery from the device.

111. Accordingly, the server receives from the remote client “*a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal.*”

c. **13[b]: “sending, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,”**

112. Cassin discloses this limitation.

113. As I previously discussed in paragraphs 104-111, incorporated by reference herein, according to the first protocol (Fig. 8), in response to the content status, the server computer (the “*network entity*”) controls the flow of content to the client computer (the “*terminal*”) by sending the client computer the list of content the client is entitled to (step 840) and then attempting to send the first media content item on the list to the client (step 850). *Id.* If the client computer has the first media content item on the list, then the client computer sends an indication to the server computer that it currently has the first media content item stored in its local content repository 645 (step 870). *Id.* As explained in paragraphs 108-110, the indication, which is a “*content status including terminal information,*” can be a list of media content items already stored in the client’s memory.

114. The server will offer the next media content item on the list if the client already has the first media content item. *Id.* I will refer to as the next media content item on the list as the second media content item. If the client does not have the second media content item stored in its local content repository, the client will accept the second media content item from the server (step 880). *Id.*; *see also id.*, [0012, 0085, 0133-0137, 0164], Cls. 130-132. In that case, the server computer instructs the client computer to download the second media content item. *Id.* In other words, the server computer sends to the client, a response to the content status, which instructs the client to download the second media content item, which satisfies the limitation of performing “*one or more actions*” to “*control the flow of content to the terminal.*” The instruction to download the second media item from the server’s first content repository (the “*source*”) is based on the terminal status information (the indication). *Id.* Thereby, the server computer controls the flow of content to the client computer. *Id.*

115. The process repeats, as Cassin discloses “[t]hereafter, steps 850-880 are repeated for each media content item, as necessary.” *Id.*, [0164].

d. 13[c]: “wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.”

116. Cassin discloses this limitation, and paragraphs ## are incorporated herein. Both the server computer’s database and first content repository 645 and the

client computer's local content repository 685 are configured to store various types of multimedia content including "music, videos and multimedia programming." *Id.*, [151]. ("[t]he first software coordination module 665 contacts the server computer and coordinates the delivery of any new media content files for a user of the client computer. ... Using a client computer in accordance with the present invention, a user can have access to a wide variety of media content, including original and repurposed data, music, videos and multimedia programming.") *See also, e.g., id.* [146, 152, 156]. Therefore, the client's local content repository 685 satisfies "*wherein the at least one piece of content stored in the memory of the terminal . . . comprise multimedia content*" and the server's database and first content repository 645 is "*the content for which the flow is controlled, comprise multimedia content.*"

8. Claim 14

- a. **"A method according to claim 13, wherein sending a response comprises sending a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content."**

117. Cassin discloses this claim. The evidence described for claim 13[b] of Ground 1 is incorporated herein by reference.

118. Paragraph 165 of Cassin confirms that when the client computer accepts the media content item from the server, then the media content file is

downloaded. *Id.*, [0165] (“After the media content item has been successfully downloaded, in step 880 . . .”).

119. When the server in Cassin delivers the media content item to the client, and the client accepts the media content item, the media content item is “download[ed]” as construed in the *Starz* court and according to the plain and ordinary meaning of “download.” Specifically, when the media content item has been downloaded by the client, “a copy of the media content item has been stored in the memory of the client for subsequent use.” *Id.*, [0156, 0164-0165].

9. Claim 16

- a. **“A method according to claim 14, wherein sending a response comprises sending a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

120. Cassin discloses this claim. The evidence described for claim 13[b] of Ground 1 is incorporated herein by reference.

121. As previously explained, the server computer (the “*network entity*”) controls the flow of content to the client computer (the “*terminal*”) by sending the client computer the list of content the client is entitled to (step 840). *See* Ex. 1004, [0164]. The list of content the client is entitled to, which the server obtained from querying its database 640 (step 830), is “*server status information*.” *Id.* When the server attempts to send the first media content item on the list to the client (step 850),

if the client computer already has the first media content item on the list, then the client computer sends an indication to the server computer that it currently has the first media content item stored in its local content repository 645 (step 870). *Id.* As explained in paragraphs 108-110 and incorporated herein, the indication, which is a “*content status including terminal information*,” can be a list of media content items already stored in the client’s memory.

122. The server will offer the next media content item on the list if the client already has the first media content item. *Id.* I will refer to as the next media content item on the list as the second media content item. If the client does not have the second media content item stored in its local content repository, the client will accept the second media content item from the server (step 880). *Id.*; *see also id.*, [0012, 0085, 0133-0137, 0164], Cls. 130-133. In that case, the server computer instructs the client computer to download the second media content item. *Id.* In other words, the server computer sends to the client, a response to the content status, which is the instructs the client to download the second media content item, which satisfies the limitation of performing “one or more actions” to “control the flow of content to the terminal.” The instruction to “*download at least one piece of content from the source*” (download the second media item from the server’s first content repository 645) is based on the “*terminal status information*” (the indication) and “*server status information*” (the list of content the client is entitled.) *Id.*

10. Claim 19

- a. **19[pre]: “A computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:”**

123. Cassin discloses this limitation to the extent it is found limiting. I incorporate by reference limitation 1[pre] of Ground 1 in paragraphs 104.

124. As previously explained, the server computer has a processor that executes instructions stored in a first software module. Ex. 1004, [0142] (“[t]he processor of the server computer executes instructions including a first software module 632, which may be stored in a storage device associated with the server computer”). The disclosed storage device is the claimed computer-readable storage medium in claim 19. A first software module 632 “includes a software delivery module 635 that controls asynchronous delivery of media content over the network 630” *Id.*, [0143].

- b. **19[a]: “a first executable portion configured to receive, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal; and”**

125. Cassin discloses this limitation, and paragraphs 105-111, 123-124 are incorporated by reference herein. Cassin discloses that the server is contacted by the client (remote terminal) to coordinate the delivery of media content. Ex. 1004, [0144] (“the software delivery module 635 waits to be contacted by the client

computer and then interacts with the client computer to coordinate the delivery of media content to the client computer”). After explaining these server software module functions generally (paragraphs [0142-0144]), Cassin then discloses the details of the process flows therefrom (inclusive of corresponding client software processes) using Figs. 8 and 9, which I have discussed at length.

126. In greater detail, Cassin uses the full system shown in Fig. 6 to disclose the various software processing modules and basic functions for both the server and client computers, addressing each separately (*see, e.g.*, paragraphs [0142-0148] for the server and paragraphs [0149-0151] for the client). Cassin also discloses related functions, such as user interface software (for both server and client), user registration and the downloading of client application software. *Id.*, [0159] (“[o]nce the user was registered and had the second software module installed on the client computer, the user would access the server computer's software user interface module 650 via the web browser 680 and identify the media content that the user wishes to receive. This would occur by selecting content from the software user interface module 650”). The POSITA would understand these are predecessor features/functions to the actual provisioning of content for delivery, which is explained in conjunction with Figs. 8 and 9. Cassin discloses the “first software module 632,” which includes the “software delivery module 635.” A POSITA would

therefore understand that all software controlled functionality of the server is attributable to these two modules, inclusive of the functions of Figs. 8 and 9.

127. Thus, the first software module 632 with contained software delivery module 635 (inclusive of the process flows of Figs. 8 and 9) implement “*a first executable portion configured to receive, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal*” as explained in paragraphs 105-111.

