IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

EQUIL IP HOLDINGS LLC,	)	
	)	
Plaintiff,	)	C.A. No. 22-677-RGA
	)	
v.	)	**JURY TRIAL DEMANDED**
	)	
AKAMAI TECHNOLOGIES, INC.,	)	
	)	
Defendant.	)	

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Pursuant to Federal Rule of Civil Procedure 15(a)(1)(B), Plaintiff Equil IP Holdings LLC ("Equil IP") files this First Amended Complaint for Patent Infringement against Akamai Technologies, Inc. ("Akamai"). This First Amended Complaint supersedes the initial complaint filed on May 24, 2022 (D.I. 1). Equil IP states the following:

NATURE OF THIS ACTION

1. This is a civil action for the infringement of the following United States patents (the "Asserted Patents") as described herein:

- U.S. Patent No. 8,495,242 ("Automated media delivery system"), issued on July 23, 2013 (the "'242 Patent");
- U.S. Patent No. 9,158,745 ("Optimization of media content using generated intermediate media content"), issued on October 13, 2015 (the "'745 Patent"); and
- U.S. Patent No. 6,792,575 ("Automated processing and delivery of media to web servers"), issued on September 14, 2004 (the "'575 Patent").

2. The Asserted Patents are members of a family that also includes U.S. Patent No. 6,964,009 ("Automated media delivery system"), issued on November 8, 2005 (the "'009 Patent"), and U.S. Patent No. 8,381,110 ("Automated media delivery system"), issued on

February 19, 2013 (the "'110 Patent") (collectively with the Asserted Patents, the "Equilibrium Patents").

3. The Equilibrium Patents disclose revolutionary innovations regarding how rich-media content such as images and videos can be optimized and rapidly delivered to Internet-connected devices such as phones and computers.

PARTIES

4. Plaintiff Equil IP is a limited liability company duly organized and existing under the laws of Delaware having its principal place of business at 500 Tamal Plaza, Suite 528, Corte Madera, CA 94925. Equil IP is the owner by assignment of the Equilibrium Patents.

5. With respect to the Equilibrium Patents, Equil IP is the successor-in-interest to Automated Media Processing Solutions, Inc. d/b/a Equilibrium ("Equilibrium"), a corporation duly organized and existing under the laws of Delaware having its principal place of business at 500 Tamal Plaza, Suite 528, Corte Madera, CA 94925.

6. Equilibrium is an industry pioneer and leader in developing patented automated media processing solutions to help its customers manage, modify, and efficiently deploy media-rich content such as images, video, and sound optimized for delivery over the Internet and customized for use on Internet-connected end-user devices such as desktop and laptop computers and mobile phones.

7. On information and belief, Akamai is a corporation organized and existing under the laws of the State of Delaware, with its corporate headquarters and a principal place of business at 145 Broadway, Cambridge, MA 02142.

JURISDICTION AND VENUE

8. This is an action for patent infringement arising under the Patent Act, 35 U.S.C. § 1 *et seq*. Accordingly, this Court has subject-matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

9. This Court has personal jurisdiction over Akamai, as Delaware is Akamai's state of incorporation, and Akamai therefore resides in Delaware. Akamai has also derived revenue from its infringing acts within this District.

10. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and 1400(b), as Delaware is Akamai's state of incorporation, and Akamai therefore resides in Delaware.

THE EQUILIBRIUM PATENTS AND "MEDIARICH SERVER"

11. The technology at issue in this suit traces its roots to the early 1990s when Equilibrium, founded by Sean Barger,[1] acquired and further developed a software product called "DeBabelizer." Sold starting in the early 1990s to industry power-users and consumers alike, DeBabelizer enabled users to automatically edit ("batch process") collections of graphic images, animation, and video across over fifty different file types. It was powerful software, the full version of which sold for hundreds of dollars. The name "DeBabelizer" referred to the program's ability to import and normalize any format, then systematically edit a wide variety of otherwise incompatible media file types and then export them to any format automatically. After selling over 1 million copies of DeBabelizer Lite and DeBabelizer Pro for Macintosh, Windows OS's and Silicon Graphics, Equilibrium believed a logical expansion of the franchise was to develop a way to deliver high-speed, dynamic content through a system tied directly into web servers. The

[1] Equilibrium was originally formed to develop computer games.

team set out to build a next-generation technology which solved the automatic rendition management problem to enable Web 2.0 for scaling any size website while providing unique device support without having to pre-process content for all viewing scenarios. They called the project "Freeride."

12. With the growth of the web in the late 1990s, Equilibrium foresaw the Freeride project developing a new kind of Internet-based service that web developers could use to simplify the process of optimizing and maintaining rich media content automatically on websites. Equilibrium envisioned a system that would enable next-generation ecommerce and other applications.

13. On October 21, 1999, in order to protect this system, Equilibrium filed the first in a series of U.S. patent applications that would ultimately issue as the Equilibrium Patents. All the Equilibrium Patents are members of the same family and share substantially similar disclosures.

14. That first application (Application No. 09/425,326) issued as the '575 Patent on September 14, 2004. A copy of the '575 Patent is attached as Exhibit A.

15. On August 16, 2000, Equilibrium filed Provisional Application No. 60/226,043, and on August 14, 2001, it filed Continuation-in-Part Application No. 09/929,904, which issued as the '009 Patent on November 8, 2005. A copy of the '009 Patent is attached as Exhibit B.

16. On September 26, 2008, Equilibrium filed Divisional Application No. 12/238,842, which issued as the '110 Patent on February 19, 2013. A copy of the '110 Patent is attached as Exhibit C.

17. On February 26, 2010, Equilibrium filed Divisional Application No. 12/713,637, which issued as the ’242 Patent on July 23, 2013. A copy of the ’242 Patent is attached as Exhibit D.

18. On July 15, 2008, Equilibrium filed Divisional Application No. 12/173,747, which issued as U.S. Patent No. 8,656,046 on February 18, 2014. A copy of the ’046 Patent is attached as Exhibit E.

19. On January 28, 2013, Equilibrium filed Continuation Application No. 13/752,110, which issued as the ’745 Patent on October 13, 2015. A copy of the ’745 Patent is attached as Exhibit F.

20. On December 17, 2021, Equilibrium assigned the Equilibrium Patents to Equil IP Holdings LLC.

21. The Equilibrium Patents individually and collectively disclose substantial improvements to then-existing systems of Internet media delivery. Existing systems did not enable on-the-fly rich media generation and caching of rich media that was optimized for each user. In the novel methods described in the Equilibrium Patents, each user’s request contains information identifying the requested media and further indicating incremental optimizations that are performed prior to delivery to the user. The incrementally optimized media is cached for future delivery if another user request is received containing information requesting the same media and indicating the same incremental optimizations.

22. The technology disclosed in the Equilibrium Patents is widely used today to power the intelligent edge networks that content providers rely on to deliver media-rich Internet web pages and videos quickly and with very high quality. Without the innovations of the Equilibrium Patents, media-rich Internet content would be much slower to deliver and of lower

quality and/or would require expensive investments in computing and network infrastructure. The Equilibrium Patents therefore disclose substantial improvements to computer and network technology. Those improvements were not well-understood, routine, or conventional in the "Web 1.0" computing and network environment that existed at the time they were filed.

