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IN THE UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF CALIFORNIA
WESTERN DIVISION

SOUND VIEW INNOVATIONS, LLC,

Plaintiff,

v.

FACEBOOK, INC.,

Defendant.

Case No. 2:17-cv-04275-JAK-PLA

Hon. John A. Kronstadt

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

JURY TRIAL DEMANDED

Pursuant to Fed. R. Civ. P. 15(a)(2), plaintiff Sound View Innovations, LLC ("Sound View"), for its Complaint for Patent Infringement against Facebook, Inc. ("Facebook") alleges as follows:

INTRODUCTION

1. Sound View is an intellectual property licensing company. Sound View's patent portfolio includes more than 900 active and pending patents worldwide, including approximately 475 active U.S. Patents. Sound View's patents were developed by researchers at Alcatel Lucent ("Lucent") and its predecessors. Lucent is home to the world-renowned Bell Laboratories, which has a long and storied history of innovation. Researchers at Lucent's Bell Laboratories have developed a wide variety of key innovations that have greatly enhanced the capabilities and utility of computer systems and networks. This has resulted in benefits such as better and more efficient computer networking, computer security, and user experiences.

2. Patents enjoy the same fundamental protections as real property. Sound View, like any property owner, is entitled to insist that others respect its property and to demand compensation from those who take it for their own use. Facebook has used, and continues to use Sound View's patents. Moreover, despite Sound View's repeated attempts to negotiate, Facebook refuses to take a license, but continues to use Sound View's property.

NATURE OF THE CASE

3. This action arises under 35 U.S.C. § 271 for Facebook's infringement of Sound View's United States Patent Nos. 5,806,062 (the "'062 patent"), 6,708,213 (the "'213 patent"), and 9,462,074 (the "'074 patent") (collectively the "Patents-In-Suit").

THE PARTIES

4. Plaintiff Sound View is a Delaware limited liability company, with its principal place of business at 2001 Route 46, Waterview Plaza, Suite 310, Parsippany, New Jersey 07054.

5. Defendant Facebook is a Delaware corporation with its principal place of business at 1601 Willow Road, Menlo Park, California 94025. Facebook may be served with process by serving its registered agent, Corporation Service Company, 2710 Gateway Oaks Drive, Suite 150N, Sacramento, California 95833.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq*. The jurisdiction of this Court over the subject matter of this action is proper under 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Facebook because, among other things: Facebook has committed, aided, abetted, contributed to and/or participated in the commission of acts giving rise to this action within the State of California and this judicial district and has established minimum contacts within the forum such that the exercise of jurisdiction over Facebook would not offend traditional notions of fair play and substantial justice; Facebook has placed products and services that practice the claims of the Patents-in-Suit into the stream of commerce with the reasonable expectation and/or knowledge that actual or potential users of such products and/or services were located within this judicial district; and Facebook has sold, advertised, solicited customers, marketed and distributed its services that practice the claims of the Patents-in-Suit in this judicial district.

8. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b), at least because Facebook has a regular and established place of business in this judicial district, at 12777 West Jefferson Boulevard, Los Angeles, California 90066. Moreover, Facebook has committed acts of infringement in this judicial district, including at least through the development, provision, and/or use of its infringing services from its offices and/or other facilities in this judicial district. *See, e.g.*, David Pierson, *Facebook's New L.A. Digs Have Frozen Yogurt, Yoga and No Privacy*, L.A. TIMES, May 14, 2016, *available at* www.latimes.com/business/technology/la-fi-tn-facebook-office-20160514-snap-

story.html ("The new Playa Vista location . . . offers two studio spaces—separated by a green room—designed for live streaming and 360-degree video. That will allow Facebook to work more closely with Southern California celebrities, brands and networks who want to seize on the company's heavy emphasis on video, particularly Facebook Live.")

