

IPR2019-01483
Patent No. 8,656,431
Exhibit 2101

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,

Petitioner

v.

WHEREVERTV, INC.,

Patent Owner

IPR2019-01423

Patent No. 8,656,431

Filing Date: July 10, 2006

Issue Date: February 18, 2014

Title: GLOBAL INTERACTIVE PROGRAM GUIDE
APPLICATION AND DEVICE

DECLARATION OF MICHAEL I. SHAMOS, PH.D., J.D.

EXHIBIT 2101

I, Dr. Michael I. Shamos, declare as follows:

I. INTRODUCTION AND QUALIFICATIONS

1. I have been retained by Patent Owner WhereverTV, Inc. (“WhereverTV”) to provide technical analysis and opinions relating to Comcast Cable Communications, LLC’s Petition for *inter partes* review challenging the validity of U.S. Patent No. 8,656,431 (“the ’431 patent”) in this proceeding.

2. I currently hold the title of Distinguished Career Professor in the School of Computer Science at Carnegie Mellon University in Pittsburgh, Pennsylvania. I am a member of two departments in that School, the Institute for Software Research and the Language Technologies Institute. I was a founder and Co-Director of the Institute for eCommerce at Carnegie Mellon from 1998-2004 and from 2004-2018 was Director of the eBusiness Technology graduate program in the Carnegie Mellon University School of Computer Science. Since 2018, I have been Director of the M.S. in Artificial Intelligence and Innovation degree program at Carnegie Mellon. My Curriculum Vitae is attached to this declaration.

3. I have an A.B. degree from Princeton University in Physics, an M.A. degree from Vassar College in Physics, an M.S. degree from American University in Technology of Management, an M.S. degree from Yale University in Computer

Science, an M. Phil. from Yale University in Computer Science, a Ph.D. from Yale University in Computer Science, and a J.D. degree from Duquesne University.

4. I have taught graduate courses at Carnegie Mellon in Electronic Commerce, including eCommerce Technology, Electronic Payment Systems, Electronic Voting, Internet of Things, Electronic Payment Systems and eCommerce Law and Regulation, as well as Analysis of Algorithms. Since 2007, I have taught an annual course in Law of Computer Technology. I currently also teach Artificial Intelligence and Future Markets. Since 2001, I have been a Visiting Professor at the University of Hong Kong, where I teach an annual course in Electronic Payment Systems.

5. I am also the Director of Carnegie Mellon's graduate degree program in eBusiness Technology and a faculty member in the Privacy Engineering degree program at Carnegie Mellon. My course on Law of Computer Technology is required for all students in that program.

6. From 1979-1987 I was the founder and president of two computer software development companies in Pittsburgh, Pennsylvania, Unilogic, Ltd. and Lexeme Corporation.

7. I am an attorney admitted to practice in Pennsylvania and have been admitted to the Bar of the U.S. Patent and Trademark Office since 1981. I have

been asked to render opinions in this declaration as a technical expert. I have not been asked to offer any opinions on patent law in this proceeding.

8. I have previously served as an expert in over 270 cases concerning computer technology. In particular, I have been involved in multiple cases involving television distribution systems and interactive program guides.

9. The statements made and opinions provided in this Declaration are based on my own personal knowledge and, if called as a witness, I could and would testify consistent with the following.

II. MATERIALS CONSIDERED

10. I have been asked by counsel for Patent Owner to address Petitioner's assertions that certain combinations or prior art references would have rendered obvious claims 1 and 3-9 of the '431 patent (the "Challenged Claims"). I have also been asked to provide rebuttal to the "Declaration of Dr. Andrew Lippman," dated August 20, 2019 ("Lippman Declaration," Ex. 1106).

11. I have reviewed the following documents in forming the opinions expressed in this Declaration:

- Petition for *Inter Partes* Review;
- U.S. Patent No. 8,656,431 (Exhibit 1101);
- Prosecution History of U.S. Patent No. 8,656,431 (Exhibit 1102);

- Plaintiff's Objections and Answers to Defendant's Interrogatories (Nos. 1-2) (Exhibit 1103);
- Plaintiff's Amended Notice of Asserted Patent Claims (Exhibit 1104);
- Deposition of Mark Cavicchia (Exhibit 1105) ("Cavicchia");
- Declaration of Dr. Andrew Lippman (Exhibit 1106) ("Lippman Declaration");
- McGraw-Hill Dictionary of Scientific and Technical Terms (Exhibit 1107);
- Patent Owner's proposed claim constructions in the Florida action (Exhibit 1108);
- Microsoft Press Computer User's Dictionary (Exhibit 1109);
- Ramraz et al. U.S. Patent 7,546,523 (Exhibit 1110) ("Ramraz");
- Bayrakeri et al. U.S. Patent 7,373,652 (Exhibit 1111) ("Bayrakeri");
- Comcast Corporation's Form 10-K 2004 Annual Report (Exhibit 1112);
- "2004 Form 10-K, The DirecTV Group," SEC (March 17, 2004) (Exhibit 1113);
- Furlong et al. U.S. Patent Application Publication 2006/02358800 (Exhibit 1114) ("Furlong");