- c. **19[b]: “a second executable portion configured to send, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,”**

128. Cassin discloses this limitation, and paragraphs 113-115, 123-128 are incorporated by reference herein. In particular, the same disclosures provided above for 19[a] apply to the claimed second executable portion. Thus, the first software module 632 with contained software delivery module 635 implement *a second executable portion configured to send, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information* as explained in paragraphs 113-115.

- d. 19[c]: “wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.”

129. Cassin discloses this limitation as described in paragraphs 116, which are incorporated by reference herein.

11. Claim 20

- a. “A computer-readable storage medium according to claim 19, wherein the second executable portion is configured to send a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.”

130. Cassin discloses this limitation as described in paragraphs 117-119, 128, which are incorporated by reference herein.

12. Claim 22

- a. “A computer-readable storage medium according to claim 20, wherein the second executable portion is configured to send a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”

131. Cassin discloses this limitation as described in paragraphs 120-122, 128, which are incorporated by reference herein.

B. Ground 2: Cassin and Huston Render Obvious Claims 1-24 of the '559 Patent

132. Cassin (Ex. 1004) in combination with Huston (Ex. 1005) renders obvious claims 1-24 of the '559 patent. Ground 2 is not duplicative of Ground 1 because it is the only Ground based on Cassin and Huston.

1. Claim 1

a. 1[pre]: “An apparatus comprising:”

133. To the extent this limitation is found to be limiting, as discussed in 1[pre] of Ground 1, paragraphs 62-63, which are incorporated by reference herein, Cassin discloses this limitation.

b. 1[a][1]: “a processor configured to receive, from a terminal located remote from the apparatus, a content status including terminal status information, and”

134. As discussed in paragraphs 64-70, which are incorporated by reference herein, Cassin discloses these limitations.

135.

c. 1[a][2]: “configured to receive server status information regarding a source of content, wherein the server status information comprises a listing of at least one piece of content available from the source,”

136. As discussed in limitation 1[a][2] of Ground 1, paragraph 71, which are incorporated by reference herein, Cassin discloses these limitations.

d. 1[a][3]: “wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to perform one or more actions to

thereby control the flow of content to the terminal based upon the terminal status information and the server status information, and”

137. As discussed in limitation 1[a][3] of Ground 1, 72-76, which are incorporated by reference herein, Cassin discloses these limitations.

138. As I previously explained, if the client (“*terminal*”) sends the indication to the server that it currently has the first media content item stored in content repository 645, then the server does not deliver the first media content item to the client to download. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133. The server then goes to the next media content item on the list, which I refer to as the second media content item. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133. If the indication does not include the second media content item, then the server “*control[s] the flow of content*” to the client computer by offering the second media content item, which a POSITA would understand as instructing the client to download the second media content item. *Id.* By accepting the second media content item, the client downloads the second media content item from the server. *Id.* See also *id.*, [0165]. A POSITA would have understood this disclosure as “*the processor in the server control[ling] the flow of content to the terminal*” by offering the content, that instructs the client (the “*terminal*”) to download the media content from the server, which is “*perform[ing] one or more actions.*”

- e. **1[b]: “wherein the at least one piece of content available from the source, and the content for which the processor**

is configured to control the flow, comprise multimedia content.”

139. As discussed in limitation 1[b] of Ground 1, paragraphs 77, which are incorporated by reference herein, Cassin discloses these limitations.

2. Claim 2

- a. **“An apparatus according to claim 1, wherein the terminal comprises a memory, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from the source.”**

140. As discussed in Claim 2 of Ground 1, paragraphs 78-80, which are incorporated by reference herein, Cassin discloses these limitations.

3. Claim 3

- a. **“An apparatus according to claim 2, wherein the terminal status information comprises a listing of at least one piece of content stored in the memory of the terminal, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.”**

141. See discussion in paragraphs 62-80, which are incorporated by reference herein.

142. While Cassin does not explicitly disclose that the server sends a response that “*instructs the terminal to delete at least one piece of content from the*

memory of the terminal,” Cassin discloses use of a graphical user interface 700 where the end user can manually delete media content from the remote client device and a log file that can be automatically deleted after it is uploaded to the server computer. Ex. 1004, [0169] (“[t]o delete a media content item, a user would either drag the item using a mouse to the trash folder 717, or select the content item and press the DELETE key on a keyboard associated with the client computer.”); *Id.*, [171] (“[e]very time a user clicks one of the discrete control functions using a mouse or activates one of those functions using a remote control device, that action is recorded to a statistics log file stored on a storage device. . . . If there is a log file present, it is uploaded to the server computer, where it is parsed and placed in the database 640 for future analysis”); *see also id.*, Figs. 12-14.

143. However, Huston teaches this feature, and it would have been obvious to modify Cassin in view of Huston. Specifically, Huston discloses that the differencing engine 240 (the “*apparatus*”) instructs content to be deleted from the remote traffic servers 216, 218 (the “*terminal*”) by issuing one or more “*delete*” commands to the traffic servers 216, 218. Ex. 1005, 6:33-41, Fig. 2A. (“differencing engine 240 causes content to be deleted from traffic servers 216, 218 by issuing one or more 'delete' commands to traffic servers.”) The differencing engine 240 selects the content to be deleted by comparing the versions of content stored on caches 236, 238 of the traffic servers 216, 218 (the “*listing of at least one piece of content stored*

in the memory of the terminal”) with the versions of the corresponding content stored on the origin servers 202, 204, 206. Ex. 1005, 6:42-51, Fig. 2A. (“differencing engine 240 selects content to be deleted by comparing versions of content stored on caches 236, 238 to versions of the corresponding content stored on origin servers 202, 204, 206.”) Therefore, the differencing engine 240 (including a processor 404) is configured to send a response to the traffic servers 216, 218 (the “*terminal*”) with instructions to delete certain content. Ex. 1005, 6:33-41, 16:12-29.

144. A POSITA would have been motivated to combine Huston with Cassin. *See supra* paragraph 201-204. First, a POSITA would have been motivated to consult references such as Huston when implementing the technologies in Cassin. For example, both Huston and Cassin are directed to sending and controlling the flow of content to a remote device over a network. Ex. 1004, [0007, 0099] (“the present invention provides for the delivery of media content (including, for example, audio and Video) asynchronously via a network to facilitate playback of the media content through a remote device (e.g., user-owned, client computer”)); Ex. 1005, 5:60-62 (“[t]raffic servers 216, 218 are mechanisms that control the flow of traffic, i.e., content, between the Internet 208 and clients 224, 226, 228”).

145. Second, a POSITA would have had a reasonable expectation of success in making the combination. *See supra* paragraph 205.

146. Third, Cassin teaches that it would be advantageous to also manage how long media content items remain available to its users. Ex. 1004, [0178, 0180, 0182] (“[I]n addition to managing the how much content the end user receives, digital rights management also manages how long such media content items remain available”). It would have been obvious to a POSITA to look to Huston to determine how to modify the remote client of Cassin to enforce that the media content is no longer available to a particular user, or is expired by using user information. Huston recognizes the undesirability of leaving stale or expired content on the client and provides a solution for updating the available content by deleting older versions of content. Ex. 1005, 3:37-44 (“content that is maintained in cache may not be the most recent version of content from content providers 112, 114, 116 and may therefore be ‘stale’”).

