IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SOUND VIEW INNOVATIONS, LLC, Plaintiff, v. THE CW NETWORK, LLC, Defendant.	))))))))))	C.A. No. _____ **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Sound View Innovations, LLC ("Sound View"), for its Complaint for Patent Infringement against The CW Network LLC ("The CW"), alleges as follows:

INTRODUCTION

1. Sound View is an intellectual property licensing company with a patent portfolio including more than 550 active and pending patents worldwide, approximately 350 of which are active U.S. Patents. Those patents were developed by researchers at Alcatel Lucent ("Lucent") and its predecessors. Lucent was home to the world-renowned Bell Laboratories, which has a long and storied history of innovation. Researchers at Lucent's Bell Laboratories 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 that property for their own use. The CW has used, and continues to use,

Sound View's patents without authorization. Moreover, despite Sound View's repeated attempts to negotiate, The CW refuses to take a license though it continues to use Sound View's property.

NATURE OF THE CASE

3. This action arises under 35 U.S.C. § 271 for Defendants' infringement of Sound View's United States Patent Nos. 5,806,062 (the "'062 patent"), and 6,708,213 (the "'213 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. On information and belief, Defendant The CW is a Delaware corporation, with its principal place of business at 3300 W Olive Ave, Burbank, CA 91505. The CW may be served with process by serving its registered agent, The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801.

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. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b), at least because the defendant resides in this judicial district.

8. This Court has personal jurisdiction over the defendant because it, among other things: is incorporated under the laws of the State of Delaware; has placed services that practice the claims of the Patents-in-Suit into the stream of commerce with the knowledge, or reasonable expectation, that actual or potential users of such services were located within this judicial district.

THE PATENTS-IN-SUIT

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

A. The '062 Patent

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 '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.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. The inventors of the ’062 patent solved these discrete computer-based problems by providing, inter alia, a 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.

19. The ’062 Patent is directed to a technical improvement in software technology over the rigid general purpose data analysis applications and expensive custom applications that existed in the 1990s. The novel software structure of the claimed inventions enabled users to engineer their own purpose-built data analysis applications with reusable interoperable software operators.

20. 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.

B. <u>The ’213 Patent</u>

21. 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.

22. 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.

23. 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 to improve caching of streaming multimedia data from a content provider over a network to a client’s computer.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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 C.

BACKGROUND FACTS

29. On March 31, 2017, Sound View sent a letter notifying The CW of its infringement of the ’213 patent. Sound View notified The CW of representative The CW offerings that infringe those patents and explained its intention to allow The CW 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.

30. The CW did not respond to Sound View’s March 31, 2017 letter.

31. On January 18, 2018, Sound View wrote to The CW further detailing its infringement of the ’213 patent, and also providing notice of infringement and further details of The CW’s infringement of the ’062 patent. Sound View again expressed its desire to resolve the matter through amicable license negotiations, but also explained that it would consider litigation if The CW chose not to engage in licensing negotiations.

32. The CW did not respond to Sound View’s January 18, 2018 letter.

33. On June 11, 2018, Sound View again wrote to The CW to provide further details regarding The CW’s infringement of the ’213 patent. Sound view reiterated its willingness to engage in licensing discussions.

34. The CW did not respond to Sound View's June 11, 2018 letter.

35. On October 17, 2018, Sound View once again wrote The CW and explained that it would not allow The CW to continue to willfully infringe the '213 patent. Sound View once again reiterated its willingness to engage in licensing discussions.

36. The CW did not respond to Sound View's October 17, 2018 letter.

37. Despite Sound View's repeated efforts, The CW has refused to engage in any meaningful discussion about reaching a licensing agreement to end its infringement of Sound View's patents. Instead, The CW continues to knowingly, intentionally, and willfully infringe Sound View's patents so as to obtain their significant benefits without paying any compensation to Sound View. Sound View thus has no other choice but to seek relief through litigation.

COUNT ONE
INFRINGEMENT OF THE '062 PATENT

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

39. The '062 patent is valid and enforceable.

40. The CW's platforms, web pages, and servers, including at least the webpage cwtv.com (the "The CW DOM Services"), 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.