- Bednarek et al. U.S. Patent 6,009,116 (Exhibit 1115) (“Bednarek”);
- Calderone et al. U.S. Patent No. 7,260,538 (Exhibit 1116)
 (“Calderone”);
- KRON-TV, <https://en.wikipedia.org/wiki/KRON-TV> (last visited August 16, 2019) (Exhibit 1117);
- KRON-TV webpage from www.archive.org dated December 28, 2004 (Exhibit 1118);
- American Broadcasting Company,
[https://www.wikizero.com/en/ABC_\(United_States\)](https://www.wikizero.com/en/ABC_(United_States)) (August 9, 2019) (Exhibit 1119);
- KABC-TV, <https://en.wikipedia.org/wiki/KABC-TV> (August 9, 2019) (Exhibit 1120);
- About ABC7 Los Angeles, <https://abc7.com/communityevents/about-abc7-los-angeles/50642/> (August 9, 2019) (Exhibit 1121);
- Erin Joyce, TV: the Next Portal War, Internet News (August 8, 2003) (Exhibit 1122)
- Evaluating DRM: Building a Marketplace for the Convergent World, Center for Democracy and Technology (Sept. 2006) (Exhibit 1123)

- Petitioner Comcast Cable Communications, LLC's Ranking and Explanation of Material Differences Between Petitions.

12. The litigation documents listed above (Exhs. 1003, 1004, 1005, 1010 and 1016) refer to the case *WhereverTV, Inc. v. Comcast Cable Communications, LLC*, Civil Action 2:18-cv-529-UA-CM (M.D. Fla.) (the "Florida Action"), which is still pending.

13. I have also relied on my education, skill, training, and experience in the relevant fields of technology, particularly electronic voting, in forming my opinions. I have further considered the viewpoint of a person of ordinary skill in the art at the time of invention of the '413 patent ("POSITA"). I provide my opinion as to the proper level of skill of a POSITA in Section VI of this Declaration.

14. I reserve the right to supplement my opinions as expressed in this Declaration to address any new information obtained in the course of this proceeding, or based on any new positions taken by Petitioner.

15. In this Declaration I rebut many assertions and opinions in the Lippman Declaration. The fact that I may not specifically address a particular assertion or opinion does not mean that I necessarily agree with such assertion or opinion.

III. COMPENSATION

16. I am being compensated at the rate of \$550/hour. My compensation is in no way dependent on the outcome of this proceeding and my compensation in no way affects the substance of my statements and opinions in this Declaration.

17. I have no financial interest in Patent Owner Wherever TV, Inc., or the '413 patent. I own approximately \$25,000 worth of stock in Comcast Corporation, which I understand to be affiliated with Petitioner Comcast Cable Communications, LLC. This holding does not represent a material part of my net worth. I have had no contact with Petitioner, Inventor Cavicchia or Patent Owner in connection with this proceeding.

IV. SUMMARY OF MY OPINIONS

18. I have been asked to provide my opinions regarding whether the Challenged Claims of the '413 patent would have been obvious in light of the art identified in the Petition.

19. It is my understanding that the following table summarizes the challenges to the Challenged Claims raised in the Petition

Ground	Invalidity Challenge	References	Challenged Claims
A	§ 103	Ramraz & Bayrakeri	1, 5, 7-9
B	§ 103	Ramraz & Bayrakeri & Furlong	3

C	§ 103	Ramraz & Bayrakeri & Bednarek	4
D	§ 103	Ramraz & Bayrakeri & Calderone	6

20. After a review of the '413 patent and the alleged prior art asserted by Petitioner, it is my opinion that the Challenged Claims would not have been obvious in light of the asserted prior art at the time of the invention. My opinions, and the bases therefore, are detailed throughout this Declaration.

V. LEGAL PRINCIPLES

21. Counsel for WhereverTV has informed me of the legal principles that apply in this proceeding.

22. A prior art reference can disclose a limitation that is not expressly disclosed in the reference if it is “inherently present” in the reference. I further understand that to be “inherently present,” the extrinsic evidence must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference. It is my understanding that a limitation is not disclosed by inherency if the missing limitation is only probably is present or if there is merely a possibility that it is present.

23. A claim is invalid as obvious under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter of the claim as a whole would have been obvious at the time of the

invention to a person having ordinary skill in the art. I have been informed that the following factors are used to determine whether or not the claimed subject matter would have been obvious: (i) the scope and content of the prior art; (ii) the differences between the prior art and the claimed invention; (iii) the level of ordinary skill in the field of the invention; and (iv) any relevant objective considerations of non-obviousness.

24. A party asserting obviousness based on a combination of prior art references must demonstrate that one of ordinary skill in the art would have been motivated to combine the teachings of those references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so. It is my understanding that it is not enough to show that one skilled in the art could combine elements of multiple references, but instead there must be some reason that would have prompted a person of ordinary skill in the art to combine the elements in the way the claimed invention does. I understand that there must be some reasoned explanation as to why one of ordinary skill in the art would combine the references.

25. A combination of references would not have been obvious if the alleged modification(s) to be made to the reference(s) would have been inconsistent with the reference's stated goals or would have rendered the

combination inoperable for its intended purpose. I further understand that for something to have been obvious, the party asserting obviousness must explain why a POSITA would have selected components for combination in the manner claimed.

26. It is my further understanding that obviousness cannot be based on a hindsight combination of components selected from prior art references. I also understand that an invention would not have been obvious simply because all of the elements of the invention may have been known separately in the prior art.

VI. LEVEL OF ORDINARY SKILL IN THE ART

27. It is my understanding that the Petitioner asserts that, with respect to the '413 patent, a POSITA "would have had at least a bachelor's degree in electrical engineering, computer engineering, computer science, or a similar discipline, and at least two years' experience designing or programming computer networks or applications for transmitting or managing video content." Petition at 12 and Exhibit 1106 at ¶ 37.

28. I do not agree that this is the proper level of ordinary skill necessary for a POSITA to understand the specification of the '413 patent and to make and use the claimed inventions without undue experimentation.