147. Finally, a POSITA would have recognized the delete function in Huston to be an advantageous and predictable way to improve the existing functionality in Cassin, *i.e.*, facilitating the Huston deleting functions controlled by the server (similar to how log files are automatically deleted from the client computer) instead of being manually implemented by the user. Ex. 1004, [0169]; Ex. 1005, 6:33-51.

4. Claim 4

- a. **“An apparatus according to claim 2, wherein the server status information comprises a listing of at least one piece of available content from the source, and wherein the processor is configured to send, to the terminal, a**

response to the content status that instructs the terminal to download at least one piece of content from the source based upon the listing of at least one available piece of content from the source.”

148. As discussed in Claim 4 of Ground 1, paragraphs 81-84, which are incorporated by reference herein, Cassin discloses these limitations.

5. Claim 5

- a. **“An apparatus according to claim 2, wherein the processor is configured to determine if the memory of the terminal includes at least one piece of content to delete, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to delete at least one piece of content when the processor determines that the memory of the terminal includes at least one piece of content to delete.”**

149. See discussion in paragraphs 141-147, which are incorporated by reference herein.

150. As discussed above in relation to claim 3, Cassin discloses a manual delete feature that can be used by the user to delete media content. *See, e.g.*, Ex. 1004, [0169].

151. It would have been obvious to modify Cassin in view of Huston, which teaches this limitation. Cassin discloses that the client computer is configured to send a “*content status*,” *e.g.*, a list of media content files from its repository, to the server computer. *See* paragraph 65-69. As discussed above, Huston discloses that the differencing engine 240 causes content to be deleted from the remote traffic servers

216, 218 by issuing one or more “*delete*” commands to the traffic servers 216, 218. *See* Ex. 1005, 6:33-41, Fig. 2A. The differencing engine 240 selects the content to be deleted by comparing the versions of content stored on caches 236, 238 of the traffic servers 216, 218 (“*determining that the memory of the terminal includes at least one piece of content to delete*” from the received “*content status*” with the versions of the corresponding content stored on the origin servers 202, 204, 206. Ex. 1005, 6:42-51, Fig. 2A.

152. In order to compare the versions of content, Huston discloses that the differencing engine detects that new content is available on the origin server, and causes the more recent version to be stored on the traffic server cache. *Id.*, 4:56-67 (“[t]he differencing engine is configured to detect, independent of any request for content, that a second more recent version of content is available and ... cause the second more recent version of the content to be stored on the cache”). Huston discloses that the differencing engine may request that origin servers provide information about the versions of data stored at the origin servers and traffic servers, and thereby detect differences in versions. *See Id.*, 6:66-7:5. A POSITA would have thus understood that the traffic servers (“*terminals*”) would send to the differencing engine (“*network entity*”) a content status that includes the version(s) of content stored in its cache.

153. In response to this comparison, Huston discloses that the differencing engine 240 is configured to selectively cause content to be deleted from the traffic servers 216, 218 based on the comparison, which is “*determin[ing] if the memory of the terminal includes at least one piece of content to delete*” and instructs the terminal to delete. *Id.*, 6:21-25; *see also* Ex. 1004, [0164, 0166]. The POSITA would have found the same motivations to combine Huston with Cassin as described above for Claim 3, because the same improvement to Cassin applies here.

6. Claim 6

- a. **“An apparatus according to claim 5, wherein the processor is further configured to determine if source includes at least one available piece of content for the terminal to download, and wherein the processor is configured to send, to the terminal, a response to the content status that instructs the terminal to download at least one available piece of content when the processor determines that the source includes at least one available piece of content for the terminal to download.”**

154. Paragraphs 133-139, 149-153 are incorporated by reference herein. Cassin discloses these limitations.

155. As discussed above in relation to the process flow steps of Cassin Fig. 8, based on the indications received from the client computer (steps 850-880), the server computer determines whether there are media content items available in the database 640/first content repository 645 to be downloaded by the client. Ex. 1004, [0164]. Cassin discloses that the server will offer the next media item on the list to

the client, and if the client computer does not already have the media content item, then “the client computer accepts the media content item from the server computer.”

Ex. 1004, [0164] (“[t]hereafter, steps 850-880 are repeated for each media content item, as necessary.”) The accepted media content items are downloaded and stored in the local content repository 685 (*e.g.*, memory) on the client. *Id.*, [0099, 0156, 0164, 0165]. A POSITA would understand this disclosure as instructing the client (the “*terminal*”) to download the media content.

7. Claim 7

a. 7[pre]: “An apparatus comprising:”

156. To the extent this limitation is found limiting, Cassin discloses this limitation, as discussed in 7[pre] of Ground 1, paragraphs 85-86, which are incorporated by reference herein.

b. 7[a][1]: “a controller operable with a terminal including a memory configured to store at least one piece of content, wherein the controller is configured to send a content status including terminal status information comprising a listing of at least one piece of content stored in the memory, wherein the controller is configured to send the content status to a remote network entity, and”

157. As discussed in limitation 7[a][1] of Ground 1, paragraphs 87-95, which are incorporated by reference herein, Cassin discloses this limitation.

158. As I previously explained, based on the express disclosures at paragraphs [0133-0137, 0164] and claims 130-133, the indication sent from the client (the “*controller*”) to the server (the “*remote network entity*”) can include a

listing of the media content items already stored on the client computer's local content repository 685. Ex. 1004, Claims 130-133, [0133-137, 0164]. This listing is “*a content status including terminal status information comprising a listing of at least one piece of content stored in the memory.*”

159. Additionally, POSITA would have understood that the indication sent by the client to the server comprises a listing of media content item(s) that is stored in its repository, which is “*a content status including terminal status information comprising a listing of at least one piece of content stored in the memory*” of the terminal. A POSITA would have also understood that a list can include an identification of one piece of content. A POSITA would have understood that the indication sent from the client is a “*content status*” sent to the server.

160. Regarding the second protocol disclosed in Cassin (Fig. 9), after the server computer sends to the client the content listing to which the user is entitled, the client computer identifies those media content items on the listing that it does not already have in its local content repository 685 (step 945). *Id.*, [0166]. At step 947, “the client computer would send a second list of only those media content items contained in the first list that it currently does not have stored in the local content repository 685.” *Id.* Instead of sending a listing of files the client computer does not already have, *id.*, [0166], consistent with the disclosure at paragraph [0164], it would have been obvious for a POSITA to try to identify, based on the list sent from the

server computer, the media content items the client has in its repository and put that information in a listing, which is then sent as a “content status” to the server computer, so that the server computer can deliver to the client the media files that are not in the listing. As I discussed above in my overview of the Cassin patent, such a listing sent by the client is disclosed by Cassin claim 132.