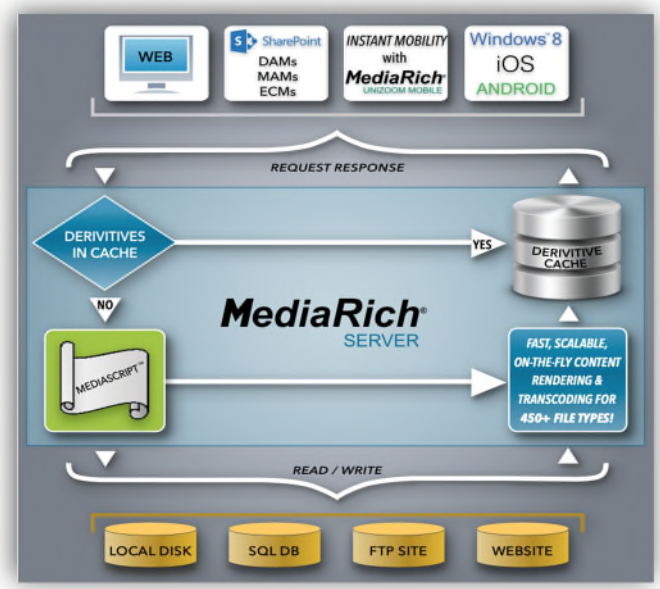
23. The Equilibrium Patents have been widely cited, including by Akamai. According to Google Patents, the '575 Patent has been cited more than 200 times by other U.S. patents and patent applications. Among those citations to the Equilibrium Patents are more than twenty patents and patent applications — from multiple patent families directed to numerous aspects of a content delivery network — that are identified as assigned to Akamai. (*See, e.g.*, U.S. Patent Nos. 7,653,706 ("Dynamic image delivery system"); 7,725,602 ("Domain name resolution using a distributed DNS network"); 7,912,978 ("Method for determining metrics of a content delivery and global traffic management network"); 7,996,533 ("HTML delivery from edge-of-network servers in a content delivery network (CDN)"); 8,805,965 ("Methods and apparatus for image delivery"); 9,418,353 ("Methods and systems for delivering content to differentiated client devices"); 9,419,852 ("Systems and methods for identifying and characterizing client devices"); 9,509,804 ("Scalable content delivery network request handling mechanism to support a request processing layer"); 9,544,183 ("Methods and apparatus for providing content delivery instructions to a content server"); 9,654,579 ("Scalable content delivery network request handling mechanism"); 9,742,858 ("Assessment of content delivery services using performance measurements from within an end user client application"); and 9,817,916 ("Methods and apparatus for accelerating content authored for multiple devices").) In several cases, the '575 Patent was the basis for a rejection by an examiner. (*See, e.g.*, U.S. Application Nos. 11/009,273; 11/768,935; and 12/693,413.)

24. The technology disclosed and claimed in the Equilibrium Patents was released by Equilibrium in 2000 as the "MediaRich Server." Since that time, Equilibrium has continuously offered MediaRich Server services in the business-to-business market. Recent clients include Walmart, the Walt Disney Company, Sony Pictures, Warner Bros., The Metropolitan Museum of Art, the U.S. Department of Energy, and E. T. Browne Drug Co. These companies use services powered by Equilibrium technology to automatically process, manage, and serve rich media content to websites and mobile devices.

25. The current version of one of the Equilibrium services that practice inventions disclosed in the Equilibrium Patents is MediaRich 6. (*See, e.g.*, Ex. G ("MediaRich 6 Brochure").)

26. One aspect of the MediaRich Server — and the Equilibrium Patents that claim the technology that powers it — is the ability to optimize rich media on-the-fly and cache what Equilibrium calls media "renditions" in real time in response to Internet user requests. (*See id.* at 3.) As illustrated in the graphic below, users of a wide variety of devices (from web browsers on desktop computers to apps on mobile devices) send requests for media content to websites

and other network-hosted sources. Equilibrium's service sits between those two parts of the network:



27. MediaRich solves technical problems associated with delivering rich media content over the Internet that arise from the fact that each type of user device has different parameters that can be used to optimize media for viewing. Parameters like image size and resolution, compression type, compression level, frame rate, and many others can be used to optimize Internet media to make the most of each user's type of device, specific application, quality, and quality of Internet service available at the moment, and other attributes. The MediaRich Server detects or is sent optimization parameters and optimizes the requested media on the fly before sending it on to the user.

28. Once an optimized rendition is created, moreover, it is cached in the MediaRich Server. The next time any user is determined to have a need or request for the same media, the server checks the cache to see if a previously optimized rendition already exists. If it does, the pre-existing rendition is further optimized, if necessary, and sent. If not, a rendition can be made

from the original media, sent, and cached to be used as intermediate or final media for the next request. Over time, the library of renditions in the cache builds up, further improving the responsiveness of the system and thus improving user experience.

THE AKAMAI "INTELLIGENT EDGE" NETWORK

29. Mr. Barger has been an evangelist for the Equilibrium technology for many years. Equilibrium has partnered with industry-leading Internet companies to enhance their services with Equilibrium technology. Among them is Akamai, a leading Internet platform provider. Unfortunately, Akamai has elected over the years to become an "efficient infringer" by recreating Equilibrium's patented service rather than continuing to partner with Equilibrium or licensing Equilibrium's technology.

30. On information and belief, Akamai was founded in the late 1990s to help solve the growing problem of Internet latency by offering Content Delivery Network (CDN) services. A CDN is a network of computers located at geographically dispersed data centers. The CDN network computers replicate and store website information so that it is available at physical locations closer to users who might access the website. On information and belief, at the time of its founding, Akamai's network replicated website data and distributed it throughout the network to pre-position it closer to users, rather than generate optimized content on the fly.

31. In February 2000, Equilibrium reached out to Akamai to explore options for integrating Equilibrium's MediaRich technology with Akamai's CDN service. Equilibrium explained:

> Equilibrium's next generation product building on our 10 years of automated media processing experience, patent pending, is something that is a natural extension to the Akamai network . . . . It is aimed at content and media servers, integrates with existing server/database environments and dynamically generates media and content to the webserver cache on-the-fly. The system handles images, animation, digital video and sound currently, and has been architected to handle

> any media type . . . . It . . . handles media cache management for web servers and creation/delivery of media to handheld/wireless devices automatically so that the web designer doesn't have to integrate with proxy server systems or create multiple sites.

32. Akamai's then Chief Operating Officer (and future Chief Executive Officer) Paul Segan responded, directing his staff to reach out to Equilibrium "to learn more about Equilibrium and to assess how Akamai might become involved with [Equilibrium]."

33. Mr. Barger and others from Equilibrium met with three Akamai Director-level executives and its principal engineer four days later. Contemporaneous memoranda indicate that Akamai "saw a clear synergy between Equilibrium's media serving technology and Akamai's data distribution system and expressed interest in further exploring possibilities for integration of the two technologies."

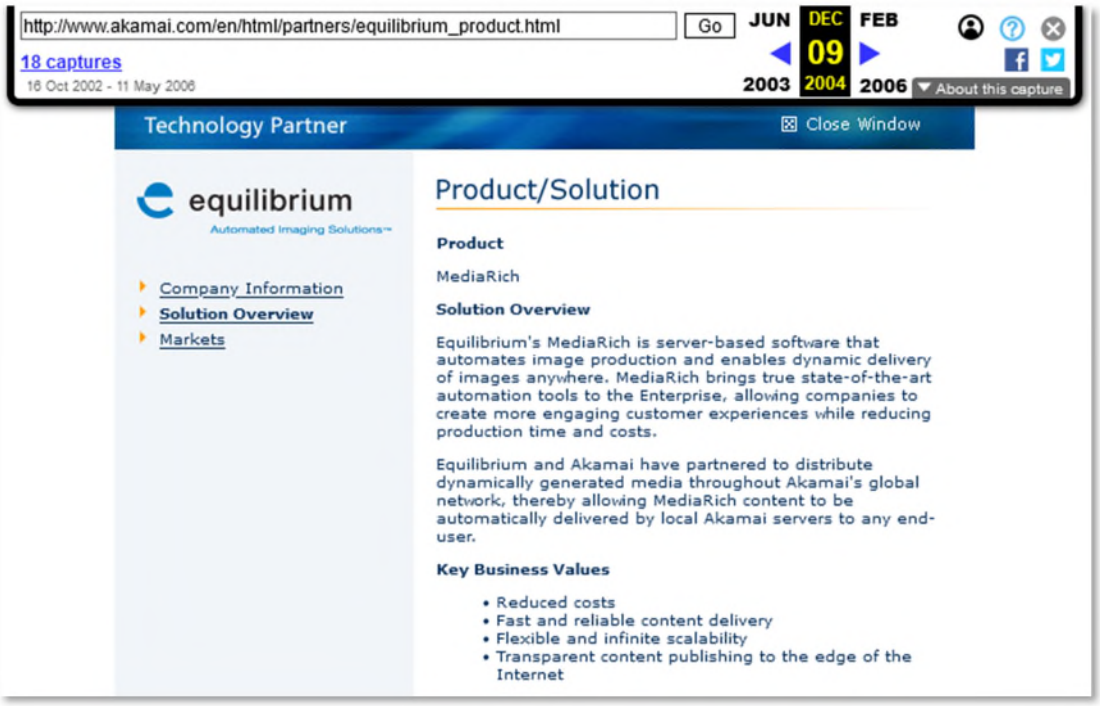
34. Akamai's Principal Engineer James Kistler expressed skepticism about whether original media could be brought to the edge of the network for dynamic image generation. Akamai's Director of Business Development Ravi Sundararajan suggested that the Equilibrium technology could be a good fit for a new initiative Akamai was then architecting called "EdgeAdvantage." In this new system, Akamai suggested that Equilibrium's media server could connect directly to Akamai's caching servers closer to the edge of the network. Mr. Barger agreed that this would be a good approach.