THE PATENTS-IN-SUIT

9. Sound View incorporates by reference the preceding paragraphs as if fully set forth herein.

10. The '062 patent, titled "Data Analysis System Using Virtual Databases," was duly and properly issued by the United States Patent and Trademark Office ("USPTO") on September 8, 1998. A copy of the '062 patent is attached hereto as Exhibit A.

11. Sound View is the owner and assignee of the '062 patent and holds the right to sue for and recover all damages for infringement thereof, including past infringement.

12. The '213 patent, titled "Method For Streaming Multimedia Information Over Public Networks," was duly and properly issued by the USPTO on March 16, 2004. A copy of the '213 patent is attached hereto as Exhibit B.

13. Sound View is the owner and assignee of the '213 patent and holds the right to sue for and recover all damages for infringement thereof, including past infringement.

14. The '074 patent, titled "Method and System for Caching Streaming Multimedia on the Internet," was duly and properly issued by the USPTO on October 4, 2016. The USPTO further duly and properly issued a Certificate of Correction under 35 U.S.C. § 255 on August 8, 2017. A copy of the '074 patent and Certificate of Correction is attached hereto as Exhibit C.

15. Sound View is the owner and assignee of the '074 patent and holds the right to sue for and recover all damages for infringement thereof, including past infringement.

BACKGROUND FACTS

16. On July 15, 2014, Sound View sent a letter notifying Facebook of its infringement of ten patents, including the '062 patent. Sound View notified Facebook of representative Facebook features that infringe those patents and explained its intention to allow Facebook to continue to use the inventions covered in those patents through a license from Sound View. Sound View further requested a meeting to discuss the matter in more detail.

17. On July 14, 2016, Sound View sent a follow-up letter notifying Facebook of its infringement of six additional patents, including the '213 patent. Sound View again notified Facebook of representative Facebook features that infringe those patents and again explained its intention to allow Facebook to continue to use the inventions covered in those patents through a license from Sound View.

18. On June 8, 2017, Sound View filed suit against Facebook, alleging infringement of the '062, '213, and '074 patents.

19. Facebook has refused to engage in any meaningful discussion about reaching a licensing agreement to end its infringement of Sound View's patents. Instead, Facebook continues to willfully infringe Sound View's patents so as to obtain their significant benefits without paying any compensation to Sound View. Sound View has no other choice but to seek relief through litigation.

COUNT ONE

INFRINGEMENT OF THE '062 PATENT

20. Sound View incorporates by reference the preceding paragraphs as if fully set forth herein.

21. The '062 patent generally relates to customizable data processing applications that rely on a combination of reusable software operators, such as initial

operators, query operators, terminal operators, and/or external operators, to process source information from a virtual database in a particular schema, such as HTML or XML, and transform that source information into another virtual database having the same schema.

22. The ’062 patent is valid and enforceable.

23. Various types of documents may be stored in a computer system, such as word processing files, computer programs, HTML documents, financial files, employee files, etc. When dealing with large or complex files, it is often desirable to analyze or alter the structure and content of the documents; for example, comparing a first version to a second version or analyzing dependency relationships between various sections of computer code.

24. In order to aid such analysis, a database may be constructed which contains information describing the structure of the documents. Various database queries may be performed to extract and process information describing the structure of the source documents. A collection of source documents, along with an associated database that describes the structure of the documents, is called a repository.

25. To analyze source document information, it is necessary to process information contained in the repository. A computer program that extracts or converts information from a repository is called an operator. Thus, an operator receives a source document and/or a database as input, processes the input, and produces some output. A simple example of an operator is a program that takes a source document as input and counts the number of occurrences of a particular word, and outputs a number containing the number of times the particular word occurs. The overall function of the analysis—in the above example, a count of the number of occurrences of a particular word—is called an application.

26. At the time of the invention of the ’062 patent, in existing repository analysis systems, operators were designed for single applications. Thus, the user indicated which operator he/she wished to apply to the repository, and the system

processed the repository accordingly. The user was presented with the output when the processing was finished. Different operators processed the repository in different manners, but there was no convenient mechanism for combining the various operators to create new applications. Thus, when a new application was desired, a new operator would need to be designed from scratch.

