

1 RITA M. HAEUSLER (SBN 110574)  
2 [rita.haeusler@hugheshubbard.com](mailto:rita.haeusler@hugheshubbard.com)  
3 HANNAH A. BOGEN (SBN 324294)  
4 [hannah.bogen@hugheshubbard.com](mailto:hannah.bogen@hugheshubbard.com)  
5 HUGHES HUBBARD & REED LLP  
6 1999 Avenue of the Stars, 9<sup>th</sup> Floor  
7 Los Angeles, CA 90067  
8 Telephone: (213) 613-2800  
9 Facsimile: (213) 613-2950

10 Attorneys for Plaintiff  
11 WAG ACQUISITION, L.L.C.

12 **UNITED STATES DISTRICT COURT**  
13 **NORTHERN DISTRICT OF CALIFORNIA**  
14 **SAN FRANCISCO DIVISION**

15 WAG ACQUISITION, L.L.C.,  
16 a New Jersey LLC,

17 Plaintiff,

18 v.

19 FRIENDFINDER NETWORKS INC., a  
20 Delaware corporation; and STREAMRAY  
21 INC., a Nevada corporation,

22 Defendants.

Case No. 3:23-cv-5846

**COMPLAINT FOR PATENT  
INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

23 1. Plaintiff WAG ACQUISITION, L.L.C. (“Plaintiff” or “WAG”), for its complaint  
24 against Defendants FRIENDFINDER NETWORKS INC. and STREAMRAY INC.  
25 (“Defendants”), alleges infringement of United States Patent Nos. 10,567,453 (the “453 patent”),  
26 8,364,839 (the “839 patent”), and 8,185,611 (the “611 patent), owned by WAG.

27 **INTRODUCTION**

28 2. Defendants operate Internet adult content “webcam” sites, including without  
limitation the cams.com website and related “affiliate” and “white label” sites.

3. Plaintiff alleges that Defendants’ internet delivery of streaming video from their  
media servers, including media servers in the United States, has deployed and used methods of

1 operation, systems, and computer-recorded media, for the internet streaming of live webcam  
2 video, which incorporate the apparatus, methods, and networking protocols in a manner that  
3 infringes the '453, '839, and '611 patents, as more particularly set forth herein.

4 4. Said apparatus, methods, and networking protocols began to be used and practiced  
5 by the Defendants only after the close of fact discovery in case no. 2:14-cv-03456 against the  
6 Defendants, which WAG filed in the United States District Court for the District of New Jersey  
7 and transferred to this District as case no. 3:19-cv-05036. WAG sues for appropriate monetary  
8 relief due to Defendants' unauthorized use and willful infringement by reason of their use and  
9 practice of said apparatus, methods, and networking protocols during the respective terms of the  
10 '453, '839, and '611 patents.

11 **THE PARTIES**

12 5. Plaintiff WAG Acquisition, L.L.C. is a New Jersey limited liability company with  
13 its principal place of business at 275 Route 10 East, Suite 220-313, Succasunna, New Jersey  
14 07876.

15 6. On information and belief, Defendant FriendFinder Networks Inc. is a Delaware  
16 corporation with its principal place of business at 910 East Hamilton Avenue, Sixth Floor,  
17 Campbell, California 95008. On information and belief, Defendant FriendFinder Networks Inc. is  
18 doing business under a number of trade names, including without limitation Penthouse, Various,  
19 Inc., Friend Finder, Adult Friend Finder, and Cams.com.

20 7. On information and belief, Defendant Streamray Inc. is a Nevada corporation with  
21 its principal place of business at 910 East Hamilton Avenue, Sixth Floor, Campbell, California  
22 95008.

23 8. On information and belief, Defendants are commonly owned and managed and  
24 jointly share responsibility for creating, deploying, operating, and maintaining Defendants' adult  
25 content live webcam websites.