161. Cassin in view of Huston also discloses these limitations. Providing a list of content stored in a remote device was well-known in the art. Huston discloses a differencing engine, the “*network entity*,” and traffic servers, the “*terminals*,” which are computer systems that include a processor and a memory. *Id.*, 16:12-29. Traffic servers 216, 218 are configured with caches 236, 238, respectively, that provide local storage for content, which can be any type of local storage. *Id.*, 6:1-5. Huston specifically discloses that the differencing engine 240 selects and instructs the traffic servers to delete content after the differencing engine compares the versions of content stored on caches 236, 238 of the traffic servers 216, 218 with the versions of the corresponding content stored on the origin servers 202, 204, 206. Ex. 1005, 6:42-51, Fig. 2A. To make the comparison between the versions of content, a POSITA would have understood that the differencing engine 240 would receive an identification of the versions of the content stored on the caches 236, 238 (“*content status including terminal status information*”) from the traffic servers 216, 218 (“*terminals*”), which are “*remote*” from the differencing engine 240. *See* Ex. 1005,

Fig. 2A. The differencing engine 240 may be co-located with the origin servers 202, 204, 206. Ex. 1005, 7:38-49.

c. **7[a][2]: “receive a response to the content status from the network entity that instructs the controller to perform one or more actions to thereby control a flow of content to the terminal based upon the terminal status information, and”**

162. As discussed in limitation 7[a][2] of Ground 1, paragraphs 96-97, which are incorporated by reference herein, Cassin discloses this limitation.

163. As I previously explained, in Cassin, according to the first protocol (Fig. 8), after the client sends the indication to the server that it currently has the first media content item stored in content repository 645, then the server does not deliver the first media content item for the client to download. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133.

164. Next, the server goes to the next media content item on the list, which I have referred to as the second media content item. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133. If the indication does not indicate that the client already has the second media content item on the list, then the server, which is the “*network entity*,” “*control[s] the flow of content*” to the client computer. When the server offers the next media content item on the list, the client computer “*receive[s] a response that instructs*” the client to download the second media content item. By accepting the second media content item, the client downloads the second media

content item from the server, which is “*perform[ing] one or more actions.*” *Id.* See also *id.*, [0165]. A POSITA would have understood this disclosure as the server (“*network entity*”) controlling the flow of content by sending the client information that instructs the client (the “*terminal*”) to download the media content (“*one or more actions*”) from the server based upon the indication.

d. 7[b]: “wherein the at least one piece of content stored in the memory, and the content for which the network entity is configured to control the flow, comprise multimedia content.”

165. As discussed in 7[b] of Ground 1, paragraphs 98, which are incorporated by reference herein, Cassin discloses this limitation.

8. Claim 8

a. “An apparatus according to claim 7, wherein the controller is configured to receive a response that instructs the controller to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.”

166. As discussed in Claim 8 of Ground 1, paragraphs 99-100, which are incorporated by reference herein, Cassin discloses this limitation.

9. Claim 9

a. “An apparatus according to claim 8, and wherein the controller is configured to receive a response that instructs the controller to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.”

167. As discussed in Claim 3 of Ground 2, paragraphs 141-147, which are incorporated by reference herein, the combination of Cassin and Huston discloses this limitation.

10. Claim 10

- a. **“An apparatus according to claim 8, wherein the controller is configured to receive a response that instructs the controller to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

168. As discussed in Claim 10 of Ground 1, paragraphs 101-103, which are incorporated by reference herein, Cassin discloses this limitation.

11. Claim 11

- a. **“An apparatus according to claim 8, wherein the controller is configured to send the content status such that the network entity determines if the memory of the terminal includes at least one piece of content to delete, and wherein the controller is configured to receive a response that instructs the controller to delete at least one piece of content when the network entity determines that the memory of the terminal includes at least one piece of content to delete.”**

169. As discussed in Claim 5 of Ground 2, paragraphs 149-153, which are incorporated by reference herein, the combination of Cassin and Huston discloses this limitation.

12. Claim 12

- a. **“An apparatus according to claim 11, wherein the controller is configured to send the content status such**

that the network entity further determines if the source includes at least one available piece of content for the terminal to download, wherein the controller is configured to receive a response that further indicates if the source includes at least one available piece of content, and wherein the controller is further configured to download the at least one available piece of content when the network entity determines that the source includes at least one available piece of content.”

170. Paragraphs 156-169 are incorporated by reference herein. Cassin discloses this limitation.

171. As discussed above in relation to the process flow steps of Cassin Fig. 8, based on the indication sent from the client computer to the processor of server computer (steps 850-880), the server in Cassin determines whether there are media content items available in the first content repository 645, accessed via database 640, to be downloaded by the client, which is “*determin[ing] if the source includes at least one available piece of content for the terminal to download.*” Ex. 1004, [0164]. When the first content repository 645 (the “*source*”) has “*at least one available piece of content,*” in conjunction with Fig. 8, Cassin discloses that the server will offer a media content item on the list that is available to the client. *Id.*

172. If the client computer does not already have the media content item, for example it is not a media content item identified in the indication sent by the client, then “the client computer accepts the media content item from the server computer.” Ex. 1004, [0164]. The accepted media content items are downloaded and stored in

the local content repository 685 (e.g., “*memory*”) on the client. *Id.*, [0099, 0156, 0164, 0165]. A POSITA would understand this disclosure instructing the client (the “*terminal*”) to download the media content item.

13. Claim 13

a. **13[pre]: “A method for controlling a flow of content, the method comprising:”**

173. To the extent this limitation is found limiting, Cassin discloses this limitation, as discussed in limitation 13[pre] of Ground 1, paragraphs 104, which are incorporated by reference herein.

b. **13[a]: “receiving, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal; and”**

174. As discussed in 13[a] of Ground 1, paragraphs 105-111, which are incorporated by reference herein, Cassin discloses this limitation.

175. According to the first protocol disclosed by Cassin (Fig. 8), and as I previously explained, based on the express disclosures at paragraphs [0133-0137, 0164] and claims 130-133, the indication sent from the client (“the *terminal located remote therefrom*”), and received by the server (the “*network entity*”) can include a listing of the media content items already stored on the client computer’s local content repository 685 (step 870). Ex. 1004, Claims 130-133, [0133-137, 0164]. This

listing is “*a content status including terminal status information comprising a listing of at least one piece of content stored in the memory of the terminal.*”

176. Additionally, POSITA would have understood that the indication sent by the client and received by the server comprises a listing of media content item(s) that are already stored in the client’s local content repository 685, is a “*content status including terminal status listing of at least one piece of content stored in a memory*” of the terminal. A POSITA would have also understood that a list can include an identification of one piece of content. A POSITA would have understood that the indication sent by the client and received by the server is a “*content status.*”

177. Regarding the second protocol disclosed in Cassin (Fig. 9), after the server computer sends to the client the content listing to which the user is entitled (step 940), the client computer identifies those media content items on the listing that it does not already have in its local content repository 685 (step 945). *Id.*, [0166]. At step 947, “the client computer would send a second list of only those media content items contained in the first list that it currently does not have stored in the local content repository 685.” *Id.* Instead of sending a listing of files the client computer does not already have, *id.*, [0166], consistent with the disclosure at paragraph [0164], it would have been obvious for a POSITA to identify, based on the list sent from the server computer, the media content items the client has in its local content repository and put that information in a listing, which is then sent by

the client as a “content status” and received by the server computer, so that the server computer can deliver to the client the media files that are not in the listing. As I discussed above in my overview of the Cassin patent, such a listing sent by the client and received by the server is disclosed by Cassin claim 132.

178. Cassin in view of Huston also discloses these limitations. Providing a list of content stored in a remote device was well-known in the art. Huston discloses a differencing engine, the *network entity*, and traffic servers, the *terminals*, which are computer systems that include a processor and a memory. *Id.*, 16:12-29. Traffic servers 216, 218 are configured with caches 236, 238, respectively, that provide local storage for content, which can be any type of local storage. *Id.*, 6:1-5. Huston specifically discloses that the differencing engine 240 selects and instructs the traffic servers to delete content after the differencing engine compares the versions of content stored on caches 236, 238 of the traffic servers 216, 218 with the versions of the corresponding content stored on the origin servers 202, 204, 206. Ex. 1005, 6:42-51, Fig. 2A.