27. Prior art repository analysis systems generally were closed systems, in that all operators were applied within the confines of the system, and all database accesses were performed within the system. For example, a repository analysis system operator may have produced as output a file containing information about the structure of a computer program. In conventional closed systems, this output could not be further processed by, for example, an external graphics program that would format the output in a desired manner. Instead, the output could only be formatted according to operators that were internal to the repository system. There was no convenient mechanism to allow the repository analysis system to communicate with operators that were external to the system.

28. The inventors of the '062 patent solved these discrete computer-based problems by providing an apparatus and method for creating data analysis applications using reusable software operators. For example, query operators receive data in a particular virtual database format, process the data in the virtual database, and output the results of the processing in another virtual database that has the same format as the original virtual database. A plurality of query operators can be combined to customize the processing of the data. In addition, initial operators convert source information into the virtual database format so that the query operators can analyze the source data. External operators take an external format as input and create another external format as output. Also, terminal operators are used to convert a virtual database into an external format. A user can combine initial, query, terminal, and external operators to create customizable data processing applications.

29. Creating data analysis applications using reusable software operators, as described in the '062 patent, is particularly useful in that the external format data may be processed in various ways, thus allowing flexible presentation of the analysis results.

30. Facebook's platforms, web pages, and servers have used the Document Object Model ("DOM") to create and process customizable data analysis and processing applications. The DOM is an application programming interface ("API") that allows documents to be modelled using objects of a variety of data formats, including HTML and XML. It defines the logical structure of documents and the way a document is accessed and manipulated.

31. Using the DOM, the nodes (or objects) of every document are organized in a tree structure, called the "DOM tree," and can be manipulated individually using the DOM methods (or operators). With the DOM, programmers can build documents, navigate their structure, and add, modify, or delete elements and content. Anything found in an HTML or XML document can be manipulated in this way using the DOM, with a few exceptions.

32. As an object model, the DOM identifies: (1) the interfaces and objects used to represent and manipulate a document; (2) the semantics of these interfaces and objects – including both behavior and attributes of the relationships; and (3) collaborations among these interfaces and objects.

33. Facebook uses and has used the DOM throughout its products and services, including its webpages such as facebook.com.

34. On July 15, 2014, Sound View informed Facebook that at least its use of the DOM infringed the '062 patent.

35. Facebook has infringed one or more claims of the '062 patent under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for

example, by making, using, selling, offering for sale, and/or importing its Facebook platforms, including for example its web pages and servers that use and have used the DOM.

36. For example, Facebook has infringed claim 14 by using a method for processing information (such as Facebook applications, web pages, and/or servers that use and have used the DOM) comprising the steps of:

a. providing a plurality of software operators (such as DOM methods, including, for example, "-getAttribute( )," "-setAttribute ( )," and "-removeAttribute( )") each configured to receive a virtual database (such as DOM nodes (or objects) or web pages, describing the structure of a document) having a first schema (such as HTML or XML), for processing information contained in said virtual database (such as by applying a DOM method to a node in the DOM tree), and for outputting a virtual database having said first schema; and

b. combining at least two of said software operators to create an application (such as that used to construct and serve Facebook's web pages).

37. Sound View has been damaged by Facebook's infringement of the '062 patent. Sound View is entitled to recover from Facebook the damages sustained by Sound View as a result of Facebook's wrongful acts in an amount adequate to compensate Sound View for Facebook's infringement subject to proof at trial.

38. Until the recent expiration of the '062 patent's term, Facebook's infringement of the '062 patent was deliberate and willful, entitling Sound View to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT TWO

INFRINGEMENT OF THE '213 PATENT

39. Sound View incorporates by reference the preceding paragraphs as if fully set forth herein.

40. The '213 patent generally relates to streaming multimedia data (*e.g.*, audio and video data) over the Internet and other networks, and, more specifically, to methods and systems to improve caching of streaming multimedia data from a content provider over a network to a client's computer.