35. The parties also agreed to include Equilibrium in Akamai's "Technology Partner Program." The Akamai website described the "Technology Partner Program" as follows:

> Akamai Technology Partners work with Akamai to utilize Internet edge technology to create feature-enhanced products that enable customers to quickly and easily leverage Akamai's e-business infrastructure services and provide joint, industry-leading solutions for distributed content and application delivery.

Other partners included IBM, Microsoft, and Oracle. Equilibrium's inclusion in this program made it easy for Akamai's customers to use Equilibrium MediaRich services through the Akamai Content Delivery Network.

36. Equilibrium's inclusion in the Akamai "Technology Partner Program" was documented on the Akamai website, including, for example, in these December 9, 2004, Internet Archive captures:



Akamai stated that Equilibrium was a "recognized leader in automated imaging solutions." Akamai further stated: "Equilibrium's MediaRich is server-based software that automates image production and enables dynamic delivery of images anywhere. MediaRich brings true state-of-the-art automation tools to the Enterprise, allowing companies to create more engaging customer experiences while reducing production time and costs."

37. However, Akamai resisted Equilibrium's offers to establish a more extensive partnership or more complete integration of Equilibrium's technology into Akamai's edge network.

38. Over the years, from time-to-time, Equilibrium and Akamai would discuss whether an integrated product offering would be appropriate. For example, when John Bishop joined Akamai from Cisco in 2014 to become Akamai's Chief Technology Officer, Mr. Barger met with him at an industry conference in Las Vegas. The pair later exchanged messages. Mr. Barger proposed that they should discuss opportunities for further integration of the two

companies' products. Mr. Bishop told Mr. Barger that he was just settling in and wanted to get the "lay of the land" before continuing discussions. The discussions never resumed, however.

39. A little over two years later, Akamai announced it had developed a "new image management service" that it called "Image Manager." Just like Equilibrium's MediaRich service, Akamai's Image Manager promised to "engage online audiences with attractive images that are automatically optimized for both maximum visual quality and performance while reducing the cost and effort to transform and deliver web-ready images." Image Manager promised "[f]aster sites and apps on any device, anywhere by reducing bytes delivered to web and mobile users."

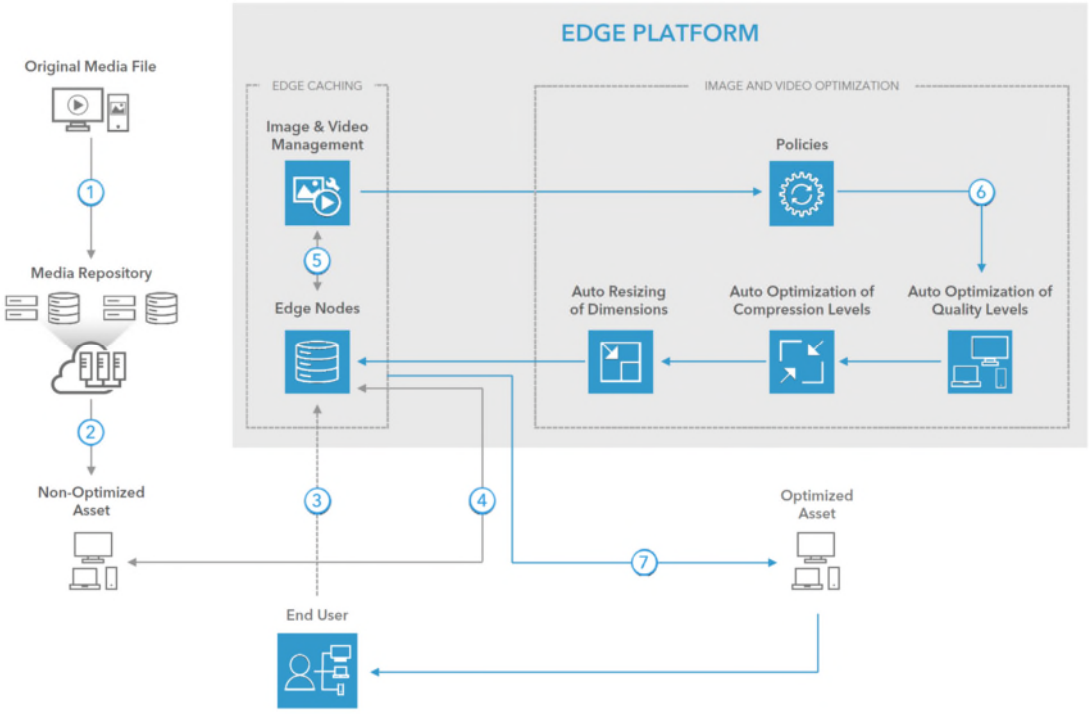
40. Image Manager was one of Akamai's "key offerings." In its 2016 Annual Report, in a section entitled "Web and Mobile Performance Solutions," Akamai stated:

> The ultimate goal of our web and mobile performance business is to make dynamic websites and applications have instant response times, no matter where the user is, what device or browser they are using, or how they are connected to the Internet. This is accomplished through a variety of advanced technologies embedded into our platform, which can be thought of as a virtual Internet overlaying the real Internet.

The report then identified several "key offerings" of its "virtual Internet," including: "Image Manager – To help our customers cope with the multitude of devices used by their consumers and varying connection quality, Image Manager automatically optimizes online images for the best combination of size, quality, and file format suited for each image and device and offloads the artistic transformation of derivative assets to the cloud."

41. Just like MediaRich, Akamai's Image Manager (today called "Image and Video Manager" or "IVM") stores "one high-quality, pristine file" in a media repository as a "Non-Optimized" Asset. Data from the asset is transmitted to "Edge Nodes" of an "Edge Cach[e]." The cached data is transmitted for "Image and Video Optimization" that automatically adjusts

factors such as quality, compression, and dimension resizing, based on information received about the "user context, including browser, device types, and the quality level of the end user's current network connection." The optimized media is cached at the Edge Node and served as an "Optimized Asset" to end users.



42. According to Akamai:

> [IVM] means developers no longer need to worry about setting image-level quality. By automatically optimizing images for maximum perceived quality with minimum image weight, the algorithm lets developers relax knowing that images will be delivered at a specified quality that's optimal for end users.

43. As a result, Akamai boasts that rich media content is "[o]ptimized for every visitor" and "simplified for developers."

44. IVM is just one example of an infringing Akamai service that replicates the features of Equilibrium's MediaRich Server service. Other features of services that grew out of Akamai's "EdgeAdvantage" to be part of Akamai's "Intelligent Edge Platform" employ image

and video optimization methodologies infringing one or more of the method claims of the Equilibrium Patents. For the avoidance of doubt, Equil IP asserts that Akamai infringes only method claims of the Equilibrium Patents.