179. To make the comparison between the versions of content, a POSITA would have understood that the differencing engine 240 would receive an identification of the versions of the content stored on the caches 236, 238 (“*content status including terminal status information*”) from the traffic servers 216, 218 (“*terminals*”), which are “*remote*” from the differencing engine 240 (“*network*

entity”). See Ex. 1005, Fig. 2A. The differencing engine 240 may be co-located with the origin servers 202, 204, 206. Ex. 1005, 7:38-49.

c. 13[b]: “sending, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,”

180. As discussed in 13[b] of Ground 1, paragraphs 112-115, which are incorporated by reference herein, Cassin discloses this limitation.

181. As I previously explained, in Cassin, according to the first protocol (Fig. 8), after the server receives the indication from the client that the client currently has the first media content item already stored in content repository 645, then the server does not deliver the first media content item for the client to download. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133.

182. Next, the server goes to the next media content item on the list, which I have referred to as the second media content item. Ex. 1004, [0012, 0085, 0133-0137, 0164], Cls. 130-133. If the indication does not indicate that the client already has the second media content item, then the server, which is the “*network entity, control[s] the flow of content*” to the client computer. The sever computer *send[s]*. . . *a response to the content status that instructs* the client to download the second media content item, and by accepting the second media content item, the client downloads the second media content item from the server, which is *perform[ing]*

one or more actions. Id. See also id., [0165]. A POSITA would have understood this disclosure as the server (*network entity*) controlling the flow of content by instructing the client (the *terminal*) to download the media content (*one or more actions*) from the server based upon the indication.

- d. **13[c]: “wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.”**

183. As discussed in 13[c] of Ground 1, paragraph 116, which are incorporated by reference herein, Cassin discloses this limitation.

14. Claim 14

- a. **“A method according to claim 13, wherein sending a response comprises sending a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.”**

184. As discussed in Claim 14 of Ground 1, paragraphs 117-119, which are incorporated by reference herein, Cassin discloses this limitation.

15. Claim 15

- a. **“A method according to claim 14, and wherein sending a response comprises sending a response that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.”**

185. As discussed in Claim 3 of Ground 2, paragraphs 141-147, which are incorporated by reference herein, the combination of Cassin and Huston discloses this limitation.

16. Claim 16

- a. **“A method according to claim 14, wherein sending a response comprises sending a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

186. As discussed in Claim 16 of Ground 1, paragraphs 120-122, which are incorporated by reference herein, Cassin discloses this limitation.

17. Claim 17

- a. **“A method according to claim 14, wherein sending a response comprises sending a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

187. As discussed in Claim 5 of Ground 2, paragraphs 149-153, which are incorporated by reference herein, the combination of Cassin and Huston discloses this limitation.

18. Claim 18

- a. **“A method according to claim 14, wherein sending a response comprises sending a response that instructs the terminal to download at least one piece of content from the source based upon server status information**

comprising a listing of at least one available piece of content from the source.”

188. Paragraphs 114, 173-182 are incorporated by reference herein. Cassin discloses this limitation.

189. As discussed above in relation to the process flow steps of Cassin Fig. 8, based on the indications received from the client computer (steps 850-880), the server in Cassin determines whether there are media content items available in the first content repository 645, accessed via database 640, to be downloaded by the client, which is “*determin[ing] if the source includes at least one available piece of content for the terminal to download.*” Ex. 1004, [0164]. When the first content repository 645 (the “*source*”) has “*at least one available piece of content,*” Cassin discloses that the server will offer a media content item on the list that is available to the client. *Id.* If the client computer does not already have the media content item, for example it is not a media content item identified in the indication sent to the server, then “the client computer accepts the media content item offered from the server computer.” Ex. 1004, [0164]. The accepted media content items are downloaded and stored in the local content repository 685 (*e.g.*, “*memory*”) on the client. *Id.*, [0099, 0156, 0164, 0165]. A POSITA would understand this disclosure as instructing the client (the “*terminal*”) to download the media content item.

19. Claim 19

- a. **19[pre]: “A computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:”**

190. To the extent this limitation is found to be limiting, as discussed in limitation 19[pre] of Ground 1, paragraphs 123-124, which are incorporated by reference herein, Cassin discloses this limitation.

- b. **19[a]: “a first executable portion configured to receive, at a network entity from a terminal located remote therefrom, a content status including terminal status information comprising a listing of at least one piece of content stored in a memory of the terminal; and”**

191. As discussed in limitation 19[a] of Ground 1 and 13[a] of Ground 2, paragraphs 125-127, which are incorporated by reference herein, Cassin and Cassin in view of Huston disclose this limitation.

- c. **19[b]: “a second executable portion configured to send, from the network entity to the terminal, a response to the content status that instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information,”**

192. As discussed in limitation 19[b] of Ground 1 and 13[b] of Ground 2, paragraph 128, which are incorporated by reference herein, Cassin discloses this limitation.

- d. **19[c]: “wherein the at least one piece of content stored in the memory of the terminal, and the content for which the flow is controlled, comprise multimedia content.”**

193. As discussed in limitation 19[c] of Ground 1, paragraphs 129, which are incorporated by reference herein, Cassin discloses this limitation.

20. Claim 20

- a. **“A computer-readable storage medium according to claim 19, wherein the second executable portion is configured to send a response that instructs the terminal to at least one of delete at least one piece of content from the memory of the terminal, or download at least one piece of content from a source of content.”**

194. As discussed in Claim 20 of Ground 1, paragraphs 130, which are incorporated by reference herein, Cassin discloses this limitation.

21. Claim 21

- a. **“A computer-readable storage medium according to claim 20, wherein the second executable portion is configured to send a response that instructs the terminal to delete at least one piece of content from the memory of the terminal based upon the listing of at least one piece of content stored in the memory of the terminal.”**

195. As discussed in Claim 3 of Ground 2, paragraphs 141-147, which are incorporated by reference herein, the combination of Cassin and Huston disclose this limitation.

22. Claim 22

- a. **“A computer-readable storage medium according to claim 20, wherein the second executable portion is configured to send a response that instructs the terminal to download at least one piece of content from the source based upon server status information comprising a listing of at least one available piece of content from the source.”**

196. As discussed in Claim 22 of Ground 1, paragraph 131, which are incorporated by reference herein, Cassin discloses this limitation.

23. Claim 23

- a. **“A computer-readable storage medium according to claim 20 further comprising: a third executable portion configured to determine if the memory of the terminal includes at least one piece of content to delete, wherein the second executable portion is configured send a response that instructs the terminal to delete at least one piece of content when the second executable portion determines the memory of the terminal includes at least one piece of content to delete.”**

197. As discussed in Claim 5 of Ground 2, paragraphs 149-153, which are incorporated by reference herein, the combination of Cassin and Huston disclose this limitation.