29. It is my understanding that my analysis of the interpretation of a claim term must be undertaken from the perspective of what would have been known or understood by a person having ordinary skill in the art (POSITA) at the time of the invention. I have been asked to assume that the appropriate date is June 22, 2000.

30. The '431 patent defines its field of invention as follows at 1:6-11:

This invention relates to an interactive program guide (IPG) application and device to receive, access, manage, and view digital entertainment services such as live television, television on demand, and pre-recorded video and audio programming from one or more content sources, via an internet-enabled device, anywhere in the world.

31. The specification describes how to aggregate content and allow a user to configure an interactive program guide to add and subtract channels.

32. The claims of the patent are drawn to systems, methods and computer-readable media for enabling access by a user from potentially anywhere in the world to video content from both MSOs and non-MSO, such access being provided through a configurable interactive program guide (IPG). The claims are further drawn to video streaming and digital rights management.

33. In my opinion, in order to understand the specifications of the Patents and to make and use the claimed inventions, a POSITA would need a certain level

of education or experience and, in addition, experience implementing network server software and electronic program guides.

34. I believe that such a POSITA would have had at least a bachelor's degree in computer science or electrical engineering, or in an equivalent field, or equivalent work experience, and, in addition, at least two years' work experience with systems involving delivery of networked video content, including streaming, and also familiarity with delivery of television media content over networks, related network protocols, electronic program guides and digital rights management.

VII. CLAIM CONSTRUCTION

35. I have been informed that claim terms are to be given their ordinary and customary meaning as would have been understood by a POSITA. Petitioner has sought to construe two terms. Petition at 9-12.

A. “server”

36. Petitioner proposes that “server” means “a computer on a network that supplies information when it receives requests via the network.” Dr. Lippman discusses this term at ¶¶ 26-30 of the Lippman Declaration. He does not explain why he thinks this well-understood term requires construction, and it does not.

37. Further, the proposed construction is factually incorrect. A server responds to requests from the requestor and, if it is asked to supply information, it supplies it to the requestor, not some other location. Also, a server responds to requests, but not all requests require supplying information. For example, a request to unsubscribe from an email list does not call for supplying information back to the requestor.

38. In ¶ 27, Dr. Lippman asserts that the language of claim supports this construction. It does not. Claim 1 recites a limitation that begins “a server resident on a network containing” Thus the words “on a network” in the construction are entirely superfluous because they are already recited in the claim. Substituting the proposed construction into the claims results in this awkward and confusing phrase: “a computer on a network that supplies information when it receives requests via the network on a network containing”

39. Further, the term “server” is entirely well-understood and the words “that supplies information when it receives requests via the network” are also unnecessary.

40. In ¶ 28, Dr. Lippman points out that the word “server” is not used in the specification proper, but appears only in the claims. That, of course, demonstrates that the word “server” has no specialized meaning in the claims, because the specification contains no lexicography that would alter its ordinary meaning.

41. In ¶ 28, Dr. Lippman further asserts that “the specification does not ... implicitly describe any server containing descriptive program data about video content available from MSOs and non-MSOs.” That assertion is incorrect. The specification in several places states that the content for the global IPG of the invention is obtained over the Internet, clearly from one or more servers. The Abstract recites (emphasis added):

*A system and device is disclosed that employs a **global interactive program guide** to receive, access, manage, and view digital entertainment services such as live television, television on demand, and pre-recorded video and audio programming from one or more content sources, **via an internet enabled device, anywhere in the world.** As disclosed, **the global interactive program guide provides a user with meta data that describes available content and enables***

*the user to access desired content on an a la carte basis and arrange the presentation of that content in any way or order desired. The system of the instant invention **can alternatively be practiced with any mobile communications device that is accessible via the internet**, cell phone communications or other communications mode.*

42. Further, at 8:65-9:4 (emphasis added):

*A user 16 has the option of viewing content on a MMED 14 that is **running a global IPG 12 from any internet enabled location**, including, but not limited to: a home 18a, an office 18b, an automobile 18c, an airplane 18d, or a train 18e, although **this invention could be used via any internet-enabled device** such as a cellphone, personal digital assistant or laptop, for example.*

An IPG inherently displays descriptive program data, but such is also expressly disclosed at 9:50-52 (emphasis added):

*This **content programming data and information** would then be sent to the MMED 14 and viewable on the global IPG 12 and, additionally, presented to the user on the television 102a.*

43. Further, Fig. 2 shows data flowing to the global IPG 12 from both an MSO 24 and “independent content distributors” (non-MSOs) 30, 40 and 50.

44. It is through the use of the Internet that the invention achieves its advantages, such as the ability of the user to obtain content anywhere in the world from a mobile device.

45. In ¶ 30, Dr. Lippman cites various dictionary definitions of “server,” but offers no explanation why any dictionary definitions are needed.

46. For purposes of this proceeding only, I have been asked to apply Petitioner’s proposed construction. I am not conceding that the proposed construction is correct.

B. “multiple cable system operator (MSO)”

47. Petitioner proposes that the term MSO means “an aggregator of video content that provides user access to the video content in more than one community and that exercises control over what video content is made available to the user.” This term is proposed for construction in the Florida Action and Petitioner’s proposal is identical to the incorrect one it proposed in that action.

48. Comcast’s proposed construction is factually wrong and nothing Dr. Lippman says in ¶¶ 31-36 of the Lippman Declaration can repair it. As shown below, the specification defines what an “MSO” is and Petitioner simply does not like the patentee’s definition.