EQUILIBRIUM'S PATENTED INVENTIONS

45. In this First Amended Complaint for Patent Infringement, Equil IP asserts three related patents. Generally speaking, the '745 and '242 Patents claim methods by which rich media content is optimized and delivered to users in response to user requests. The '575 Patent, which was the first in the family to issue, relates to the process by which the rich media optimization system interacts with the HTML or other browser language code in which a website containing rich media is written and which the user's browser decodes when viewing the website.

46. The '745 Patent is titled "Optimization of Media Content Using Generated Intermediate Media Content" and it issued on October 13, 2015. It claims priority to an application filed on October 21, 1999.

47. The '745 Patent claims an "automated graphics delivery system." (Ex. F ('745 Patent) at 5:1-5.) The disclosed invention improves on prior art web media delivery systems by providing media "[a]sset management, automatic image manipulation, automatic image conversion, automatic image upload, and automatic disk management." (*Id.* at 8:8-13.) The automatic image optimization, delivery, and caching is done on demand and in real time in response to user requests. "Web media is generated only if requested by a client browser." (*Id.* at 5:35.) This results in a "dynamic Web site wherein images are generated on demand from original assets, wherein only the original assets need to be updated." (*Id.* at 5:11-14.)

48. Because images are optimized on demand in response to specific user requests, the media can be optimized to fit the specific needs of the individual user. For example, the system can optimize media throughput based on "current Web server traffic." (*Id.* at 5:15-17.) Similarly, the system can factor "client connection speed" to determine "optimum quality and file size." (*Id.* at 5:19-20.)

49. In the Equilibrium System, once media has been optimized in response to a user request, it is stored in a cache. A "media creation subsystem" is employed to create the optimized image and then "store the results in the media cache database." (*Id.* at 8:57-60.) Since this optimized media is automatically cached, "identical requests can be handled without regeneration of images." (*Id.* at 5:24-25.)

MARKING

50. Equilibrium was not required to mark under 35 U.S.C. § 287 because its MediaRich service is a software system implementing patented methods that lacks a tangible item to mark.

51. Additionally, claim 1 of the '745 Patent, claim 9 of the '242 Patent, and claim 1 of the '575 Patent are method claims which do not give rise to an obligation to mark under 35 U.S.C. § 287.

THE ACCUSED PRODUCTS

52. On information and belief, Akamai offers a variety of Internet content delivery services that it packages and repackages under a variety of trade names. Many of these are offered as part of what it calls the "Akamai Intelligent Edge." On information and belief, Akamai pervasively uses Equilibrium's patented inventions in its Intelligent Edge and related services. A few specific examples are set forth below.

Image and Video Manager

53. Akamai's Image and Video Manager feature of its Intelligent Edge is one example of how Akamai's services infringe. IVM practices all the limitations of one or more of the Equilibrium Patent method claims, including at least exemplary independent claim 1 of the '745 Patent.

54. Claim 1 of the '745 Patent recites:

> [Preamble] A method in a host computer for developing transformation processing operations to optimize media content playback to a plurality of playback devices connected with the host computer in a network, the method comprising:
>
> [1a.] receiving a first request from a first playback device for media content;
>
> [1b.] wherein the first request contains information, the information indicating a first original media content, first content generation operations, and first transformation operations;
>
> [1c.] determining whether a previously-generated first intermediate media content is available for reuse, the previously-generated first intermediate media content having been created using the first original media content and the first set of content generation operations; and
>
> [1d.] responsive to determining that a previously-generated first intermediate media content is available, creating a first optimized media content for the first playback device by performing the first set of transformation operations on the previously-generated first intermediate media content; and
>
> [1e.] responsive to determining that a previously-generated first intermediate media content is not available, creating a first optimized media content for the first playback device by creating a first intermediate content using the first original media content and the first set of content generation operations, and performing the first set of transformation operations on the first intermediate media content; and
>
> [1f.] sending the first optimized media content to the first playback device.

(Ex. F at 23:9-39.)

55. Akamai's Image and Video Manager employs "a method in a host computer for developing transformation processing operations to optimize media content playback to a plurality of playback devices connected with the host computer in a network." (*Id.* at 23:9-12.) It employs a method in Akamai host edge network computers that develops transformation processing operations to optimize media content playback to a plurality of playback devices, such as computers and mobile phones, which are connected to the Akamai edge network via the Internet. Thus, the preamble, if limiting, is satisfied.

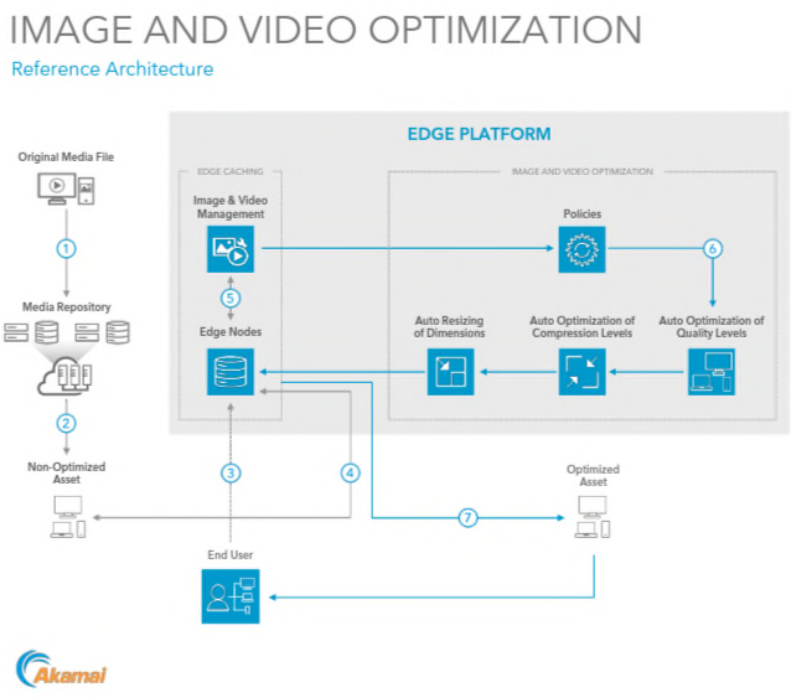
56. According to Akamai, "Image & Video Manager is a software as a service (SaaS) solution that automatically optimizes and enhances images and videos for every user on the fly. It provides each user the ideal combination of quality, format, and size that is best suited for that user's browser, device, and network connection at the very moment they access a website or mobile app." (Ex. H ("Reference Architecture") at Overview.)

57. Akamai publishes the following "Reference Architecture" to describe the methods employed in IVM:

Image and Video Optimization: Reference Architecture

See how Image & Video Manager makes responsive design significantly easier, cheaper, and more efficient.

Share



(*Id.*)

58. According to Akamai, IVM "comes out of the box ready to help developers optimize images, videos, and animated GIFs to deliver great web experiences." (Ex. I (Akamai Image and Video Manager Free Developer Trial Brochure) at 1.)

59. IVM employs a step of "receiving a first request from a first playback device for media content." (Ex. F at 23:13-14.) Step 3 of the Akamai IVM workflow depicted in the Reference Architecture above is: "The Akamai Intelligent Edge Platform receives a user request and obtains detailed information about the user context, including the browser, device types, and the quality level of the end user's current networking connection." (Ex. H, Step 3.) According to Akamai, "all [I]mage [M]anager transformations whether they are image optimizations[,] image transformations or . . . video transformations . . . all happen at the time of the request . . .

so if we don't have the variant video asset inside of cache then that very first request for that video asset would mean that we have to go and that's when we will kick off that very first encoding that occurs." (Ex. J ("Webinar - Image Manager 4.0") at 1.)