**JURISDICTION AND VENUE**

1  
2 9. The Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and  
3 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et*  
4 *seq.*

5 10. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b)  
6 because Defendants each have a regular and established place of business in this District and have  
7 committed acts of infringement by reason, *inter alia*, of having acted in this District to build,  
8 configure, operate, and maintain streaming media servers which give rise to the infringement  
9 alleged in this case, in this District and elsewhere in the United States. Upon information and  
10 belief, a substantial portion of each of the Defendants’ senior technical and network operational  
11 employees work within this District and the majority of their business records are maintained  
12 within this District. Defendants further admitted that venue is proper in this District in their  
13 arguments for transfer of the prior litigation involving similar subject matter from the District of  
14 New Jersey to this District.

15 11. Defendants are subject to personal jurisdiction in California and this District  
16 because they regularly conduct business in California, including business that gives rise to the  
17 infringement alleged herein, and further including offering for sale and selling products and  
18 services through Defendants’ web sites and related facilities, which are accessible in California,  
19 and they have each committed acts of infringement in California by operating servers in  
20 California by methods, and with apparatus and computer-readable media, that infringed the ’453,  
21 ’839, and ’611 patents.

**INTRADISTRICT ASSIGNMENT**

22  
23 12. Pursuant to Civil Local Rules 3-5(b) and 3-2(c), and General Order No. 44,  
24 intellectual property actions are assigned on a district-wide basis.

**THE ’453, ’839, and ’611 PATENTS**

25  
26 13. The ’453, ’839, and ’611 patents were respectively duly and legally issued, and  
27 later expired, on the dates set forth below.  
28

Patent	Issued	Expired
10,567,453	Feb. 18, 2020	Sep. 4, 2022
8,364,839	Jan. 29, 2013	Mar. 28, 2021
8,185,611	May 22, 2012	Mar. 28, 2021

Copies of the '453, '839, and '611 patents are attached hereto as Exhibits A, B, and C, respectively, and incorporated herein by reference.

14. The subject matter claimed in the '453, '839, and '611 patents was developed in the course of Plaintiff's business and all rights therein were assigned by Harold Price (the sole inventor) to Plaintiff's predecessor in that business. Plaintiff owns all rights to recover for past infringement of the '453, '839, and '611 patents.

15. The '453, '839, and '611 patents share a common disclosure, which concerns technological solutions problems that Plaintiff's predecessor, SurferNETWORK, perceived in the streaming media implementations that characterized the prior art. Prior to these inventions, internet streaming implementations suffered from slow, stuttering startup and frequent interruptions. When a user first clicked to begin playback of streaming media, a significant period of "buffering" would begin, during which period the user would typically only see an hourglass. After clicking on a stream, the user would have to wait until the player accumulated sufficient content over its internet connection for the program to start, and this process would often have to be repeated if line conditions caused the buffer to run out during playback. These effects resulted in a poor user experience and greatly disadvantaged internet streaming media as compared to other forms of audio and/or video media, such as radio and TV. Numerous efforts were made by others to improve the situation by attempting to control (*e.g.*, meter) the rate of delivery of media from the server to match to inferred needs and capabilities of the player, but these efforts continued to suffer from significant delays for the player to build up an initial buffer, and proved unable to respond adequately to unexpected changes in internet connection quality.

16. SurferNETWORK sought a solution that would jump start internet media playback to achieve the perception of "Instant On," and provide an internet user an experience akin to what

1 ordinarily happened when turning on a transistor radio. The common disclosure of the '453, '839,  
2 and '611 patents addresses the identified shortcomings in the prior art, and the need for providing  
3 an internet streaming user experience that would then be comparable to the immediacy and  
4 continuity that the user enjoyed with ordinary radio and television. It accomplished this, in one  
5 embodiment, by techniques that included without limitation rearranging the order of operations in  
6 the streaming media server in an innovative manner, to pre-buffer the media on the server side of  
7 the connection (where this could be done on the server side with very little or no perceived delay  
8 on the part of the user), and then using a network transport mechanism provided by the server.