49. In ¶ 32, Dr. Lippman asserts that the claim [1] “supports that an MSO is an operator that ‘provides user access to the video content’.” That assertion is just wrong because the claim recites that video content is “available from one or more multiple cable system operators (MSOs) **and** one or more non-MSOs”

(emphasis added). Thus video content comes from both MSOs and non-MSOs, and it is not correct that an MSO provides access to “the video content.” An MSO provides access to some video content, but not “**the** video content.”

50. In ¶ 33, Dr. Lippman asserts that the specification “describes that an MSO is ‘an aggregator of video content that provides user access to the video content’.” I disagree because the quoted phrase appears nowhere in the specification or the prosecution history. Further it must be understood that the MSO only needs to provide user access to the content which it aggregates/consolidates itself, and not necessarily content provided by other MSOs or non-MSOs.

51. In ¶ 33, though, Dr. Lippman goes on to say that the specification describes that an MSO “exercises control over what video content is made available to the user.” The specification says something similar at 2:39-43 (“these all follow the traditional cable-television, content aggregation model where the MSO, rather than the user, is in control of what content is available”), but that statement is not definitional and it not a necessary property of an MSO. For example, an MSO would not cease being an aggregator of content if it happened to allow a user to control what content was available. One of Dr. Lippman’s own quotations contradicts his construction. He cites 3:47-48, which reads, “The user

also has little control over the availability of specific content from a cable television MSO.” “Little control” is not “no control,” so it is not true that the specification discloses that an MSO necessarily “exercises control over what video content is made available to the user.”

52. Further, the notion that the MSO “exercises control over what video content is made available to the user” is incorrect, and differs from the description in the specification, which explains that the “control” exercised by an MSO is control over channels, not over specific items of content, such as a particular program: “The user also has little control over the availability of specific content from a cable television MSO. For example, if the MSO chooses not to purchase rights to broadcast a specific content provider's channel, the user cannot access or integrate that specific content provider's channel onto the STB's IPG even if a separate content access relationship has been established.” 3:47-53.

53. This view is amply supported by the prosecution history at 499:500 (emphasis added):

“An applicant is entitled to be his or her own lexicographer. In re Paulsen, 30 F.3d 1475, 1480, 31 USPQ.2d 1671, 1674 (Fed. Cir. 1994); MPEP § 2173.05(a). In the specification, the characteristics of a Multiple System Operator (MSO) are described. An MSO is the equivalent of a cable system that receives and broadcasts channels.”

An MSO controls content availability, thus if an MSO chooses not to purchase rights to broadcast a specific content provider's channel the user cannot access that specific content provider's channel even if a separate content access relationship has been established. [0005, 00010, 0019, 0028, and 0029].

JumpTV meets the above characteristics of an MSO. JumpTV is the same as a traditional cable multi-service operators (MSO) using a different pipe—Internet vs. coaxial cable. JumpTV's system has complete control over what content customers can or cannot access. A JumpTV customer cannot add channels for non-MSO and/or other MSO sources that are not part of the JumpTV provider's channel selections to the IPG to be viewed using the content manager. A JumpTV customer cannot access channels that do not pass through JumpTV's headend."

54. Neither party proposes construing "MSO" to have its plain and ordinary meaning. It is clear that the applicant acted as his own lexicographer by expressly including Internet sources in his definition of "MSO."

55. In ¶ 34, Dr. Lippman discusses the word "community," which appears in Comcast's construction. Because an MSO can be "Internet-based," the concept of "community" no longer applies. "Community" made sense in an earlier day when cable systems were given franchises by local governments and could only operate in discrete restricted territories. Internet-based MSOs have no relation at

all to any “community,” and adding that limitation to the construction makes no sense.

56. Thus the only portion of Comcast’s proposed construction that is actually correct is “an aggregator of video content that provides user access to the video content.” That much is contained in Plaintiffs proposed construction, which begins, “a traditional cable or Internet television content consolidator.” I take “consolidator” and “aggregator” to mean the same thing in this context. The “provides user access to the video content” is captured in Plaintiff’s construction as “receives and rebroadcasts channels of video content.” That is how the MSO provides user access.

57. In the Florida action, as here, Patent Owner proposes that “MSO” means “a traditional cable or Internet television content consolidator that receives and rebroadcasts channels of video content.” In ¶ 37, Dr. Lippman simply says he does not agree with this construction, but does not explain why.

58. For purposes of this proceeding only, I have been asked to apply Petitioner’s proposed construction. I am not conceding that the proposed construction is correct, and I believe that it is not, for at least the reasons given above.

59. Several other terms for which Petitioner has not proposed constructions, require construction.

C. “non-MSO”

60. This term requires construction because it is not a term of art and does not mean an arbitrary entity that is not an MSO. For example, a toy manufacturer is not an MSO, but is also not a non-MSO. A “non-MSO” is a television content provider, but one which is distinguished from an MSO in that it does not receive and re-broadcast channels. Therefore, Patent Owner proposes that “non-MSO” should be construed as “a cable or Internet television content consolidator that does not receive and rebroadcasts channels of video content.”

61. All of the examples of non-MSOs in the specification meet this definition and it is consistent with the Figures. Fig. 2, for examples, shows non-MSOs 30, 40 and 50 as “independent content distributors,” that is, stations that provide their own content and do not rebroadcast the content of others. Fig. 2 also shows an MSO 24, which does rebroadcast the content of others.

62. This term is proposed for construction in the Florida Action and Patent Owner’s proposal here is identical to the one it proposed in that action.