41. 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.

42. 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.

43. jQuery is a DOM manipulation library that makes it easier to use JavaScript on a website by taking more complex code needed to manipulate the DOM and wrapping the code into simpler methods that can be called with smaller amounts of JavaScript.

44. On information and belief, The CW has used jQuery throughout its products and services, including at least The CW DOM Services.

45. The CW has infringed one or more claims of the ’062 patent under 35 U.S.C. § 271(a), 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 it’s The CW platforms, web pages, and servers, including for example its web pages and servers that use and have used jQuery.

46. For example, The CW has infringed claim 14 by using a method for processing information (such as The CW DOM Services) comprising the steps of:

a. providing a plurality of software operators (such as jQuery methods, including, for example, “.addClass( ),” “.removeClass( ),” “.hide( ),” “.css( ),” “.attr( ),” and “.show( )”) 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 jQuery 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 The CW DOM Services).

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

COUNT TWO
INFRINGEMENT OF THE '213 PATENT

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

49. The '213 patent is valid and enforceable.

50. 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, such as The CW, 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.

51. The CW provides and has provided streaming services, including at least streaming services available on cwtv.com (the "The CW '213 Services"), to allow users to watch streaming video. The CW provides streaming video services to its users utilizing content delivery networks, including at least Akamai Technologies Inc. ("Akamai"), Level 3 Communications, LLC ("Level 3"), and Limelight Networks, Inc. ("Limelight") (collectively, "the CDNs"). The CW '213 Services provide video that is encoded using certain protocols, including the HTTP Live Streaming ("HLS") protocol and the MPEG-DASH protocol.

52. 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.

53. 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.

54. The CDNs each support The CW's delivery of video content to users using MPEG-DASH and/or HLS. Moreover, each of the CDNs openly advertises and promotes the use of those protocols to deliver video content to users.

55. Knowing that each of the CDNs supports the delivery of video content using MPEG-DASH and/or HLS, and directing and controlling such support, The CW delivers video streams to its users, including the The CW '213 Services, using at least the CDNs by transcoding videos into MPEG-DASH segments with different bit rates, and providing those segments to each of the CDNs. The CDNs store those MPEG-DASH segments in caches, and send them to The CW users who request to view the video files.

56. The CW contracts or has contracted with each of the CDNs, so that when at least certain The CW users request a video stream, the request is routed to one of the edge servers of the CDN, which receives the request. The edge server then allocates a local buffer to store portions of the stream.

57. On information and belief, The CW can and has configured and/or customized aspects of the operation of each of the CDNs in delivering content to its users. For example, The CW can customize the operation of the Akamai CDN through configuration tools, such as Akamai's Luna Control Center. As a further example, The CW can customize the operation of the Level 3 CDN through configuration tools, such as Level 3 CDN Portal. As a further example, The CW can customize the operation of the Limelight CDN through configuration tools, such as Limelight Control.

58. At least through contracting with Akamai and configuring and/or customizing aspects of the operation of the Akamai CDN, The CW has knowledge of the operations of the Akamai CDN and the steps the Akamai systems will perform in order to deliver content to The CW's users. The CW thus knowingly causes and specifically intends for Akamai to perform those steps, or directs and controls Akamai's performance of these steps by means of at least its contractual relationship with Akamai and by configuring and customizing Akamai's CDN.

59. For example, utilizing Akamai's CDN requires storing segments in a local buffer on an edge server, and at least by entering into a contractual relationship with Akamai, The CW knowingly intends for Akamai to do so, or directs and controls Akamai (either implicitly or explicitly) to do so. The CW intends for, or directs, the Akamai edge server to request the MPEG-DASH or HLS segments from a datacenter cache, store them in the local buffer, and send them to The CW users who view the video. Further, The CW intends for, or directs, the edge server to store data in the buffer so that its end users can receive content with a lower latency.