60. IVM employs a step "wherein the first request contains information, the information indicating a first original media content, first content generation operations, and first transformation operations." (Ex. F at 23:15-18.) The Akamai IVM workflow depicted in the Reference Architecture above demonstrates that in the IVM system, the workflow is directed to accessing and optimizing a "one high-quality, pristine file" referred to as an "Original Media File." (Ex. H, Step 1.) The first request that IVM receives has information containing, for example, "browser, device types, and the quality level of the end user's current networking connection." (*Id.*, Step 3.) IVM uses this information as indications from which it determines which "image transformations" and "image optimizations" to perform on which original media content. (Ex. J at 4.) The IVM also "automatically optimizes and enhances images and videos for every user on the fly." (Ex. H, Overview.) Thus, IVM provides "each user the ideal combination of quality, format, and size that is best suited for that user's browser, device, and network connection at the very moment they access a website or mobile app" based on the information contained in the first request. (*Id.*)

61. IVM employs a step of "determining whether a previously-generated first intermediate media content is available for reuse, the previously-generated first intermediate media content having been created using the first original media content and the first set of content generation operations." (Ex. F at 23:19-23.) When a user sends a request, Akamai's IVM checks for a cached copy of a previously-generated first intermediate media content. According to Akamai, "whenever the user makes a first request . . . so all [I]mage [M]anager

transformations whether they are image optimizations[,] image transformations or any of the video transformations that we showed all happen at the time of the request so we leverage our caching system pretty heavily to push and to keep all the derivative assets that we create in cache so that we can deliver them out to the end user as quickly as possible and reduce that latency[.] If the assets aren't in the cache then we have to do a transformation and that's what we call the real time or the cache miss hit . . . . [S]o if we don't have the variant video asset inside of cache then that very first request for that video asset would me that we have to go and that's when we will kick off that very first encoding that occurs." (Ex. J at 1-11, 13-17.)

62. Akamai IVM employs a step wherein "responsive to determining that a previously-generated first intermediate media content is available, creating a first optimized media content for the first playback device by performing the first set of transformation operations on the previously-generated first intermediate media content." (Ex. F at 23:24-29.) The IVM architecture uses the "Edge Caching" architecture of Akamai's Intelligent Edge Platform to store previously-requested intermediate media content at the edge of the network. (*See* Ex. H.) A copy of the original is cached on Akamai's distributed edge network. IVM leverages the caching system to "keep all of the derivative assets" that it creates in response to user requests so that it can "deliver them out to the end user as quickly as possible" and achieve reduced latency. (Ex. J at 7-9.) The IVM architecture can automatically optimize "compression" and "quality levels." (Ex. H, Step 6 in diagram.) As a result, according to Akamai, it "provides each user the ideal combination of quality, format, and size that is best suited for that user's browser, device, and network connection at the very moment they access a website or mobile app." (*Id.*, Overview.)

63. Akamai IVM employs a step wherein "responsive to determining that a previously-generated first intermediate media content is not available, creating a first optimized media content for the first playback device by creating a first intermediate content using the first original media content and the first set of content generation operations, and performing the first set of transformation operations on the first intermediate media content." (Ex. F at 23:30-37.) In Akamai's IVM architecture, when the user makes a first request for an original media for which an intermediate media content is not available, that is called a "real time" or "cache miss hit." (Ex. J at 11.) In that case, the IVM pulls and transforms the asset, caches it, and makes it available for optimization and delivery to the end user. (*See* Ex. H, Step 6 in diagram.)

64. IVM employs a step of "sending the first optimized media content to the first playback device." (Ex. F at 23:38-39.) IVM transmits the optimized media content to the requesting computer, mobile phone, or other playback device over the Internet. (*See also* Ex. H, Step 7.)

Adaptive Media Delivery

65. Akamai's Adaptive Media Delivery is another example of how Akamai's Intelligent Edge service employs an infringing method.

66. Claim 9 of the '242 Patent recites:

> [Preamble] A method for accessing dynamically transcoding media content, the method comprising:
>
> [9a.] an act of receiving a request for media content to be delivered to a client presentation system for media content, wherein the requested media content has a limited number of base transcoding profiles associated therewith, each base transcoding profile corresponding to a cached version of the requested media content:
>
> [9b.] at the time of the request, and without input by a network administrator, an act of automatically identifying transcoding parameters to be applied to the requested media content prior to delivery to the client presentation system,

> wherein identification of transcoding parameters is based on one or more formats of any client presentation system;
>
> [9c.] an act of determining that the transcoding parameters to be applied to the requested media content prior to delivery to the client presentation system are the same as transcoding parameters that are being applied to the requested media content prior to delivery to another client presentation system;
>
> [9d.] an act of transcoding the requested media content in accordance with the identified transcoding parameters, such that the identified transcoding parameters are used to perform additional incremental transcoding on top of the base transcoding profile;
>
> [9e.] wherein the act of act of transcoding the requested media content in accordance with the identified transcoding parameters comprises;
>
> [9e(i).] an act of selecting a pre-existing base transcoded version of the requested media content comprising intermediate derivative media that has been transcoded in accordance with only a portion of the identified transcoding parameters; and
>
> [9e(ii).] an act of creating a final version by incrementally performing further transcoding of the pre-existing base transcoded version in accordance with a remaining portion of the identified transcoding parameters; and
>
> [9f.] an act of delivering the transcoded media content to both client presentation systems concurrently.

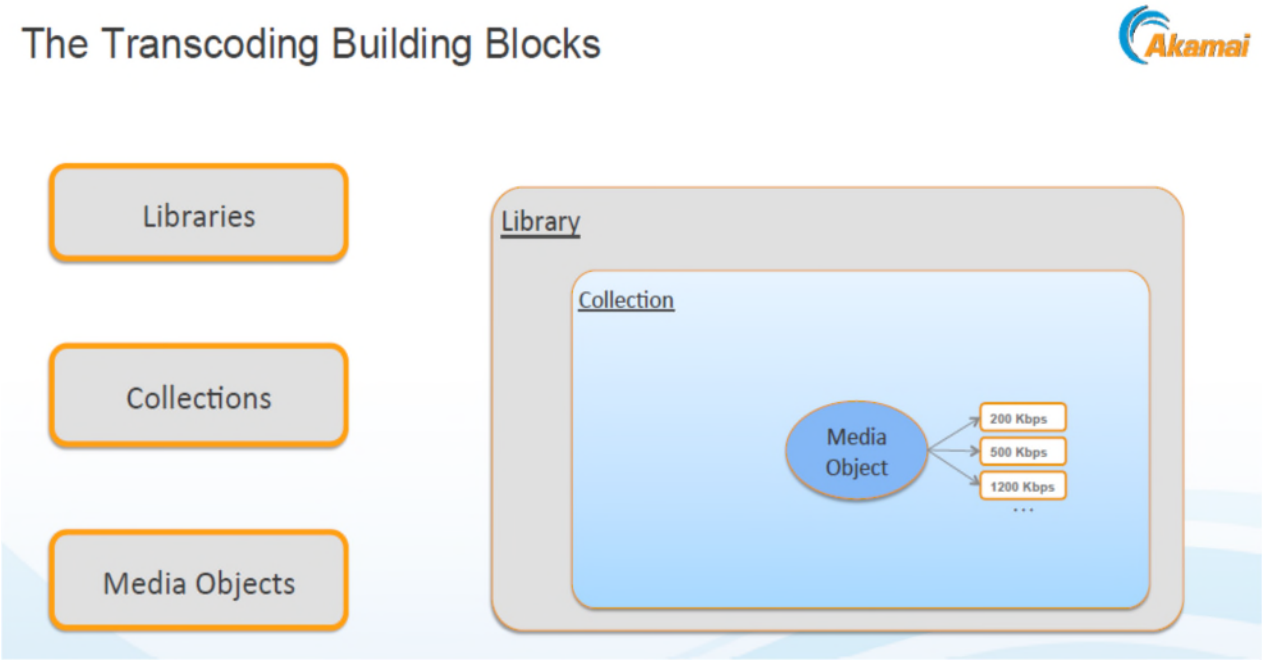
(Ex. D at 23:45-24:16.)