D. “streaming video programming”

63. This term was not proposed for construction in the Florida action. However, the term “only or virtually entirely streaming video programming” was proposed, and Patent Owner urged that it be understood in its plain and ordinary meaning.

64. “Streaming” is a term of art that is readily understood. In streaming, discrete portions of a data stream, usually video, called “segments” are sent from a server to a receiver, where they are stored in a buffer. Once the receiver’s buffer has been loaded, display of the video can commence. As the buffer is partially emptied, subsequent segments are downloaded. As long as the buffer never empties completely, the video as displayed to the viewer appears to be a continuous stream, hence the term “streaming.” However, the sending of the video to the receiver is not continuous – it occurs in discrete chunks. What is continuous is the appearance of the video to the viewer. See, e.g., “A Streaming Media Primer,” Adobe (2001) (Ex. ***). Streaming is a client-server concept that requires a server to “stream” the video content to a client, which the client then buffers for a short time. In streaming, it is not necessary to download an entire video before the user may commence viewing.

65. Unfortunately, “streaming” is a term that is often, in an abuse of usage, taken to mean any continuous (or apparently continuous) sending of content. That is clearly incorrect, because a broadcast TV station does not “stream” its content, and the correct meaning is provided in the Adobe document referenced above.

66. Therefore, “streaming video programming” is “video content delivered from a server by streaming.”

E. “only or virtually entirely streaming video programming”

67. The purpose of this limitation is to account for the possibility that a program being viewed is interrupted by technical problems that cause the stream to be interrupted temporarily. In such a case, the channel would not carry “entirely streaming video programming.” To provide for interruptions, the alternative “or virtually entirely” was added.

68. Patent Owner proposed this construction in the Florida action: “Plain and ordinary meaning, which the jury understands to mean exclusively or almost exclusively video programming.” The construction contained a typographical error – the word “streaming” was left out. This is clear from the Patent Owner’s construction of the subphrase “only or virtually entirely streaming video programming” in the Joint Claim Construction Statement, which includes

“streaming”: “Plain and ordinary meaning, which the jury will understand to mean that each of the channels, when selected, provides only or virtually entirely streaming video programming.” Therefore, the phrase to be construed properly means “exclusively or almost exclusively streaming video programming.”

69. In the Florida action, Petitioner proposed that the phrase is indefinite. Petitioner takes that position in this review, but states that indefiniteness does not matter because the prior art teaches “only streaming video programming,” which is included within “only or virtually entirely streaming video programming.”

F. “wherein the server is distinct from at least one of the one or more MSOs and one or more non-MSOs”

70. Patent Owner proposed the following construction in the Florida action: “the server does not stream digital television content from at least one of the MSOs and does not stream digital television content from at least one of the non-MSOs.” This reflects the disclosure of the specification at Abstract; 2:36-44; 4:10-24; 6:5-25; 8:31-36; 9:5-10:4; 14:28-15:13; and 15:50-56. One idea of the invention is that the descriptive program data (which is provided by “the server”) does not come from the servers that stream television content. See, e.g., 9:37-41: “Instead of digital content streaming through the MMED14 as disclosed and set forth in FIG. 1, the MMED 14 and global IPG 12 are used to obtain and present data about available content to the user 16 on the television 102a.”

71. In the Florida action, Petitioner proposed that the term means “wherein the server is not controlled by the one or more MSOs and is not controlled by the one or more non-MSOs.” This is wrong because the concept of “controlling” a server never appears in the specification and the content manager device is an apparatus that operates in the same manner regardless of who “controls” its components. A hammer would still be a hammer and would work the same way even its head and its handle were owned by different parties.

VIII. TECHNICAL BACKGROUND

72. In ¶¶ 38-41. Dr. Lippman cites various references to establish that IPGs were known before the ’431 patent, a proposition I do not dispute. None of the references cited are used in any of the Grounds of challenge.

73. The claimed invention discloses a distributed network solution for accessing, managing, and organizing television content received from disparate content sources, especially proprietary legacy television systems, known as “multiple system operators” or “MSOs,” and newer sources of television content such as, for example, individual online channels, podcasts, and video-on-demand websites. Ex. 1001, 6:4-35; Abstract; Claim 1. The claimed invention discloses an interactive programming guide application installed on a device connected to a distributed network, as well as a separate server resident on the same network. Ex.

1001, Claim 1. The server contains descriptive program data about the video television content available from the channels on the interactive programming guide. Claim 1. Ex. 1001, Claim 1. Upon the selection of a channel listed on the interactive program guide, the actual video content is “streamed” from the MSO and non-MSO servers, rather than from the server that contains the descriptive program data about the video content. Ex. 1001, 9:28-10:4; Claim 1. This distributed network design “optimize[s] data transfer” and permits a mobile interactive programming guide that can “follow” the user from location to location, regardless of physical location. Ex. 1001, 6:33 (“optimize data transfer”); 7:16-19 (“follow me”); 6:4-9; Abstract.

IX. OPINIONS REGARDING OBVIOUSNESS OF THE CHALLENGED CLAIMS

74. In ¶¶ 56-125, Dr. Lippman offers opinions concerning the obviousness of the Challenged Claims. In this section I present rebuttal to those opinions.

A. Ground A: Claims 1, 5, and 7-9 Would Not Have Been Obvious Over Ramraz + Bayrakeri

75. Dr. Lippman devotes ¶¶ 57-104 to Ground A.

76. In Ground A of its Petition, Petitioner asserts that claims 1, 5 and 7-9 would have been obvious under 35 U.S.C. § 103 in view of Ramraz combined with

Bayrakeri. I disagree with Petitioner's assertion because the asserted combination does not disclose all the elements of any Challenged Claim.