41. The '213 patent is valid and enforceable.

42. At the time of the invention of the '213 patent, multimedia data could either be downloaded by the client or streamed over the network to the client. Streaming eliminated the need for the client to wait for the downloading to complete before watching or listening to the multimedia data. However, with conventional unicast connections, streaming posed problems to content providers in that server load increased linearly with the number of clients, to Internet service providers in that streaming caused network congestion problems, and to clients in that streaming often resulted in high start-up latency and unpredictable playback quality.

43. Conventional caching systems attempted to address network congestion, but these were unsuitable for streaming multimedia data: (1) video files were typically too large to be cached in their entirety, so only a few streams could be stored at a cache; (2) breaking video files into smaller pieces was not feasible, because the caching systems would treat different chunks from the same video object independently; and (3) streaming multimedia has temporal characteristics, like the transmission rate, while conventional caching was only capable of handling static web objects.

44. The inventors of the '213 patent solved those discrete computer-based problems and improved upon conventional caching techniques by providing a novel architecture and method for supporting high quality live and on-demand streaming multimedia on network systems using helper servers.

45. The techniques described in the '213 patent advantageously reduce server and network loads by employing helper servers with dynamic data transfer rate control

to overcome arrival time and range heterogeneity in client requests, thereby improving the quality perceived by end users making requests for streaming media objects.

46. The '213 patent has been recognized with the 2013 Edison Patent Award in Multimedia Technology for inventing "fundamental concepts and techniques to design content distribution networks and caching systems originally built for text and images to better support streaming media over the Internet." A press release regarding the award is attached as Exhibit D.

47. A content delivery network, also called a content distribution network (CDN), is a network of connected computers that delivers internet content, such as streaming video, to end users. When a service uses a CDN, the content comes from an "origin server" and is replicated on numerous "edge servers." When an end user requests particular content, the CDN provides the content from an edge server near to the end user. This arrangement has numerous benefits, such as: faster response time (lower latency) because the content is served from a nearby edge server, instead of a potentially distant origin server; greater throughput because the edge server will be less loaded than a single origin server would be; and greater availability because the multiplicity of servers allows for a request to be failed over to another server if an edge server crashes.

48. Facebook provides and has provided streaming services, including at least Live for Facebook Mentions, Facebook Live for People (also known as Facebook Live, or Live), and videos uploaded to Facebook (also known as Facebook Video) (collectively, the "Facebook Services"), to allow users to broadcast and watch streaming video. For example, Live for Facebook Mentions supports the HTTP Live Streaming ("HLS") protocol. As a further example, Facebook Live for People supports both the MPEG-DASH protocol and the HLS protocol. Facebook streams videos through its own content delivery network, which has edge caches or Point of Presence (PoP) caches distributed around the world. These edge caches cache video segments received from datacenters and serve the segments to viewers around the

world. The Facebook CDN can also adjust the data transfer rate to the user to accommodate the user's network condition.

49. HLS is an HTTP-based media streaming communications protocol. It works by breaking the overall stream into a sequence of small HTTP-based file downloads; each download is one short chunk that is part of an overall potentially unbounded transport stream. As the stream is played, the client may select from a number of different alternate chunks containing the same material encoded at a variety of data rates.

50. MPEG-DASH is an adaptive bitrate streaming technique that enables high quality streaming of media content over the Internet delivered from conventional HTTP web servers. Similar to HLS, MPEG-DASH works by breaking the content into a sequence of small HTTP-based file segments, each segment containing a short interval of playback time of content that is potentially many hours in duration, such as a live broadcast of a sports event. The content is made available at a variety of different bit rates, with alternative segments encoded at different bit rates covering aligned short intervals of playback time.