60. While the Akamai edge server sends the requested segments to the user, it concurrently requests the next few segments in the stream from the datacenter cache or from the cache of another server. By doing so, the content can be streamed smoothly without pauses for buffering. Akamai advertises this process as "pre-fetching." On information and belief, The CW intends for and contracts with Akamai to use pre-fetching so that its users can receive content without pauses for buffering. The CW and other customers have the ability to configure the size of the segments to be fetched in the Akamai system. The Akamai CDN, as configured and customized by The CW, also allows The CW users to receive content without pauses for buffering by allowing end users to send byte range requests to the edge server.

61. While the content is being played back by an MPEG-DASH or HLS client, the client automatically selects the next segment to download and play based on current network conditions. The streaming server then provides the requested alternate segment, resulting in the server adjusting the data rate. The CW intends for and controls the Akamai CDN to adjust the data rate by directing, controlling, and/or inducing Akamai to provide the content on its CDN at different data rates.

62. As a further example, at least through contracting with Level 3 and configuring and/or customizing aspects of the operation of the Level 3 CDN, The CW has knowledge of the operations of the Level 3 CDN and the steps the Level 3 systems will perform in order to deliver content to The CW's users. The CW thus knowingly causes and specifically intends for Level 3 to perform those steps, or directs and controls Level 3's performance of those steps by means of at least its contractual relationship with Level 3 and by configuring and customizing Level 3's CDN.

63. For instance, utilizing Level 3's CDN requires storing segments in a local buffer on an edge server, and at least by entering into a contractual relationship with Level 3, The CW knowingly intends for Level 3 to do so, or directs and controls Level 3 (either implicitly or explicitly) to do so. The CW intends for, or directs, the Level 3 edge server to request the MPEG-DASH or HLS segments from a datacenter cache, store them in the local buffer, and send them to The CW users who view the video. Further, The CW intends for, or directs, the edge server to store data in the buffer so that its end users can receive content with a lower latency.

64. While the Level 3 edge server sends the requested segments to the user, it concurrently requests the next few segments in the stream from the datacenter cache or from the cache of another server. By doing so, the content can be streamed smoothly without pauses for buffering. The CW intends for and contracts with Level 3 to deliver content in this manner so that its users can receive content without pauses for buffering. The CW and other customers have the ability to configure the size of the segments to be fetched in the Level 3 system. The Level 3 CDN, as configured and customized by The CW, also allows The CW users to receive content without pauses for buffering by allowing end users to send byte range requests to the edge server.

65. 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 the server adjusting the data rate. The CW intends for and controls the Level 3 CDN to adjust the data rate by directing, controlling, and/or inducing Level 3 to provide the content on its CDN at different data rates.

66. As a further example, at least through contracting with Limelight and configuring and/or customizing aspects of the operation of the Limelight CDN, The CW has knowledge of the operations of the Limelight CDN and the steps the Limelight systems will perform in order to deliver content to The CW's users. The CW thus knowingly causes and specifically intends for Limelight to perform those steps, or directs and controls Limelight's performance of those steps by means of at least its contractual relationship with Limelight and by configuring and customizing Limelight's CDN.

67. For instance, utilizing Limelight's CDN requires storing segments in a local buffer on an edge server, and at least by entering into a contractual relationship with Limelight, The CW knowingly intends for Limelight to do so, or directs and controls Limelight (either implicitly or explicitly) to do so. The CW intends for, or directs, the Limelight edge server to request the MPEG-DASH or HLS segments from a datacenter cache, store them in the local buffer, and send them to The CW users who view the video. Further, The CW intends for, or directs, the edge server to store data in the buffer so that its end users can receive content with a lower latency.

68. While the Limelight edge server sends the requested segments to the user, it concurrently requests the next few segments in the stream from the datacenter cache or from the cache of another server. By doing so, the content can be streamed smoothly without pauses for

buffering. The CW intends for and contracts with (or has contracted with) Limelight to deliver content in this manner so that its users can receive content without pauses for buffering. The CW and other customers have the ability to configure the size of the segments to be fetched in the Limelight system. The Limelight CDN, as configured and customized by The CW, also allows The CW users to receive content without pauses for buffering by allowing end users to send byte range requests to the edge server.