67. Akamai's Adaptive Media Delivery ("AMD") employs a computer program that performs all the acts described in claim 9 of the '242 Patent, and therefore infringes. (*See* Ex. K (adaptive-media-delivery.pdf.)) As discussed in connection with the additional limitations of claim 9, AMD dynamically transcodes media content. Thus, the '242 Patent preamble, if limiting, is also satisfied.

68. AMD performs an "act of receiving a request for media content to be delivered to a client presentation system, wherein the requested media content has a limited number of base transcoding profiles associated therewith, each base transcoding profile corresponding to a cached version of the requested media content." (Ex. D at 23:47-52; *see also* Ex. M

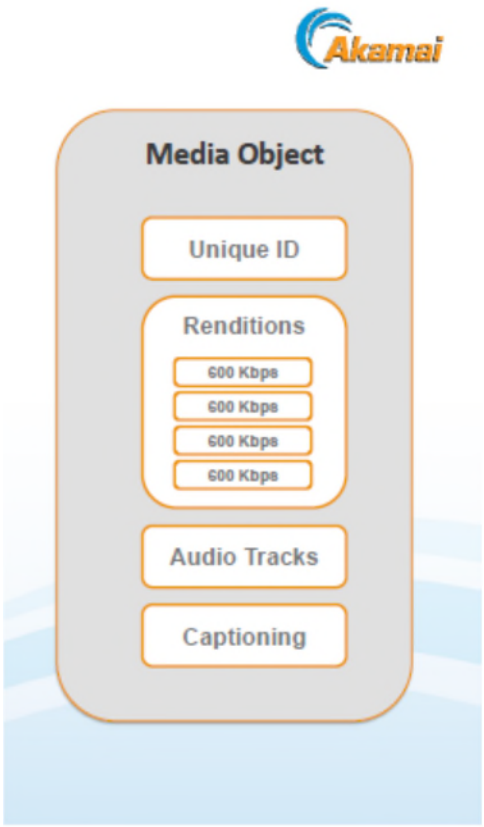
(techdocs.akamai.com "Define property hostnames" webpage) at 1, Ex. N ("Akamai edge 2012 Customer Conference" slides) at 10-14.)

69. According to Akamai, "End-user requests" are directed to and received by "Akamai edge servers" that read media and determine how to deliver it. (Ex. M at 1.) The requested media has associated with it a limited number of base transcoding profiles, each of which corresponds to a cached version of the requested media. (*See* Ex. N at 11, 14.) For example, in the AMD system, a media object in a collection, which must be cached, has different transcoded versions with different bit rates which Akamai depicts as follows:



(*Id*. at 11.)

70. Additionally, each media object in AMD may have different renditions, which Akamai depicts as follows:



(*Id.* at 14.) AMD's dynamic transcoding method thus satisfies Element 9a.

71. The methods that AMD employs "identif[y] transcoding parameters to be applied to the requested media content" based on attributes of the end-user device. (Ex. D at 23:53-59; *see also* Ex. N at 2, 5.) It provides live transcoding in real time to different types of end-user devices. (*See* Ex. D at 23:53-59; *see also* Ex. O ("Transcoding 24x7").) It uses "[c]onfiguration elements," such as "rules" and "behaviors," for determining how to respond to requests from end users. (Ex. P (techdocs.akamai.com "Key concepts and terms" webpage) at 4.) These rules and behaviors, among other things, determine how the AMD system responds to requests for media content without input by a network administrator. (*See id.*) The AMD automatically selects and streams the highest quality bit rate to a video end point based on the end-point device "connection speed and device capabilities." (Ex. Q ("Akamai MSOD: Stream Packaging User Guide") at 2.) Each video is personalized for each viewer based on "device type, network

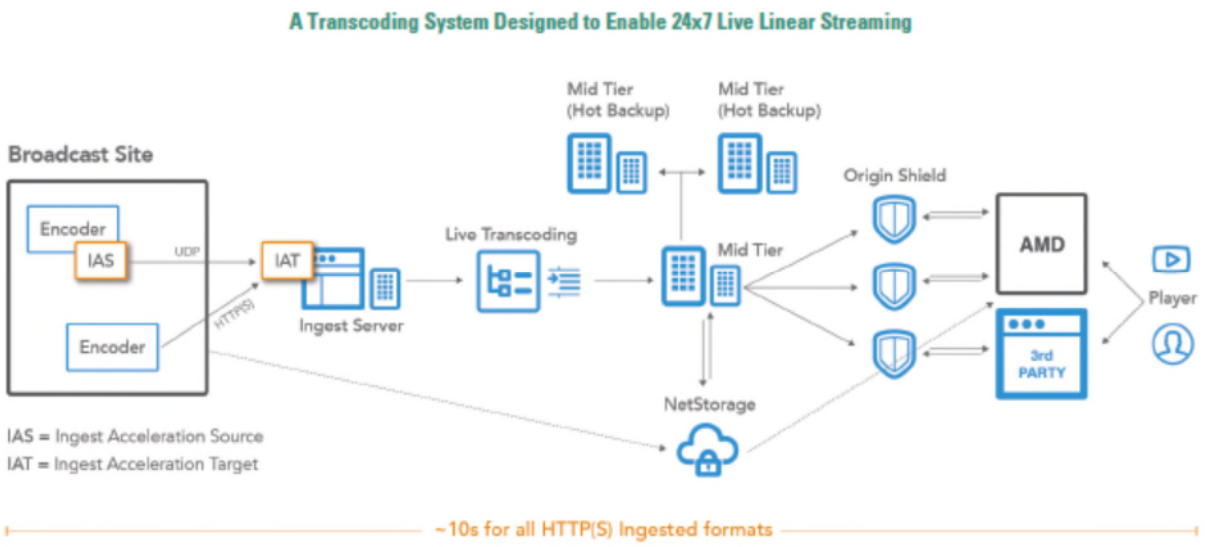
conditions" and other factors. (Ex. K at 4.) Akamai depicts AMD's capabilities graphically as follows in which AMD's "transcoding" enables optimizing rich media for both television and mobile phone device formats:

(Ex. N at 2.)

72. This illustrates that AMD's transcoding capabilities are designed and intended to optimize different formats, such as large-screen televisions and small-screen mobile phones. (*See id.* at 2, 5, 16-17.) AMD's dynamic transcoding method therefore satisfies Element 9b.

73. As discussed above, AMD's method is implemented in a manner such that transcoding parameters to be applied to requested media are based on attributes of the end-user client device requesting the material. Thus, for example, when similarly situated client devices request the same content, the transcoding parameters to be applied to the requested media content prior to delivery are the same. Therefore, AMD's dynamic transcoding method satisfies Element 9c.