51. A Facebook Live server receives video streams in Real-Time Messaging Protocol (RTMP) from a broadcasting user, decodes the RTMP stream and transcodes it to multiple sets of MPEG-DASH or HLS segments with different bit rates.

52. When a user requests a video stream, the request is routed to an edge server, which receives the request. The edge server then allocates a local buffer to store portions of the stream.

53. The edge server requests the MPEG-DASH or HLS segments from a datacenter cache, stores them in the local buffer, and then sends them to Facebook users who view the video.

54. While the edge server sends the requested segments to the user, it concurrently requests the next few segments in the stream from the datacenter cache.

55. While the content is being played back by an MPEG-DASH or HLS client, the client automatically selects from the alternatives the next segment to download and play based on current network conditions. The streaming server then provides the requested alternate segment resulting in an adjusted data rate.

56. Facebook has infringed one or more claims of the '213 patent at least under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing servers and products that include or use at least Facebook Live for People, Live for Facebook Mentions, Facebook Video, or other streaming video services.

57. On July 14, 2016, Sound View informed Facebook that at least its video streaming services, including Live for Facebook Mentions and Facebook Live for People, infringes the '213 patent. However, Facebook has not stopped infringing.

58. For example, Facebook Live for People (when using MPEG-DASH) and Facebook Video infringe claim 16 by using a method of reducing latency in a network having a content server which hosts streaming media ("SM") objects (such as videos) which comprise a plurality of time-ordered segments (such as MPEG-DASH segments) for distribution over said network through a plurality of helpers ("HSs") (such as Facebook's PoP caches or edge servers) to a plurality of clients (such as users of Facebook Live for People or Facebook Video), said method comprising:

a. receiving a request for an SM object from one of said plurality of clients (such as a user of Facebook Live for People requesting to watch a hosted video) at one of said plurality of helper servers (such as Facebook's PoP caches or edge server receiving such a request from a user of Facebook Live for People or Facebook Video to watch a hosted video);

b. allocating a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as allocating a local buffer to store portions of the stream as MPEG-DASH segments at the PoP cache or edge server);

c. downloading said portion of said requested SM object to said requesting client, while concurrently retrieving a remaining portion of said requested SM object from one of another HS and said content server (such as the PoP cache or edge server fetching the next segment of video content by requesting the next MPEG-DASH segments in the stream from the datacenter cache); and

d. adjusting a data transfer rate at said one of said plurality of HSs for transferring data from said one of said plurality of helper servers to said one of said plurality of clients (such as providing alternate segments encoded at different data rates to the client to accommodate the current network conditions (*e.g.*, the client's current bandwidth), and then providing the requested alternate segment resulting in an adjusted data rate).

59. As another example, Live for Facebook Mentions and Facebook Live for People (when using HLS) infringe claim 16 by using a method of reducing latency in a network having a content server which hosts SM objects (such as videos) which comprise a plurality of time-ordered segments (such as HLS segments) for distribution over said network through a plurality of HSs (such as Facebook's PoP caches or edge servers) to a plurality of clients (such as users of Live for Facebook Mentions and Facebook Live for People), said method comprising:

a. receiving a request for an SM object from one of said plurality of clients (such as a user of Live for Facebook Mentions and Facebook Live for People requesting to watch a hosted video) at one of said plurality of helper servers (such as Facebook's PoP caches or edge server receiving such a request from a user of Live for Facebook Mentions and Facebook Live for People to watch a hosted video);

b. allocating a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as allocating a local buffer to store portions of the stream as HLS segments at the PoP cache or edge server);

c. downloading said portion of said requested SM object to said requesting client, while concurrently retrieving a remaining portion of said requested SM object from one of another HS and said content server (such as the PoP cache or edge server fetching the next segment of video content by requesting the next HLS segments in the stream from the datacenter cache); and

d. adjusting a data transfer rate at said one of said plurality of HSs for transferring data from said one of said plurality of helper servers to said one of said plurality of clients (such as providing alternate segments encoded at different data rates to the client to accommodate the current network conditions (*e.g.*, the client's current bandwidth), and then providing the requested alternate segment resulting in an adjusted data rate).