69. 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 the server adjusting the data rate. The CW intends for and controls the Limelight CDN to adjust the data rate by directing, controlling, and/or inducing Limelight to provide the content on its CDN at different data rates.

70. The CW directly infringes one or more claims of the ’213 patent (including at least claim 16) under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling at least the performance of the claimed steps by the CDNs to infringe the ’213 patent to deliver The CW ’213 Services.

71. For example, The CW has directly infringed, and continues to directly infringe, claim 16 of the ’213 patent under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling Akamai to deliver the The CW ’213 Services. For example, The CW has directly infringed, and continues to directly infringe, claim 16 of the ’213 patent under 35 U.S.C. § 271(a) literally and/or under the doctrine of equivalents, at least by directing and/or controlling Akamai (through at least contracting with Akamai and customizing the Akamai CDN) to 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 HLS or MPEG-DASH segments) for distribution over said network through a plurality of helpers ("HSs") (such as Akamai cache or edge servers) to a plurality of clients (such as users of the The CW '213 Services). Further:

a. The CW directs and/or controls Akamai, at least via its contract with Akamai and/or its configuration and customization of Akamai's CDN, to receive a request for an SM object from one of said plurality of clients (such as a user of one of the The CW '213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as by directing and/or controlling one of the Akamai cache or edge servers to receive such a request from a user of one of the The CW '213 Services to watch a hosted video);

b. The CW directs and/or controls Akamai, at least via its contract with Akamai and/or its configuration and customization of Akamai's CDN, to allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by directing and/or controlling Akamai to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Akamai cache or edge servers);

c. The CW directs and/or controls Akamai, at least via its contract with Akamai and/or its configuration and customization of Akamai's CDN, to download 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 by directing and/or controlling the Akamai cache or edge server to pre-fetch the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, and/or by directing and/or controlling the Akamai cache or edge server to be capable of

receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. The CW directs and/or controls Akamai, at least via its contract with Akamai and/or its configuration and customization of Akamai's CDN and/or its provision of content encoded at multiple bitrates, to adjust 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 by directing and/or controlling Akamai to provide alternate segments encoded at different data rates to the client to accommodate the current network conditions (*e.g.*, the client's current bandwidth), such that providing the requested alternate segment results in an adjusted data rate).

72. As a further example, The CW also has directly infringed, and continues to directly infringe, one or more claims of the '213 patent (including at least claim 16) under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling Level 3 (through at least contracting with Level 3 and customizing the Level 3 CDN) to infringe the '213 patent to deliver The CW '213 Services. For example, The CW has directly infringed, and continues to directly infringe, claim 16 of the '213 patent under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling Level 3 to 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 or MPEG-DASH segments) for distribution over said network through a plurality of HSs (such as Level 3 cache or edge servers) to a plurality of clients (such as users of The CW '213 Services). Further:

a. The CW directs and/or controls Level 3, at least via its contract with Level 3 and/or its configuration and customization of Level 3's CDN, to receive a request for an SM object from one of said plurality of clients (such as a user of one of The CW '213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as by directing and/or controlling one of the Level 3 cache or edge servers to receive such a request from a user of one of The CW '213 Services to watch a hosted video);

b. The CW directs and/or controls Level 3, at least via its contract with Level 3 and/or its configuration and customization of Level 3's CDN, to allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by directing and/or controlling Level 3 to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Level 3 cache or edge servers);

c. The CW directs and/or controls Level 3, at least via its contract with Level 3 and/or its configuration and customization of Level 3's CDN, to download 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 by directing and/or controlling the Level 3 cache or edge server to pre-fetch the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, and/or by directing and/or controlling the Level 3 cache or edge server to be capable of receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. The CW directs and/or controls Level 3, at least via its contract with Level 3 and/or its configuration and customization of Level 3's CDN and/or its provision of content encoded at multiple bitrates, to adjust 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 by directing and/or controlling Level 3 to provide alternate segments encoded at different data rates to the client to accommodate the current network conditions (e.g., the client's current bandwidth), such that providing the requested alternate segment results in an adjusted data rate).