74. The AMD system transcodes the media content by "perform[ing] additional incremental transcoding on top of the base transcoding." (Ex. D at 23:66-24:3.) As noted above in 9a, the media collection in AMD has different transcoded versions. (*See supra*, ¶ 70.) These transcoded versions are examples of base transcoded versions. (*See id.*) AMD takes these base versions and "Update[s], Adapt[s], [and] Re-transcode[s]" groups of such videos within a collection. (Ex. N at 13.) These base transcoded versions can be re-transcoded. (*See id.*) Such re-transcoding is additional incremental transcoding on top of the base transcoding. (*See id.*) AMD also enables "live linear streaming" of videos which involves incremental live transcoding of videos upstream of AMD, as Akamai depicts in the graphic below:

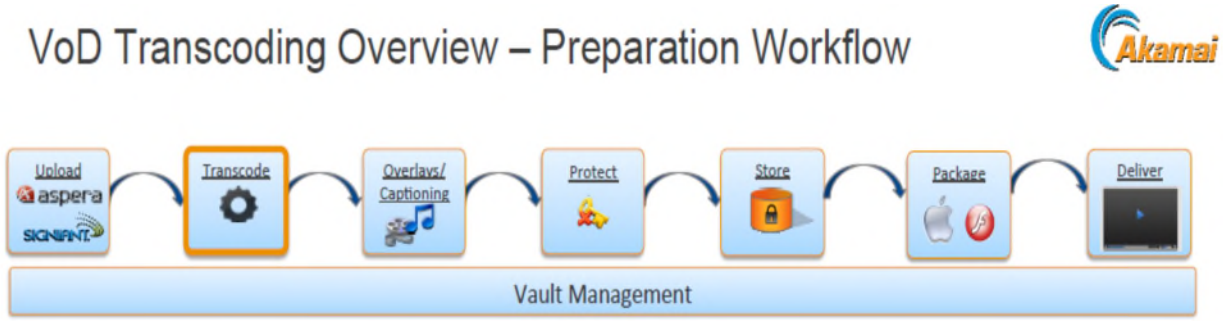


(Ex. O at 1; *see also* Ex. R (developer.akamai.com "Media Delivery" webpage) at 1, Ex. N at 10.) Therefore, AMD's dynamic transcoding method satisfies Element 9d.

75. In AMD's dynamic transcoding method, as discussed above, the transcoding includes (1) selecting base transcoded versions of the requested media, which are intermediate media transcoded with only a portion of the transcoding parameters, and (2) creating a final version by incrementally performing further transcoding with the remaining portion of the

transcoding parameters. (*See supra*, ¶¶ 70-74.) As demonstrated above in relation to 9a-d, the Akamai system includes base transcoding and additional incremental transcoding on top of the base transcoding. (*See id.*) The overall transcoding (including the base and additional incremental transcoding on top of the base transcoding) optimizes the media content for different end-user devices such as televisions and mobile phones. (*See* Ex. N at 2.) This optimized media content is the final version of the media content. (*See id.* at 13.) AMD therefore satisfies Elements 9e and its subparts.

76. AMD delivers the transcoded media content to the end-user device in the final "deliver" stage which Akamai depicts as follows:



(*See id.* at 10.) If, for example, two similarly situated client devices request the same transcoded media at substantially the same time, then AMD is designed to deliver the content substantially concurrently. AMD's dynamic transcodiing method therefore satisifes Element 9f.

Front-End Optimization

77. Another service Akamai offers in connection with its Intelligent Edge service is Front End Optimization or "FEO." FEO infringes at least claim 1 of the method claims of the '575 Patent.

78. Claim 1 of the '575 Patent recites:

[Preamble] A process for delivering an original media, comprising the steps of:

[1a.] placing said original media in a network system;

[1b.] creating an HTML document or browser language having proprietary media tags and placing said HTML document or browser language onto a Web server;

[1c.] actuating a user request from a customer browser for a Web page by having said Web server pass said requested Web page to an HTML parser on said network system;

[1d.] parsing said HTML document or browser language on said parser by looking for said proprietary media tags;

[1e.] looking up said proprietary media tags in a media tags database on said network system;

[1f.] if at least one media tag of said proprietary media tags is not found,

> [1f(i).] generating a Web media by using said at least one media tag;
>
> [1f(ii).] placing said generated Web media in a media cache on said network system;
>
> [1f(iii).] converting said at least one media tag to at least one standard HTML equivalent tag that refers to said media in said cache; and
>
> [1f(iv).] storing said at least one media tag and said at least one standard HTML equivalent tag in said database;

[1g.] modifying said HTML document or browser language by replacing said at least one media tag by said at least one standard HTML equivalent tag;

[1h.] delivering said modified HTML document or browser language from said network system to said Web server; and

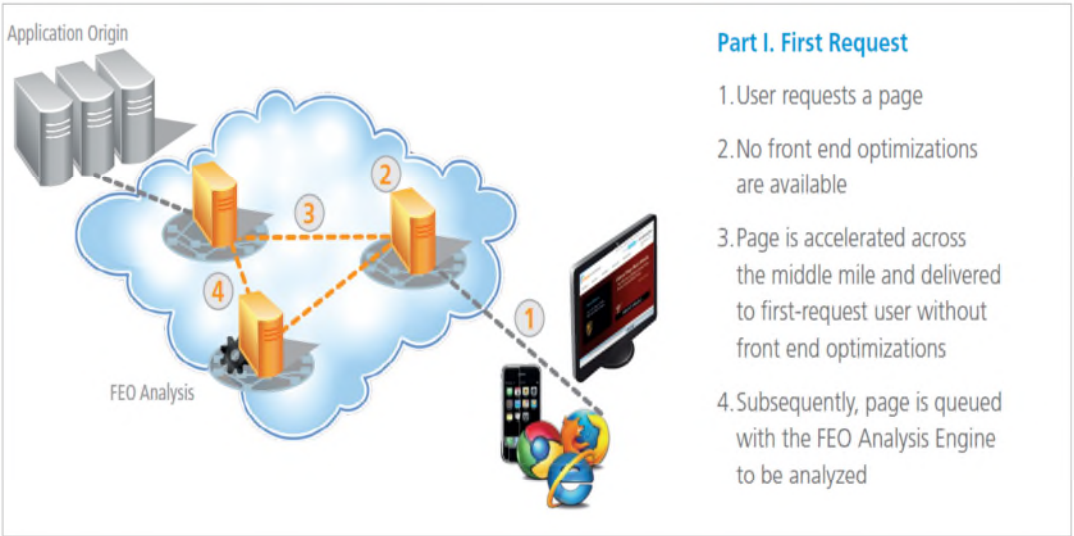
[1i.] delivering said modified HTML document or browser language from said Web server to said customer browser for said customer to view.

79. Akamai's FEO employs a computer program that performs all of the acts described in claim 1 of the '575 Patent, and therefore infringes. As discussed in connection with the additional limitations of claim 1, FEO provides a process for delivering an original media. Thus, the '575 Patent preamble, if limiting, is satisfied.

80. At a high level, Akamai depicts the FEO architecture as follows:

Overview: How it Works

In the diagrams below, we illustrate how Akamai's FEO works:



(Ex. U at 7.) The "FEO Analysis Engine" is designed to analyze webpages in response to a user request and to develop a set of optimization and transformation rules for modifying the web page the next time a user requests it. In the process, the original media, such as images and videos, are placed into the Akamai network system. The transformation rules and website to which they are applied are an HTML document or browser language. FEO employs a media tagging system which Akamai calls "File Versioning." In this system, "[a]ll resources that are optimized are renamed with a unique name. If the object changes, a different uniquely named resource will be

created using a proprietary media naming convention." (Ex. T (developer.akamai.com "Optimization Overview" webpage) at 1.) The unique names that Akamai creates using its "proprietary media naming convention" are the same or the equivalent of the claimed "proprietary media tags." Thus, Elements 1a and 1b are satisfied.

81. As shown in the graphic above, once a web page has been analyzed using the FEO Analysis engine, the transformation rules are "made available across the Akamai intelligent platform." This is done in preparation for the system receiving another user request for the analyzed web page. When it does, the request is passed to Akamai's system, which subsequently implements the transformation rules on the web page. The web page and transformation rules are the "HTML document or browser language" of claim 1. Thus, Elements 1c and 1d. are satisfied.

82. Akamai uses its "File Versioning" media tags to ensure that only current media is optimized, delivered, and cached. According to Akamai, media content is stored in a "cache" which its file versioning media tags reference. Akamai uses this system to ensure that old content is not served when new media is available. When the media changes, the old file is no longer referenced. (*See* Ex. U ("Akamai Front-End Optimization on the Akamai Intelligent Platform™" guide) at 12.) According to Akamai, its FEO Transformer "[m]odifies a copy of the origin's resources based on Analyzer's instructions. Once transformed, these resources are optimized and cached in the edge network. The original files, or base resources, stay untouched and unoptimized on the origin server." (Ex. V ("Akamai Front-End Optimization User Guide for FEO Standard and FEO Premier" user guide) at 7.) This process satisfies Elements 1c - 1f(ii). That is, a user request for a webpage from a browser is actuated when Akamai's FEO parses the webpage data and the transformation rules and looks for Akamai's proprietary file versioning

tags. Using the tags, up-to-date Web media is generated and optimized for the user. The up-to-date media is cached on Akamai's FEO network system.