60. Sound View has been and continues to be damaged by Facebook's infringement of the '213 patent. Sound View is entitled to recover from Facebook the damages sustained by Sound View as a result of Facebook's wrongful acts in an amount adequate to compensate Sound View for Facebook's infringement subject to proof at trial.

61. In committing these acts of infringement, Facebook committed egregious misconduct including, for example, acting despite knowing that its actions constituted infringement of a valid patent, or recklessly disregarding the fact that its actions constituted an unjustifiably high risk of infringement of a valid and enforceable patent.

62. Facebook's infringement of the '213 patent was and is deliberate and willful, entitling Sound View to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT THREE

INFRINGEMENT OF THE '074 PATENT

63. Sound View incorporates by reference the preceding paragraphs as if fully set forth herein.

64. The '074 patent generally relates to network systems, and more particularly to methods and systems for improving the caching of streaming multimedia data from a content provider over a network to a client.

65. The '074 patent is valid and enforceable.

66. At the time of the invention of the '074 patent, broadcasting of streaming multimedia over the Internet was becoming increasingly popular.

67. Streaming data involves sending a continuous transmission of data from the server to a client. The client computer begins to present the information as it arrives, rather than waiting for the entire data set to arrive before beginning the presentation of the data. The client computer creates a multimedia output from the received multimedia data. The advantage of streaming is that the client computer does not have to wait until all data is downloaded from the server before some of the data is processed and the multimedia output is created.

68. Problems arose when users began to expect instantaneous streaming data on demand, particularly for video data, because streaming multimedia objects were generally delivered over the Internet and other data networks via unicast connections. Such architectures had many shortcomings, both from the content provider's and user's points of view. For content providers, such architectures put increased demand on networks and servers, as the server load increased linearly with the number of clients. For users, there were often long delays between requesting the video content and the time when the video contact actually began playing (*i.e.*, high start-up latency) and unpredictable playback quality due to network congestion.

69. Web caching technology had been implemented on the Internet to reduce network load, server load, and high start-up latency. However, caching systems that existed at the time were restricted to supporting static web objects such as HTML

documents or images, and did not adequately support streaming multimedia data such as video and audio streaming multimedia objects. Also, given the larger size of streaming multimedia objects relative to static web objects, streaming multimedia objects do not lend themselves to being cached in their entirety, as disk space limitations made it not feasible to statically store more than a few complete streaming multimedia objects.

70. The techniques described in the '074 patent solve those discrete computer-based problems and improve upon prior caching systems by providing novel systems and methods for supporting high quality streaming multimedia on a network that uses helper servers that operate as caching and streaming agents inside the network. The helper servers serve to implement several methods specifically designed to support streaming multimedia, including segmentation of streaming multimedia objects into smaller units, cooperation of the helper servers, and novel cache placement and replacement policies of the constituent units which make up the streaming multimedia objects. The helper servers reduce a content provider's memory and processing requirements by reducing the server load, reduce congestion problems, and reduce high start-up latency.

71. For example, a Facebook Live server receives video streams in Real-Time Messaging Protocol (RTMP) from a broadcasting user, decodes the RTMP stream and transcodes it to multiple sets of MPEG-DASH or HLS segments with different bit rates.

72. When a user requests a video stream, the request is routed to an edge server, which receives the request and retrieves the requested portion of the stream from a content server.

73. The edge server determines whether there is sufficient disk space to store the requested portion of the stream. If so, the portion is stored.

74. If there is not sufficient disk space, the edge server deletes a portion of one or more other streams already stored on the edge server. The portion is then stored.