73. As a further example, The CW also has directly infringed, and continues to directly infringe, one or more claims of the '213 patent (including at least claim 16) under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling Limelight to infringe the '213 patent to deliver The CW '213 Services. For example, The CW has directly infringed, and continues to directly infringe, claim 16 of the '213 patent under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, at least by directing and/or controlling Limelight (through at least contracting with Limelight and customizing the Limelight CDN) to 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 or MPEG-DASH segments) for distribution over said network through a plurality of HSs (such as Limelight cache or edge servers) to a plurality of clients (such as users of The CW '213 Services). Further:

a. The CW directs and/or controls Limelight, at least via its contract with Limelight and/or its configuration and customization of Limelight's CDN, to receive a request for an SM object from one of said plurality of clients (such as a user of one of The CW '213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as by directing and/or controlling one of the Limelight cache or edge servers to receive such a request from a user of one of The CW '213 Services to watch a hosted video);

b. The CW directs and/or controls Limelight, at least via its contract with Limelight and/or its configuration and customization of Limelight's CDN, to allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by directing and/or controlling Limelight to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Limelight cache or edge servers);

c. The CW directs and/or controls Limelight, at least via its contract with Limelight and/or its configuration and customization of Limelight's CDN, to download 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 by directing and/or controlling the Limelight cache or edge server to pre-fetch the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, and/or by directing and/or controlling the Limelight cache or edge server to be capable of receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. The CW directs and/or controls Limelight, at least via its contract with Limelight and/or its configuration and customization of Limelight's CDN and/or its provision of content encoded at multiple bitrates, to adjust 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 by directing and/or controlling Limelight to provide alternate segments encoded at different data rates to the client to accommodate the current network conditions (*e.g.*, the client's current bandwidth), such that providing the requested alternate segment results in an adjusted data rate).

74. At least by January 18, 2018, Sound View informed The CW that its systems and applications infringe the ’213 patent. However, The CW has not stopped infringing.

75. In addition or in the alternative, The CW has induced infringement, and continues to induce infringement, of one or more claims of the ’213 patent under 35 U.S.C. § 271(b), literally and/or under the doctrine of equivalents. The CW has actively, knowingly, and intentionally induced (and continues to induce) infringement of the ’213 patent by making, using, offering for sale, selling, supplying, maintaining, and/or supporting the The CW ’213 Services; by contracting with the CDNs and customizing the CDNs with the specific intent to cause the CDNs to perform the steps claimed in the ’213 patent to deliver video data, including the The CW ’213 Services, to The CW’s users, and with the knowledge that such actions infringe the ’213 patent.

76. For example, at least through repeated correspondence from Sound View, The CW knows that at least Akamai, Level 3, and Limelight perform the claimed methods of the ’213 patent to deliver the The CW ’213 Services, and that The CW induces the infringement of each of those CDNs. (*See* Exhibit D, incorporated herein by reference.) Moreover, The CW specifically intends that infringement, at least by continuing to contract with and utilize the Akamai, Level 3, and Limelight CDNs to offer the The CW ’213 Services; configuring the Akamai, Level 3, and Limelight CDNs to perform the claimed methods of the ’213 patent; and by encouraging and facilitating their infringement through the use of the The CW ’213 Services by The CW’s users and/or the creation and dissemination of documentation related to the The CW ’213 Services, including by, for example, encouraging and instructing its agents and contractors, such as Akamai, Level 3, and Limelight, to provide video to The CW’s users through the The CW ’213 Services, causing the performance of the claimed methods with the knowledge that such actions infringe the ’213 patent.