24. Claim 24

- a. **“A computer-readable storage medium according to claim 23, wherein the third executable portion is further configured to determine if the source includes at least one available piece of content for the terminal to download, and wherein the second executable portion is configured to send a response that further instructs the terminal to download at least one available piece of content when the second executable portion determines the source includes at least one available piece of content.”**

198. Paragraphs 190-197 are incorporated by reference herein. Cassin discloses this limitation.

199. As I discussed above in relation to claim 19, Cassin's first software module 632 and contained software delivery module 635 include the functionality of Figs. 8 and 9. As I explained, Cassin uses the full system shown in Fig. 6 to disclose the various software processing modules and basic functions for both the server and client computers, addressing each separately (*see, e.g.*, paragraphs [0142 – 0148] for the server and paragraphs 149- 151 for the client). Importantly, Cassin discloses the "first software module 632," which includes the "software delivery module 635."

200. Point being that the POSITA would understand that all software controlled functionality of the server is attributable to these two modules, inclusive of the functions of Figs. 8 and 9. Thus the first software module 632 with contained software delivery module 635 (inclusive of the process flows of Figs. 8 and 9) implement a third executable portion configured for the server to determine whether there are media content items available in the first content repository 645, accessed via database 640, to be downloaded by the client, which is "determin[ing] if the source includes at least one available piece of content for the terminal to download." Ex. 1004, [0164]. When the first content repository 645 (the "source") has "at least one available piece of content," Cassin discloses that the server will offer a media content item on the list that is available to the client. *Id.* If the client computer does not already have the media content item, for example it is not a media content item

identified in the indication, then “the client computer accepts the media content item from the server computer.” Ex. 1004, [0164]. The accepted media content items are downloaded and stored in the local content repository 685 (*e.g.*, “memory”) on the client. *Id.*, [0099, 0156, 0164, 0165]. A POSITA would understand this disclosure as instructing the client (the “terminal”) to download the media content item.

25. Motivation to Combine

201. There are strong motivations to combine the relevant content delivery features from Cassin and Huston. For example, a POSITA would have found it obvious to combine Cassin’s teachings of a media content delivery system with Huston’s teachings of having a differencing engine to determine whether there is content to delete from the remote client and sending a command to delete such content.

202. First, controlling the flow of traffic from the Internet or through a network inclusive of digital rights management were well-known concepts. Ex. 1004, [0099-0100] (disclosing methods for controlling delivery of media content over a communication channel); Ex. 1005, 5:42-67 (disclosing mechanisms for controlling the flow of traffic, *i.e.*, content, between the origin servers 202, 204, 206 and the traffic server 216, 218); Ex. 1006, 20:23-32 (disclosing removing the metadata of downloaded content). Additionally, automatically deleting outdated content or files from a remote device was also well-known. Ex. 1004, [0171].

203. Second, a POSITA would have looked to Huston because it is analogous art to Cassin. Cassin generally discloses that its invention relates to the “distribution of media content” over a “communication channel to facilitate playback of the media content through a remote device.” Ex. 1004, [0003, 0005]. Huston similarly discloses “managing and providing content to users.” Ex. 1005, 1:14-15. Huston further elaborates that there “is a need for an approach for providing content to users that provides greater control to content providers over which content is made available to users.” *Id.*, 3:60-64. Huston discloses using a differencing engine that is “configured to selectively cause content to be refreshed in a cache” to facilitate managing content to users. *Id.*, Abstract. Both Cassin and Huston are directed to controlling delivery of content to a remote device over a network. *See* Ex. 1004, [0007, 0099]; Ex. 1005, 5:60-62.

204. Third, Cassin provides motivation to add to the media content delivery system the delete functionality in Huston. Specifically, Cassin teaches the use of a digital rights management scheme that takes into account a content provider’s rules and the identity of the user. Ex. 1004, [0178, 0182]. For example, Cassin teaches that it would be advantageous to also manage how long media content items remain available to its users. Ex. 1004, [0178, 0180, 0182]. In order to control how long media content is available to a user under a digital rights management scheme, a POSITA would have looked to Huston to determine how to update the remote client

using user information to enforce that the media content is either no longer available to a particular user or is expired. Specifically, Huston recognizes the undesirability of leaving stale or expired content on the client and provides a solution for updating the available content by deleting older versions of content. Ex. 1005, 3:37-44. To address the goal of automatically deleting and updating content (Ex. 1005, Abstract), Huston discloses using a differencing engine to update/delete content on a client. Similarly, Cassin teaches using a software delivery module for providing content from a database or content repository to a client computer. Ex. 1004, [0110].

205. Fourth, modifying Cassin to include functionality for the server to send delete commands to delete content in the repository of the client computer, as disclosed in Huston, is simply using a known technique (deleting content) to improve a similar device in the same way. Cassin already discloses a delete function that can be manually used and how to automatically delete log files. Ex. 1004, [0169, 0171]; *see also id.*, Figs. 12-14. A POSITA would have needed to modify the server in Cassin to send an instruction to invoke the delete command on the client. Combining the teachings of Cassin and Huston would have required no more than ordinary skill because the combination would have been a simple addition of the delete function to achieve predictable results. It would have been obvious and straightforward to a POSITA to implement Huston's "delete" function to Cassin's content delivery system. A POSITA would have had a reasonable expectation of

success in modifying Cassin with Huston's teachings at least because of their overlapping functionality and both disclose systems for improving content delivery to a remote client device.

C. Ground 3: Huston Renders Obvious Claims 1-24 of the '559 Patent

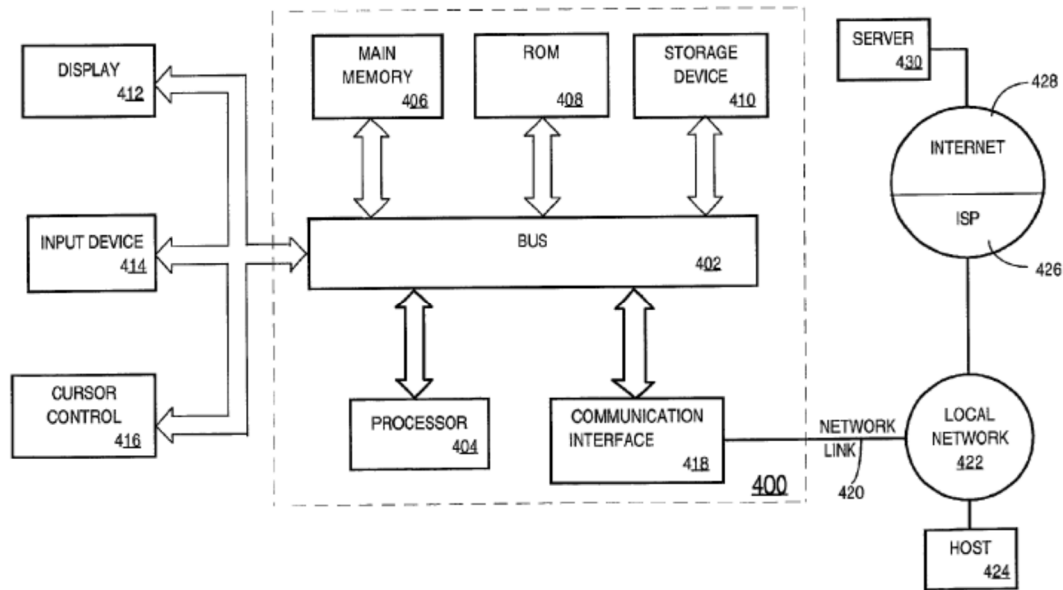
206. Huston (Ex. 1005) renders obvious claims 1-24 of the '559 patent. Ground 3 is not duplicative of Ground 1 or Ground 2 because it is the only Ground based on Huston alone.