77. In ¶ 58, Dr. Lippman identifies the "content manager device" of the preamble with "content distribution system 106" of Fig. 1 of Ramraz.

78. In ¶¶ 59-60, Dr. Lippman addresses the limitation "a server resident on a network." Petitioner has identified the supposed "server" as "content distribution system 106" of Ramraz. Ramraz, however, does not describe any of the components of 106 as servers. By contrast, Ramraz does specifically point to two different servers in the specification, neither of which is in 106. The first is "content server 112," which is part of "content provider(s) 102." The second is "EPG server 118," which is part of "program data provider(s) 118." It is not clear that content distribution system 106 does any more than transmit content and program data to STBs over "broadcast network 110." That does not imply that there is any server at all in content distribution system 106.

79. In ¶ 60, Dr. Lippman takes the leap of saying that content distribution system 106 "supplies information ... when it receives requests (e.g. subscriber selecting to view the guide or a particular channel or video on demand) via the network. However, "tuning" to a channel (as at 2:64-67 of Ramraz) does not

involve sending any “request” to content distribution system 106. Therefore, Dr. Lippman has failed to identify the claimed “server.”

80. In ¶ 61, Dr. Lippman says that content distribution system 106 contains descriptive program data about video content. That may be so, but if it does not contain a server then the program data does not cure the deficiency. For example, system 106 could take the program data, render it into an image in program data processor(s) 124, and send the image as a TV signal to the STB 108 over cable. Such a process does not involve any server. Therefore, Dr. Lippman has failed to identify the claimed “server containing descriptive program data about video content.”

81. In ¶¶ 62-71, Dr. Lippman addresses the limitation “[descriptive program data about video content] available from one or more multiple cable system operators (MSOs) and one or more non-MSOs”. Dr. Lippman identifies “MSO and non-MSO content providers” as “content provider(s) 102” in Ramraz. Ramraz indeed discloses MSO’s such as DirecTV and Comcast. However, there is no non-MSO to be seen in Ramraz that stream video content. The analog antenna sources referred to by Dr. Lippman are not non-MSOs that stream. In fact, analog sources cannot stream as a matter of definition because they are not digital and do not deliver content over a computer network.

82. In ¶ 69, Dr. Lippman asserts that the “camcorders, VCRs, and digital cameras” of Ramraz are “non-MSO sources.” A “non-MSO” according to Patent Owner’s construction is “a traditional cable or Internet television content consolidator that receives and rebroadcasts channels of video content.” Camcorders, etc. clearly do not meet that definition. Petitioner’s proposed construction of “non-MSO” in the Florida action is “a provider of video content that distributes the content independent of any MSO.” Clearly camcorders, etc. do not meet that definition, either.

83. Therefore, Ramraz does not disclose a non-MSO.

84. In ¶ 70, Dr. Lippman says that the guide application “includes descriptive program data for other non-MSO sources of content, such as camcorders, VCRs, and digital cameras.” That is obviously incorrect. The guide can have no way of knowing what content is on a digital camera. Dr. Lippman cites Ramraz (Ex. 1110) at 2:56-60 and 3:1-6 as ostensibly supporting his erroneous opinions. Let’s see what it actually says:

A source (unqualified) refers to the source of a particular signal that is received by, for example, a client device. Sources can include, without limitation, analog cable, digital cable, satellite, antenna, camcorders, VCRs, digital camera and the like. 2:56-60.

A provider can refer to different contexts. For example, a content provider refers to a content source. Examples of content sources include, without limitation, Comcast and DirectTV. An EPG listing provider or program data provider refers to a guide data source such as, for example, Windows Media® Information Source. 3:1-6.

85. There is no suggestion in these cites that the Windows Media Information Source would have descriptive program data about the content on a user's digital camera. While a camcorder may be a "source" of video, that does not make it a non-MSO.

86. Furthermore, Ramraz expressly states that no guide information is available for such sources: "Here, the 'call letters' for the sources are simply 'Video 1 and 'Video 2'. In addition, there is no EGP [sic, EPG] information that is inserted into the various cells of each line." Ex. 1110 at 15:24-27.

87. In ¶ 71, Dr. Lippman says that "the source of the descriptive program data in the EPG is the content distribution system 106." If so, that system cannot know what is on my VCR or camera, and cannot possibly have any relevant "descriptive program data."

88. Therefore, Dr. Lippman has not shown that the limitation "a server resident on a network containing descriptive program data about video content

available from one or more multiple cable system operators (MSOs) and one or more non-MSOs” is even close to being disclosed by Ramraz.

89. In ¶ 72, Dr. Lippman identifies the claimed “device capable of establishing and maintaining a connection with the network via a communications link” as “client devices 108” in Ramraz. To do so, he is compelled to identify the “broadcast network 110” of Ramraz as “the Internet.” Ramraz indeed discloses an alternate embodiment in which “client devices 108 may receive content via the Internet.” 5:14-15. However, that is an alternate embodiment in which broadcast network 110 is the Internet (as identified by Dr. Lippman) and no longer carries cable programming.

90. In ¶¶ 73-78, Dr. Lippman addresses the limitation, “an interactive program guide application installed on the device that provides a user-configurable interactive program guide (IPG) listing at least one channel of video content available from each of the one or more MSOs and each of the one or more non-MSOs and descriptive program data from the server for the video content available on each of the channels.” Ramraz discloses that the devices 108 “can run an EPG application that utilizes the program data.” The problem is, that without non-MSOs, the guide cannot list “at least one channel of video content available from ... each of the one or more non-MSOs.” If Petitioner continues to insist that the

camcorder, etc. are non-MSOs, then there is no “descriptive program data” about them “from the server.” Recall, furthermore, that no “server” as claimed has even been identified in Ramraz.