9 17. For example, under claims of the '453 patent, a buffer is provisioned in the  
10 memory of a server and is continuously filled at the playback rate (“filling a server buffer  
11 allocated in a memory of the server, from a media source, at a constant fill rate equal to the  
12 playback rate”).

13 18. Once the server buffer has been filled to a predetermined level, streaming delivery  
14 may begin: “beginning delivery of the streaming media to the user computer using a transport  
15 mechanism to send sequential data elements of the streaming media from the server buffer to the  
16 user computer.”

17 19. The actual streaming transmission is of “unsent sequential data elements in the  
18 server buffer.” There may be “unsent” elements in the server buffer under a variety of  
19 circumstances, *e.g.*, (i) at the startup of streaming, when (per ¶ 17) the server buffer has been pre-  
20 filled, the entire pre-filled amount resides in the server buffer and is “unsent”; and (ii) after  
21 startup, as further elements arrive (one-by-one) in the server buffer, at the playback rate, each  
22 element thus arriving (one-by-one) is “unsent.” In addition, more than the successive individual  
23 elements may accumulate in the server buffer as a result of an interruption during the course of  
24 delivery in situations where the transport mechanism temporarily stops accepting media data  
25 elements, and these elements will thus be “unsent” as well.

26 20. In each case as addressed in the foregoing paragraph, according to the claims of  
27 the '453 patent, the unsent elements in the server buffer are sent to the user system as fast as  
28 possible, over the given transport mechanism. Specifically, whenever there are “unsent sequential

1 data elements in the server buffer,” the claims prescribe “sending, from the server to the user  
2 computer, as much of said unsent sequential data elements that are in the server buffer as said  
3 transport mechanism will accept, at a sending rate in excess of the playback rate.”

4 21. In contrast to the prior art, the claimed combination of measures does not rely on  
5 trying to impose a sustainable streaming rate by measures such as “metering” the sending of  
6 successive elements, which had proved unreliable in prior practice. Rather, the result of the  
7 claimed combination of measures is a dual streaming moderation mechanism, which couples a  
8 flow limitation on the input side of a server buffer (that of constantly filling the server buffer at  
9 the playback rate, but only starting the streaming delivery after pre-filling a buffer-load of data),  
10 with a complementary but different control mechanism on the output side (the server’s transport  
11 mechanism), provided over a connection that is capable of transmitting faster than the playback  
12 rate when there are a unsent elements to be sent, but where the transport can adapt delivery to  
13 accommodate network conditions. The claimed combination of these measures proved to meet the  
14 objects of the invention in a manner that could not be achieved in the prior art.

15 22. The claims of the ’453 patent are thus directed at using a particular, novel,  
16 transmission mechanism that achieves the objects of a user perception of fast streaming startup  
17 and uninterrupted delivery. These specific technological measures, operating dynamically in  
18 tandem, and the operational characteristics that result therefrom, improve the speed and reliability  
19 of how the user and server computers communicate. They utilize the computer components in  
20 each such computer to interoperate in a different way than they did in prior approaches. The result  
21 is a smooth delivery mechanism (despite the unpredictability of the delivery medium between the  
22 server and the player(s)), which also provides a fast startup, thereby improving how computers  
23 communicate.

24 23. Furthermore, claims 8, 16, and 24 of the ’453 patent, in addition to the advantages  
25 of fast streaming startup and uninterrupted delivery, provide further advantages, for example  
26 where a live program, of interest to a substantial audience, is simultaneously provided to many  
27 users. Under prior art implementations it would have been customary in such a case for the server  
28 application to have provisioned, in that application, a separate buffer for each user. These claims

1 recite the additional features whereby the server may serve the stream to a plurality of user  
2 systems from a single, common server application layer buffer. Per these claims, the server, for  
3 each of the plurality of user systems, “maintain[s] a record of the last streaming media data  
4 element that had been sent from the server buffer to the user system, and us[es] the record to  
5 identify the next streaming media data element in the server buffer to be sent to the user system.”  
6 The claimed method and corresponding system and computer recorded media thereby avoid  
7 having to provision a multiplicity of buffers, and thus conserve the server’s memory resources.