75. Facebook has infringed one or more claims of the '074 patent (including at least both the corrected and uncorrected versions of claim 9) under 35 U.S.C. § 271(a), either literally and/or under the doctrine of equivalents, by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products and/or methods encompassed by those claims, including for example, by making, using, selling, offering for sale, and/or importing servers and products that include or use at least Facebook Live for People, Live for Facebook Mentions, Facebook Video, or other streaming video services.

76. For example, Facebook infringed uncorrected claim 9 by using a method for managing storage of a streaming media (SM) object (such as videos, including live videos, from Facebook's users) in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients, said method comprising:

a. receiving said SM object (such as Facebook's edge server or PoP cache retrieving the requested portion of a video);

b. determining whether there is disk space available on one of said plurality of servers (such as by using a caching algorithm to determine whether sufficient disk space is available on a storage device on Facebook's PoP caches or edge servers);

c. storing said SM object at said at least one HS if it is determined that there is sufficient disk space available (such as by storing the requested portion of the video on the PoP cache or edge server if it is determined that there is sufficient disk space available); and

d. if it is determined that there is insufficient disk space available to store the received SM object, for each of a plurality of SM objects stored in said disk

space, deleting only a portion of said SM object (such as by using a caching algorithm (*e.g.*, a least recently used ("LRU") algorithm, segmented LRU algorithm, or restricted insertion priority queue ("RIPQ") algorithm) to delete a portion of a multimedia object from a storage device on Facebook's PoP caches or edge servers based on its position or priority in the cache), whereby the deletion of said portions of said SM objects results in sufficient disk space being available for storage of the received SM object.

77. As a further example, since August 8, 2017, Facebook has directly infringed and continues to directly infringe, corrected claim 9 of the '074 patent by using a method for managing storage of a streaming media (SM) object (such as videos, including live videos, from Facebook's users) in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients, said method comprising:

a. receiving said SM object (such as Facebook's edge server or PoP cache retrieving the requested portion of a video);

b. determining whether there is disk space available on one of said plurality of servers (such as by using a caching algorithm to determine whether sufficient disk space is available on a storage device on Facebook's PoP caches or edge servers);

c. storing said SM object at said one of said plurality of servers if it is determined that there is sufficient disk space available (such as by storing the requested portion of the video on the PoP cache or edge server if it is determined that there is sufficient disk space available); and

d. if it is determined that there is insufficient disk space available to store the received SM object, for each of a plurality of SM objects stored in said disk space, deleting only a portion of said SM object (such as by using a caching algorithm (*e.g.*, a least recently used ("LRU") algorithm, segmented LRU algorithm, or restricted insertion priority queue ("RIPQ") algorithm) to delete a portion of a

multimedia object from a storage device on Facebook's PoP caches or edge servers based on its position or priority in the cache), whereby the deletion of said portions of said SM objects results in sufficient disk space being available for storage of the received SM object.

78. Sound View has been and continues to be damaged by Facebook's infringement of the '074 patent. Sound View is entitled to recover from Facebook the damages sustained by Sound View as a result of Facebook's wrongful acts in an amount adequate to compensate Sound View for Facebook's infringement subject to proof at trial.

RELIEF REQUESTED

Wherefore, Sound View respectfully requests that this Court enter judgment against Facebook as follows:

a) that Facebook has infringed each of the Patents-In-Suit;

b) that Facebook's infringement of the '062 and '213 patents was and/or is willful;

c) that Sound View be awarded damages in accordance with 35 U.S.C. § 284, including trebled damages, and, if necessary to adequately compensate Sound View for Facebook's infringement, an accounting;

d) that this case is exceptional under 35 U.S.C. § 285;

e) that Sound View be awarded the attorney fees, costs, and expenses that it incurs in prosecuting this action; and

f) that Sound View be awarded such further relief at law or in equity as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Sound View hereby demands trial by jury on all claims and issues so triable.

Dated: September 15, 2017 By: */s/ Benjamin T. Wang*

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