83. Akamai's FEO Analyzer maintains both a "list of transformations (the actual HTML changes required to optimize the pages)" and a "corresponding list of which resources to transform." The list of resources to transform, which includes media to be optimized, must include data that is the same or equivalent to the "standard HTML equivalent tag" that refers to the media in the cache. Both the list and the Akamai file versioning tags are stored in a database. Thus, Elements 1f(iii) and (iv) are satisfied.

84. When a request for an optimized FEO website is received, Akamai FEO "takes web pages from the origin server, then optimizes and delivers a modified copy of the content to the requesting browser." (*Id.* at 3.) When the modified copy of the content is returned to the requesting browser, the Akamai file versioning tag must be replaced by a standard HTML equivalent tag that the customer's browser can read. Thus, Elements 1g - 1i are satisfied.

85. While Akamai makes some technical information about its services available to the public, as demonstrated above, there is much more information that is not accessible. Discovery may reveal additional Equilibrium Patents that Akamai has infringed, and Equil IP reserves the right to assert such patents in this action.

WILLFUL INFRINGEMENT

86. As set forth above, Akamai was aware of the Equilibrium Patents and was aware of the content, scope, and claims of one or more of the Equilibrium Patents. On information and belief, Akamai knew or was willfully blind to the fact that its activities infringed claims of the Equilibrium Patents.

87. As discussed above, Equilibrium called Akamai's attention to its pending patent applications at the very outset of the parties' discussions in February 2000 in which Equilibrium disclosed to Akamai the Equilibrium technology - *i.e.*, the technology disclosed and claimed in the Equilibrium Patents. At that time, Akamai was a small company. It had less than $4 million in revenue the previous year. Equilibrium met directly with Akamai's lead technical executives. Mr. Segan, who directed his team to take the meeting, stayed with Akamai for 21 years, including serving as CEO. Thus, the individuals who led Akamai's service development at its inception were also aware of Equilibrium virtually at its inception, aware of the capabilities that its service offered, and aware of how those specific capabilities might integrate with and Akamai's service.

88. As also set forth above, Equilibrium was a member of the Akamai "Technology Partner Program" and the Akamai website stated that the Equilibrium MediaRich technology was "state-of-the-art," allowed "companies to reduce production time and expenses," and created "a more engaging customer experience." Thus, Akamai knew that its customers were using Equilibrium's patented service together with Akamai services. Equilibrium Patents are also identified on the Equilibrium website and in Equilibrium service documentation.

89. Furthermore, as also set forth above, one or more of the Equilibrium Patents (including the '575 Patent asserted herein) was cited in prosecution of numerous Akamai patents and, on several occasions, cited by the examiner as a basis for rejecting claims that Akamai sought in prosecution. Specifically, one or more of the Equilibrium Patents were cited in more than twenty Akamai patents and patent applications, from numerous Akamai patent families and directed to numerous aspects of a content delivery system. Akamai's patent prosecution thus indicated that the Equilibrium patents were pervasively relevant to Akamai's activities. On

information and belief, Akamai understood that the Equilibrium Patents were relevant to its activities and, in particular, to its EdgeAdvantage network and successor products. Akamai was also aware from this that Equilibrium's Patents had early priority dates and, in many cases, were material prior art to patent claims that Akamai was trying to get on its competing service.

90. On multiple occasions over the years, Akamai executives had direct discussions with Equilibrium executives about integrating Equilibrium's technology with its own. These discussions specifically referenced Equilibrium's pending and existing patents. Again, Akamai knew about these patents from examiner rejections from its own patent prosecution activities as well as from prior discussions with Equilibrium.

91. Nevertheless, Akamai still decided instead to replicate the features and functionality in competing services without seeking a license to Equilibrium Patents. Moreover, the features, functionalities, and benefits of Akamai's accused services are in relevant respects remarkably like those of Equilibrium's patented services.

92. Given that Akamai was aware of the Equilibrium patents and their relevance to its services, Akamai knew, or ignored an objectively high risk, that replicating features that Equilibrium's service without a license created would risk infringement of the Equilibrium Patents. This was a knowing and flagrant disregard of Equilibrium's patent rights.

THE AMENDED COMPLAINT

93. Equil IP filed this action against Akamai on May 24, 2022. On Akamai's request, the parties agreed to extend Akamai's date to answer or otherwise respond to August 1, 2022. On July 19, 2022, Equil IP asked Akamai to stipulate to the filing of an amended complaint. Equil IP also provided Akamai a draft amended complaint that asserted the same patent claims as are asserted herein. On July 21, 2022, Akamai's counsel said that it was still considering Equil

IP's request. The next day, more than a week before its negotiated deadline, Akamai moved to dismiss. Akamai's motion acknowledged in a footnote Equil IP's intention to amend the complaint.

COUNT I
Infringement of U.S. Patent No. 9,158,745

94. Equil IP repeats and re-alleges each of the allegations in paragraphs 1-93 of this Complaint.

95. Akamai has directly infringed, either literally or under the doctrine of equivalents, at least one method claim of the '745 Patent (including claim 1) at least by using, selling and/or offering for sale Intelligent Edge services incorporating the Image and Video Manager and other features having similar media optimization functionality without the authority of Equil IP.

96. As recited above, Akamai's infringement has been willful, wanton, and deliberate, and in knowing and flagrant disregard of Equil IP's patent rights.

97. Equil IP has been damaged and harmed by Akamai's infringement.

COUNT II
Infringement of U.S. Patent No. 8,495,242

98. Equil IP repeats and re-alleges each of the allegations in paragraphs 1-97 of this Complaint.

99. Akamai has directly infringed, either literally or under the doctrine of equivalents, at least one method claim of the '242 Patent (including claim 9) at least by using, selling and/or offering for sale Intelligent Edge services incorporating the Adaptive Media Delivery and other features having similar transcoding functionality without the authority of Equil IP.

100. As recited above, Akamai's infringement has been willful, wanton, and deliberate, and in knowing and flagrant disregard of Equil IP's patent rights.

101. Equil IP has been damaged and harmed by Akamai's infringement.

COUNT III
Infringement of U.S. Patent No. 6,792,575

102. Equil IP repeats and re-alleges each of the allegations in paragraphs 1-101 of this Complaint.

103. Akamai has directly infringed, either literally or under the doctrine of equivalents, at least one method claim of the ’575 Patent (including claim 1) at least by using, selling and/or offering for sale Intelligent Edge services incorporating Front End Optimization and other features having similar media optimization functionality without the authority of Equil IP.

104. As recited above, Akamai’s infringement has been willful, wanton, and deliberate, and in knowing and flagrant disregard of Equil IP’s patent rights.

105. Equil IP has been damaged and harmed by Akamai’s infringement.

DEMAND FOR JURY TRIAL

Equil IP hereby demands trial by jury on all claims and issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Equil IP respectfully requests that the Court enter judgment in favor of Equil IP and against Akamai as follows:

A. Finding that Akamai has infringed the Asserted Patents.

B. Finding that Akamai’s infringement of the Asserted Patents is willful.

C. Awarding Equil IP the damages it sustained as a result of Akamai’s patent infringement, including, but not limited to, a reasonable royalty.

D. Awarding Equil IP enhanced damages under 35 U.S.C. § 284 as a result of Akamai’s willful patent infringement.

E. Finding this to be an exceptional case under 35 U.S.C. § 285 and awarding Equil IP its attorney’s fees.

F. Awarding Equil IP its costs incurred in this action.

G. Granting Equil IP such other and further relief as the Court may deem just, proper, and appropriate.

Respectfully submitted,

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