1. Independent Claims 1, 7, 13, 19:²

207. Huston discloses these limitations.

208. As shown in Fig. 2A below, Huston discloses methods that control the flow of traffic (content) between the origin servers 202, 204, 206 and the traffic server 216, 218 (apparatus of claim 7: '559 patent terminal) using a remote differencing engine 240 (apparatus of claim 1: '559 patent content flow manager). Ex. 1005, Abstract, 1:35-42, 5:42-67, 6:15-25, 6:33-7:9, 7:38-49, 8:5-9, 16:43-56. A block diagram that illustrates a computer system apparatus upon which the invention may be implemented is depicted in Fig. 4:

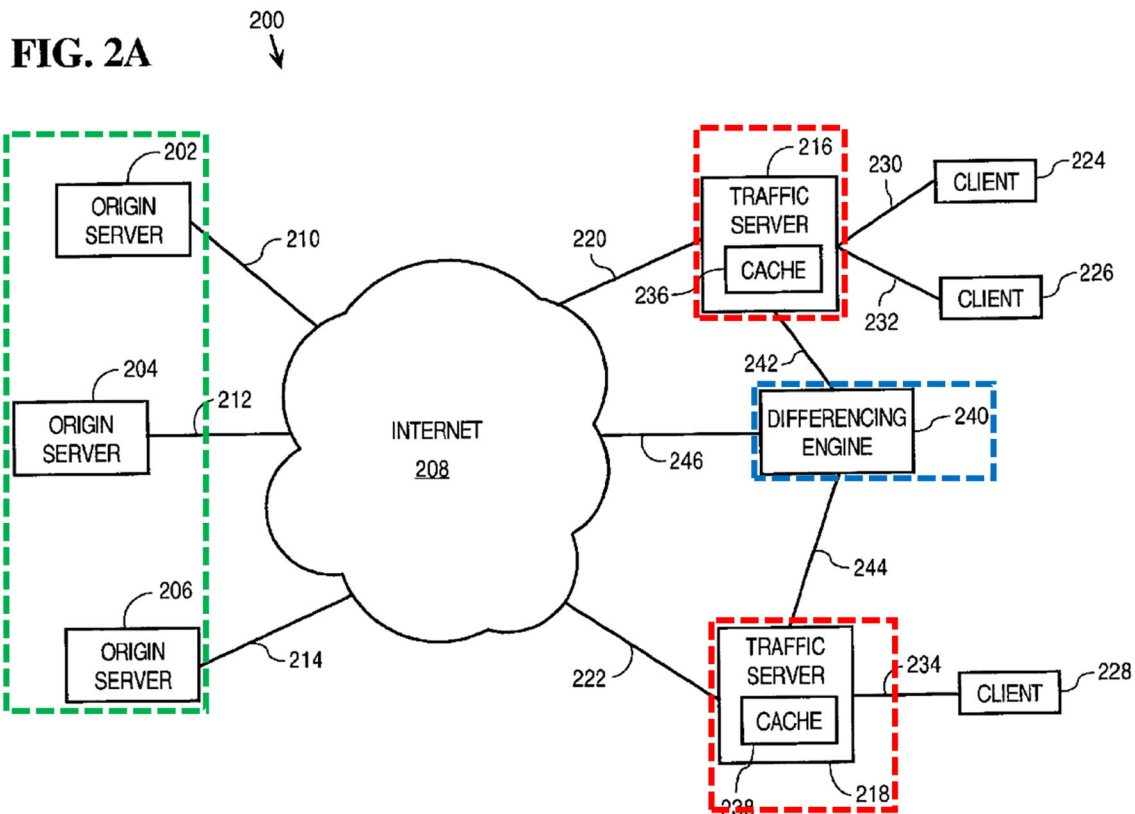
² The complete claim language for each claim is provided in paragraphs 48. The analysis of Ground 3 is presented for groupings of claims which are essentially identical, and for which the invalidity analysis is thus the same.



Ex. 1005, Fig. 4.

209. I reproduced Fig. 2A of Huston, which is annotated below. Traffic servers 216, 218 (in red) have caches 236, 238, which can be any type of local storage device (memory). *Id.*, 6:1-5, 16:12-29. The content stored on the traffic servers 236, 238 may be content specific to a particular client. *Id.*, 8:5-9. One or more sequences of one or more instructions contained in a main memory 406 may be used for executing the differencing engine 240 (in blue), which is the “*computer-readable storage medium*” in claim 19. Ex. 1005, 16:61-64; 7:38-49, 16:43-56. The differencing engine 240 may be co-located with the origin servers 202, 204, 206 (in green), and includes a processor 404. Ex. 1005, 7:38-49, 16:12-29, Fig. 4. When the differencing engine 240 and the origin servers are co-located, they would collectively be the claim 1 apparatus. Huston discloses that the differencing engine may request that origin servers provide information about the versions of data stored

at the origin servers and traffic servers, and thereby determine differences between content. Id, 6:66-7:5. The POSITA would have understood the information received from the origin servers and the traffic servers to be the claimed processor receiving “*server status information and a content status including terminal status information,*” respectively.



Ex. 1005, Fig. 2A (annotated).

210. Huston discloses that the differencing engine 240 (claim 1 “*apparatus*”) receives the content available on the origin servers 202, 204, 206 (“*server status information regarding a source of content*”), and controls the flow of content to the caches 236, 238 of the traffic servers 216, 218 based on this

information. Ex. 1005, 6:42-7:9. Huston discloses that the differencing engine may request that origin servers provide information about the versions of data stored at the origin servers (and traffic servers). *Id.*, 6:66-7:5. A POSITA would have understood that when the differencing engine receives the content available on the origin servers, the information sent from the origin servers to the differencing engine can be an identification or “*a listing of at least one piece of content available from the source.*”

211. One way in which the differencing engine 240 controls the flow of content to traffic servers 216, 218 is by selecting content to be deleted. Ex. 1005, 6:42-48. As discussed for 1[a][1] above, differencing engine 240 compares the versions of content stored on caches 236, 238 on the traffic servers 216, 218 with the versions of the corresponding content stored on the origin servers 202, 204, 206. *Id.*; *see also id.* Fig. 2A. Huston discloses that the differencing engine may request that origin servers provide information about the versions of data stored at the origin servers and traffic servers, and thereby determine differences between content. *Id.*, 6:66-7:5. To compare the versions of content, a POSITA would have understood that the differencing engine (content flow manager “*network entity*”) would receive a communication from the traffic servers as a result of this information request identifying the versions of the content stored on the caches 236, 238. A POSITA would have understood that this communication would include a listing of at least

one piece of content stored in the traffic servers, which is a “*content status including terminal status information comprising a listing of at least one piece of content stored in memory*” from the traffic servers 216, 218 (“*terminal*”) and compare it with information sent from the origin servers (“*server status information regarding a source of content*”).