91. In ¶¶ 79-84, Dr. Lippman addresses the limitation, “wherein each of the channels is selectable for receiving only or virtually entirely streaming video programming from its respective MSO or non-MSO source via the communications link and the network.” His argument fails completely at least because (1) Ramraz does not disclose non-MSOs meeting the limitations of the claim; and (2) Ramraz does not disclose streaming.

92. The term “stream” appears in Ramraz exactly twice, as follows:

The stored on-demand content 136 can be viewed with a television 128 via a client device 108 through an onscreen movie guide, for example, and a viewer can enter instructions to stream a particular movie, or other stored content, down to a corresponding client device 108. 4:36-41

It is to be appreciated that the systems and methods described herein can be implemented for any type of encoding format as well as for data and/or content streams that are not encoded. 7:38-41

93. There is no suggestion in Ramraz that the use of the word “stream” in either of these places refers to buffered streaming, as opposed to simply sending a

broadcast signal or a succession packets using the common User Datagram Protocol (UDP), which is not a streaming protocol. In ¶ 80, Dr. Lippman refers to Ramraz for the proposition that “[u]pon selecting a channel, the user receives streaming video programming from the source of the selected channel.” That is a fantasy because Ramraz says nothing of the kind. For example, when a user selects a broadcast TV channel, there is no “streaming,” and no hint in Ramraz that there might be.

94. In ¶ 80, Dr. Lippman says that “Ramraz also discloses that, upon selecting a channel, the user receives ‘only . . . streaming video programming’ from its respective MSO or non-MSO source via the communications link and the network. That is incorrect because Ramraz does not disclose non-MSO sources. Even if camcorders, etc. are deemed to be non-MSO sources, content from them is not streamed and is not delivered “via the communications link and the network.”

95. In ¶ 83, Dr. Lippman hedges his bets by trying to anticipate Patent Owner’s arguments:

In the event that someone argues that that the video content from the various sources is not necessarily sent over the same network because other embodiments, e.g., id. at 8:34-38, may involve having multiple tuners or separate inputs for the various sources, that would be incorrect. But Ramraz specifically discloses use of

broadcast network 110, which may be the Internet, for transmitting the video content.

96. Someone did argue that – I did. Ramraz absolutely does not disclose connecting a camcorder, etc. via broadcast network 110. Quite to the contrary,¹ Ramraz discloses something completely different at 15:12-17:

In this particular embodiment, the additional sources can comprise one or more generic video sources such as a camcorder, digital camera, closed circuit camera, a VCR and the like. The generic video source can be connected, for example, to the S-Video input or to the composite video input.

97. S-video and composite video are not delivered over a broadcast network and are not streamed. Among other things, the information is analog and it is not a packet-based network transmission.

98. In ¶¶ 85-86, Dr. Lippman asserts that Ramraz discloses the limitation “wherein the server is distinct from at least one of the one or more MSOs and one or more non-MSOs.” That can’t be right because there are no non-MSOs. Assuming that Ramraz discloses non-MSOs, the limitation would be met under Petitioner’s construction of “distinct from” in the Florida action, in which Petitioner took the position that “distinct from” means “not controlled by.”

99. The limitation is not met under Patent Owner's construction, which is "the server does not stream digital television content from at least one of the MSOs and does not stream digital television content from at least one of the non-MSOs." The "server" identified in Ramraz as "content distribution system 106" delivers (not streams) digital content from MSOs. It also would deliver (not stream) digital content from any non-MSOs, if any existed.

100. Therefore, Ramraz does not disclose the limitations of claim 1 discussed so far. One more remains, however: "wherein the application allows for the IPG to be configured by a user with respect to adding or deleting channels from any of the one or more MSOs or the one or more non-MSOs." Dr. Lippman discusses this limitation in ¶¶ 87-97.

101. I repeat that Ramraz does not disclose non-MSOs, so the limitation cannot be met.

102. Ramraz does disclose deleting channels from the guide. As Dr. Lippman concedes, Ramraz does not disclose adding channels to the guide. For that portion of the limitation, he relies on Bayrakeri. Bayrakeri discloses adding channels to an IPG, but to only a limited extent.

103. Bayrakeri discloses an “IPG server 1312” located at an “MSO headend 1304.” See, e.g, Ex. 1111 at Fig. 2. Bayrakeri makes clear that the addition of channels applies only to MSOs at 18:47-63 (emphasis added):

*The local IPG center 1302 generates guide page user interface (UI) screens and periodically sends the UI screens to an IPG server 1312 at the head end 1304. **MSO/third party IPG add-on content 1314** may be provided to the IPG server 1312 from **MSO equipment** within the head end 1304. For example, the add-on content may include real-time advertisement video or HTML pages for electronic commerce. The IPG server 1312 composes (C), encodes (E), processes (P), multiplexes (M), and modulates (QAM) the IPG content (guide plus add-on content) and transmits it to a combiner 1316. The combiner 1316 combines the IPG content with broadcast TV, premium content (e.g., HBO), pay-per-view (PPV), and **other content from a multiple service operator (MSO) content delivery system 1318**. The combined content is then broadcast to the STT's 1308 via an in-band distribution network 1320.*

104. Thus, as with all the prior art considered by the Patent Office, Bayrakeri does not disclose “adding or deleting channels from any of the one or more MSOs **or the one or more non-MSOs.**” Therefore, even if one of ordinary skill had been motivated to combine Ramraz and Bayrakeri, the combination still fails to disclose claim 1. Further, because Bayrakeri discloses that all content and

IPG data comes from an MSO headend, one of ordinary skill would not have been able to combine the two references to yield the invention of claim 1 for that reason alone, as well as the fact that the combination does not meet the “distinct” server limitation.