8 24. The asserted claims of the ’839 patent (claims 7, 14, and 21) likewise provide the  
9 added benefit described in ¶ 23 with regard to claims 8, 16, and 24 of the ’453 patent, of serving  
10 multiple users from a common server buffer, through the claimed use of pointers into the server  
11 buffer, thereby conserving server resources.

12 25. The claims of the ’611 patent, including without limitation claims 1, 8, and 14,  
13 recite in different terms the features that provide the benefits of fast startup and uninterrupted  
14 delivery in different terms. Per those claims, the initial streaming media elements (again sent at an  
15 initial sending rate more rapid than the playback rate), “are sufficient for the user system to begin  
16 playing back the streaming media while the user buffer continues to fill,” and that after the user  
17 buffer has been filled, “sending further streaming media data elements to the user system at about  
18 the playback rate ... wherein the media data elements is sent at a rate that matches the constant  
19 fill rate of a server buffer, and is received at the same rate by the user computer if there are no  
20 interruptions in the transmission of media data between the server and the user's computer,”  
21 likewise resulting in the noted benefit of fast streaming startup.

#### 22 **COUNT I: DIRECT INFRINGEMENT OF THE ’453 PATENT**

23 26. Plaintiff repeats and realleges the allegations of paragraphs 1-25 above as if fully  
24 set forth at length herein.

25 27. Defendants, through their servers as aforesaid, have infringed the ’453 patent by  
26 making, selling, offering to sell, performing, and using apparatuses, articles, and methods that  
27 embody one or more claims thereof, without authorization and in the United States, during the  
28 term thereof (as alleged herein), by conduct as hereinafter more particularly alleged.

1           28.     Prior to the issuance of the '453 patent (but considerably after the '453 patent's  
2 priority date), Defendants began to operate servers that utilize a proprietary protocol (on  
3 information and belief, the "H5Live" protocol and/or similar protocols, employing the buffering  
4 (temporary storage) scheme claimed in the '453 patent, to control transmission of streaming  
5 media to achieve fast startup of the playback and uninterrupted delivery. Defendants achieved  
6 these objects by a combination of the way in which Defendants buffered and sent streaming  
7 media on and from their servers, with transport over a websocket through said protocol, in a  
8 manner that infringed the '453 patent. Defendants continued to operate servers in said infringing  
9 manner throughout the life of the '453 patent. Said infringing implementations of Defendants are  
10 hereinafter referred to, by way of reference, and not limitation, as "Websocket" implementations.

11           29.     Defendants' web sites feature (in addition to other content) a substantial number of  
12 live performers represented as being available for viewing at any given time. The sessions  
13 provided are interactive with regard to chat and online tipping, thus necessitating at least  
14 approximate real time delivery of the performers' videos to stay within user-tolerable  
15 synchronization with chat and tipping events. It is clear from the claimed numbers of performers  
16 and monthly page views, as well as from direct observation of video and chat windows on  
17 Defendants' sites, that the live video feeds of at least Defendants' top performers are generally  
18 being viewed simultaneously by upwards of several hundred viewers each.

19           30.     Inspection of requests, responses, and packets exchanged between a sample user  
20 system and Defendants' servers shows that Defendants' streaming implementation that utilized  
21 said protocol as referenced in ¶ 28, during the time period referenced therein, infringed the '453  
22 patent.