77. For example, The CW intends for and induces Akamai to infringe claim 16 to deliver the The CW ’213 Services 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 or MPEG-DASH segments) for distribution over said network through a plurality of HSs (such as Akamai cache or edge servers) to a plurality of clients (such as users of the The CW ’213 Services). The CW further intends for and induces Akamai to:

a. receive a request for an SM object from one of said plurality of clients (such as a user of one of the The CW ’213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as one of the Akamai cache or edge servers, with knowledge that Akamai’s cache or edge servers will receive such a request from a user of one of the The CW ’213 Services to watch a hosted video);

b. allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by inducing Akamai to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Akamai cache or edge servers, with knowledge that Akamai’s CDN will allocate such a buffer at one of the Akamai cache or edge servers to store portions of the stream as HLS or MPEG-DASH segments);

c. download 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 Akamai cache or edge server pre-fetching the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, with knowledge that Akamai’s cache or edge servers will pre-fetch the next segment of video by requesting the next HLS or MPEG-DASH segment in the stream from the datacenter cache, and/or by directing and/or controlling the Akamai cache or edge server to be

capable of receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. adjust 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, with knowledge that the Akamai CDN will provide alternate segments encoded at different data rates to the client).

78. As a further example, The CW intends for and induces Level 3 to infringe claim 16 to deliver The CW '213 Services 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 or MPEG-DASH segments) for distribution over said network through a plurality of HSs (such as Level 3 cache or edge servers) to a plurality of clients (such as users of The CW '213 Services). The CW further intends for and induces Level 3 to:

a. receive a request for an SM object from one of said plurality of clients (such as a user of one of The CW '213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as one of the Level 3 cache or edge servers, with knowledge that Level 3's cache or edge servers will receive such a request from a user of one of The CW '213 Services to watch a hosted video);

b. allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by inducing Level 3 to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Level 3 cache or edge servers, with

knowledge that Level 3's CDN will allocate such a buffer at one of the Level 3 cache or edge servers to store portions of the stream as HLS or MPEG-DASH segments);

c. download 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 Level 3 cache or edge server pre-fetching the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, with knowledge that Level 3's cache or edge servers will pre-fetch the next segment of video by requesting the next HLS or MPEG-DASH segment in the stream from the datacenter cache, and/or by directing and/or controlling the Level 3 cache or edge server to be capable of receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. adjust 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, with knowledge that the Level 3 CDN will provide alternate segments encoded at different data rates to the client).

79. As a further example, The CW intends for and induces Limelight to infringe claim 16 to deliver The CW '213 Services 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 or MPEG-DASH segments) for distribution over said network through a plurality of HSs (such as Limelight cache or edge servers) to a plurality of clients (such as users of The CW '213 Services). The CW further intends for and induces Limelight to:

a. receive a request for an SM object from one of said plurality of clients (such as a user of one of The CW ’213 Services requesting to watch a hosted video) at one of said plurality of helper servers (such as one of the Limelight cache or edge servers, with knowledge that Limelight’s cache or edge servers will receive such a request from a user of one of The CW ’213 Services to watch a hosted video);

b. allocate a buffer at one of said plurality of HSs to cache at least a portion of said requested SM object (such as by inducing Limelight to allocate a local buffer to store portions of the stream as HLS or MPEG-DASH segments at the Limelight cache or edge servers, with knowledge that Limelight’s CDN will allocate such a buffer at one of the Limelight cache or edge servers to store portions of the stream as HLS or MPEG-DASH segments);

c. download 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 Limelight cache or edge server pre-fetching the next segment of video content by requesting the next HLS or MPEG-DASH segments in the stream from the datacenter cache, with knowledge that Limelight’s cache or edge servers will pre-fetch the next segment of video by requesting the next HLS or MPEG-DASH segment in the stream from the datacenter cache, and/or by directing and/or controlling the Limelight cache or edge server to be capable of receiving a byte range request in order to download a segment of a requested video stream to a client while concurrently downloading the next segments from another server); and

d. adjust 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, with knowledge that the Limelight CDN will provide alternate segments encoded at different data rates to the client)

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

81. In committing these acts of infringement, The CW 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.

82. The CW'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.

RELIEF REQUESTED

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

a) that The CW has infringed each of the Patents-in-Suit;

b) that The CW's infringement of the '213 patent is and has been willful;

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

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

e) that Sound View be awarded the attorney's fees, costs, and expenses that it incurs

in prosecuting this action; and

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

DEMAND FOR JURY TRIAL

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

Dated: January 25, 2019

By: */s/ John C. Phillips, Jr.*

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