105. Dr. Lippman devotes ¶ 98 to claim 5, using the same combination of Ramraz and Bayrakeri. Because the combination does not disclose claim 1, perforce the same combination cannot disclose claim 5. In any event, the combination also does not disclose the additional limitation of claim 5, namely streaming video programming which comprises live television. Ramraz discloses live television, but not live streaming.

106. Dr. Lippman devotes ¶ 99 to claim 7, using the same combination of Ramraz and Bayrakeri. Because the combination does not disclose claim 1, perforce the same combination cannot disclose claim 7.

107. Dr. Lippman devotes ¶ 100 to claim 8, using the same combination of Ramraz and Bayrakeri. Because the combination does not disclose claim 1, perforce the same combination cannot disclose claim 8. Dr. Lippman analyzes the additional limitation of claim 8 under Patent Owner’s proposed construction of “relay module.” I am informed that this is not a proper analysis, and that Petitioner

is obliged to demonstrate obviousness based on constructions it believes to be correct.

108. Dr. Lippman devotes ¶ 101-103 to claim 9, using the same combination of Ramraz and Bayrakeri. Because the combination does not disclose claim 1, perforce the same combination cannot disclose claim 9. Dr. Lippman argues that Ramraz alone disclose the additional limitation of claim 9, which is “wherein the interactive program guide application allows for customization of the IPG by a user with respect to a second, redundant one of the one or more MSOs or the one or more non-MSOs to be linked to each of the channels from which the streaming video programming may be received.” Ramraz, as shown above, does not disclose streaming video programming. Further, Dr. Lippman says in ¶ 102 that in Ramraz, “two different sources of channel 2 “are both linked to the client devices 108.” Even if that is true for some meaning of the word “linked,” the limitation requires the channels in the guide to be linked to each other, not that the channels are “linked” to the same device. Dr. Lippman provides no evidence at all that Ramraz discloses linking of channels, as opposed to merely listing them in proximity in a guide. Obviously being listed consecutively in a guide does not imply linking; otherwise channels 2 and 3 would be “linked.”

109. In ¶ 103, Dr. Lippman turns the limitation of claim 9 upside-down by asserting that removing one of a pair of redundant channels from the guide is “linking.” It is not – it is the opposite: “unlinking,” if anything. The idea of claim 9 is that a user may be able to receive the content from a channel A that is unavailable if the same content is known to be available on a different channel B. That is, channels A and B are “linked” according to the claim so that the user can tune to the redundant channel when necessary. Removing one of the redundant channels is not “linking.”

B. Ground B: Claim 3 Would Not Have Been Obvious Over Ramraz + Bayrakeri + Furlong

110. Dr. Lippman devotes ¶ 105-112 to Ground B.

111. In Ground B of its Petition, Petitioner asserts that claim 3 would have been obvious under 35 U.S.C. § 103 in view of Ramraz combined with Bayrakeri and Furlong. I disagree with Petitioner’s assertion because parent claim 1 would not have been obvious, so perforce dependent claim 3 would not have been obvious because Furlong does not cure the claim 1 deficiencies of the Ramraz and Bayrakeri combination. Further, the asserted combination does not disclose all the elements of any Challenged Claim. In addition, a POSITA would not have been motivated to make the asserted combination of Walter and JumpTV.com.

C. Ground C: Claim 4 Would Not Have Been Obvious Over Ramraz + Bayrakei + Bednarek

112. Dr. Lippman devotes ¶¶ 113-119 to Ground C.

113. In Ground C of its Petition, Petitioner asserts that claim 3 would have been obvious under 35 U.S.C. § 103 in view of Ramraz combined with Bayrakei and Bednarek. I disagree with Petitioner's assertion because parent claim 1 would not have been obvious, so perforce dependent claim 4 would not have been obvious because Bednarek does not cure the claim 1 deficiencies of the Ramraz and Bayrakeri combination. Further, the asserted combination does not disclose all the elements of any Challenged Claim.

D. Ground D: Claim 6 Would Not Have Been Obvious Over Ramraz + Bayrakeri + Calderone

114. Dr. Lippman devotes ¶¶ 120-125 to Ground D.

115. In Ground D of its Petition, Petitioner asserts that claim 6 would have been obvious under 35 U.S.C. § 103 in view of Ramraz combined with Bayrakeri and Calderone. I disagree with Petitioner's assertion because parent claim 1 would not have been obvious, so perforce claim 6 would not have been obvious because Calderone does not cure the claim 1 deficiencies of the Ramraz and Bayrakeri combination. Further, the asserted combination does not disclose all the elements of any Challenged Claim.

X. CONCLUSIONS

116. Relying on my education, experience, skill, and training in the relevant field of art, and after reviewing the materials identified above, it is my opinion that Dr. Lippman and Petitioner have not established the obviousness of any Challenged Claim.

117. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for such cross-examination at a time and place agreed by counsel.

118. I reserve the right to supplement my opinions in the future to respond to any arguments that Petitioner raises and to take into account new information as it becomes available to me.

119. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false

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statements and the like so made are punishable by fine or imprisonment, or both,
under Section 1001 or Title 18 of the United States Code.

Executed this 11th day of December, 2019 at Pittsburgh, Pennsylvania.


Dr. Michael I. Shamos