212. The differencing engine 240 “causes content to be deleted from the traffic servers 216, 218 by issuing one or more ‘delete’ commands to traffic servers” (*i.e.*, “*one or more actions*”) to thereby control the flow of content to the traffic servers 216, 218 (*i.e.*, “*terminal*”) based upon the “*terminal status information*” and “*server status information.*” Ex. 1005, Fig. 2A, 1:35-42, 6:33-7:9, 6:33-41. The differencing engine 240 “instructs the terminal to perform one or more actions to thereby control the flow of content to the terminal based upon the terminal status information and the serve status information.”

213. Huston teaches that content “broadly refers to almost any type of information or data . . . without limitation,” which could include “web pages,” “news and financial data,” “streaming media objects,” or “media content.” Ex. 1005, 1:35-42, 12:42-44, 15:39-44. By the October 2003 priority date of the ’559 patent the POSITA would have understood the disclosure of content as media content and streaming media objects, would include the claimed “*multimedia content.*”

2. Claims 2, 8, 14, 20:

214. Huston discloses these limitations.

215. Huston discloses that the differencing engine 240 (“*apparatus*”) causes content to be deleted from the traffic servers 216, 218 (“*terminals*”) by issuing one or more “*delete*” commands to the traffic servers 216, 218 instructing the traffic servers to delete content from the traffic server’s caches 236, 238. Ex. 1005, 6:33-41, 6:44-48. (“differencing engine 240 causes content to be deleted from traffic servers 216, 218 by issuing one or more 'delete' commands to traffic servers.”) A POSITA would understand that a “*delete*” command is an instruction to “*delete at least one piece of content from the memory of the terminal.*”

216. Huston also discloses that the differencing engine 240 retrieves new content from the origin servers 202, 204, 206 and stores it in the traffic server’s cache 236, 238. Ex. 1005, 7:43-49, 7:56-65. Thus, Huston discloses instructing the traffic servers 216, 218 to download at least one piece of content from the origin servers 202, 204, 206 (a source of content). *See* paragraphs 207-213, which are incorporated by reference herein. When Huston’s differencing engine 240 stores new content in the traffic server’s cache 236, 238, the new content is downloaded in the traffic server’s cache 236, 238, which satisfies the *Starz* district court’s construction of “download” and the plain and ordinary meaning of “download.”

3. Claims 3, 9, 15, 21:

217. Huston discloses these limitations.

218. Huston discloses that the differencing engine 240 causes content to be deleted from the traffic servers 216, 218 by issuing one or more “*delete*” commands to the traffic servers 216, 218. Ex. 1005, 6:33-48, Fig. 2A. (“differencing engine 240 causes content to be deleted from traffic servers 216, 218 by issuing one or more ‘delete’ commands to traffic servers.”) The differencing engine 240 selects the content to be deleted by comparing the versions of content stored on the traffic server’s caches 236, 238 (the “*listing of at least one piece of content stored in the memory*” of the terminal) with the versions of content stored on the origin servers 202, 204, 206. *Id.*, 6:42-48 (“differencing engine 240 selects content to be deleted by comparing versions of content stored on caches 236, 238 to versions of the corresponding content stored on origin servers 202, 204, 206”). Therefore, the differencing engine 240 is configured to send a response to the traffic servers 216, 218 to delete content from the caches 236, 238 (“*memory of the terminal*”) “*based upon the listing of at least one piece of content stored in the memory*” of the traffic servers 216, 218. See paragraphs 207-216, which are incorporated by reference herein.

4. Claims 4, 10, 16, 22:

219. Huston discloses these limitations.

220. Huston discloses that the differencing engine 240 receives the content available on the origin servers 202, 204, 206 (*i.e.*, “*server status information*”), and controls the flow of content to the caches 236, 238 of the traffic servers 216, 218 based on this information. Ex. 1005, 6:42-7:9. For example, the differencing engine 240 receives information on new content from the origin servers 202, 204, 206 and instructs the traffic servers 216, 218 to download the new content (*i.e.*, at least one piece of content) from the origin servers 202, 204, 206 (*i.e.*, source) based on this new content information. *See id.*, 6:56-58 (“[s]ometime later, a second more recent version of the particular electronic document is created by a content provider and stored on origin server 202.”); *id.*, 6:62-66 (“[d]ifferencing engine 240 then causes the first version of the particular electronic document to be deleted from cache 236 and replaced with the second more recent version of the particular electronic document from origin server 202”). *See also id.*, 7:46-49, 11:9-22, 11:52-56. *See* paragraphs 207-213, which are incorporated by reference herein.

5. Claims 5, 11, 17, 23:

221. Huston discloses these limitations.

222. Huston discloses that the differencing engine 240 selects content to be deleted by comparing the versions of content stored on the caches 236, 238 on the traffic servers 216, 218 with the versions of the corresponding content stored on the origin servers 202, 204, 206. Ex. 1005, 6:42-48, Fig. 2A. Based on this comparison

of content (“*determin[ing] if the memory of the terminal includes at least one piece of content to delete*”), the differencing engine 240 causes older content to be deleted from the traffic server’s caches 236, 238 (“*memory of the terminal*”). (“[v]ersions of content on caches 236, 238 that are older than versions of the corresponding content on origin servers 202, 204, 206 are selected for deletion.” *Id.*, 6:48-51.) The differencing engine does this by issuing one or more “*delete*” commands to the traffic servers 216, 218 (“*instruct[ing] the terminal to delete at least one piece of content*”). Ex. 1005, 6:33-51. See paragraphs 207-218, which are incorporated by reference herein.

6. Claims 6, 12, 18, 24:

223. Huston discloses these limitations.

224. Huston discloses that the differencing engine 240 receives the content available on the origin servers 202, 204, 206 and controls the flow of content to the caches 236, 238 of the traffic servers 216, 218 based on this information. Ex. 1005, 6:42-7:9. For example, the differencing engine 240 receives information on new content from the origin servers 202, 204, 206 (“[s]ometime later, a second more recent version of the particular electronic document is created by a content provider and stored on origin server 202.” *Id.*, 6:56-58), and instructs the traffic servers 216, 218 to download the new content (“*instructs the terminal to download at least one available piece of content*”) from the origin servers 202, 204, 206 (“*source*”) based

on this new content information (“*determines that the source includes at least one available piece of content for the terminal to download*”). *Id.*, 6:62-66.) (“[d]ifferencing engine 240 then causes the first version of the particular electronic document to be deleted from cache 236 and replaced with the second more recent version of the particular electronic document from origin server 202.” Ex. 1005, 7:46-49, 11:9-22, 11:52-56. *See* paragraphs 207-222, which are incorporated by reference herein.

XI. SECONDARY CONSIDERATIONS

225. Based on my expertise and experience of the industry and review of the asserted prior art and other references cited in my declaration, I am not aware of any evidence of secondary considerations that would support a finding of non-obviousness. The asserted prior art demonstrates that the elements recited in the challenged claims of the ’559 patent were readily available in the prior art, and there was no evidence of failure by others.

XII. CONCLUSION

226. Based on my review and above analysis of the prior art, it is my opinion that claims 1, 2, 4, 7, 8, 10, 13, 14, 16, 19, 20, and 22 of the ’559 patent are anticipated by Cassin; claims 1-24 of the ’559 patent would have been obvious to a POSITA in view of Cassin and Huston; and claims 1-24 of the ’559 patent would have been obvious to a POSITA in view of Huston.

227. I declare under penalty of perjury that the foregoing is true and correct. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this 23rd day of February, 2023, in Escondido, California.


Anthony Wechselberger _____