23           31.     With reference, for example, to claim 1 of the '453 patent, the following three  
24 figures show data from a representative packet capture from a streaming session with Defendants'  
25 cams.com website, for a paying, logged-in viewer who has clicked on the provided thumbnail on  
26 the Defendants' site home page, for a selected available performer:



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Charles 4.6.4 - cams\_20230706a

File Edit View Proxy Tools Window Help

Session 1 \* cams\_20230706a

Structure Sequence

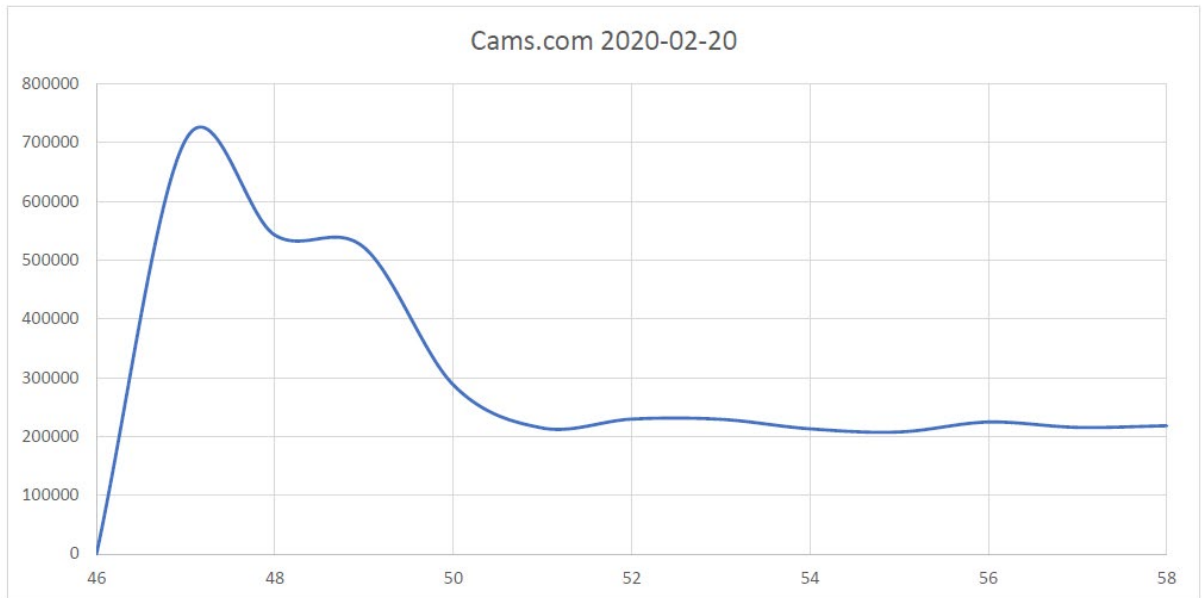
- https://ss-prod-ue1-notif-72.aws.adobe.com
- https://beta-api.cams.com
- https://camscdn.cams.com
- https://www.google-analytics.com
- https://analytics.google.com
- https://newcamsmembers.securedataimages.com
- https://cams.com
- https://matomo.prod.cams.run
- https://stats.g.doubleclick.net
- https://www.google.com
- https://optimizationguide-pa.googleapis.com
- https://images.securedataimages.com
- https://graylog.prod.cams.run
- https://images4.streamray.com
- https://secureimage.securedataimages.com
- https://classic.cams.com
- https://camschat20.camsconnexion.com
- wss://stream11cdn.securedataimages.com
  - h5live
    - stream?url=rtmp%3A%2F%2F69.165.102.139%3A1935%2Fcams%2Ftoryoss1%3Fcams%7C%7Cfreeloader4%7C%7C%2Ftoryoss1\_\_720p&stream=Tor
- wss://camschat20.camsconnexion.com
- wss://qos.prod.cams.run
- https://clients4.google.com
- http://cams.com

Wireshark 2.10.16 (64-bit) - Gigabit Ethernet Connection Local Area Connection

No.	Time	Source	Destination	Protocol	Length	Info
1699	4.674766	192.168.86.103	69.165.102.19	TCP	54	49853 → https(443) [ACK] Seq=1 Ack=1 Win=262144 Len=0
1700	4.675170	192.168.86.103	69.165.102.19	TLSv1.2	571	Client Hello
1701	4.681910	69.165.102.33	192.168.86.103	TCP	60	https(443) → 49852 [ACK] Seq=1 Ack=518 Win=28896 Len=0
1702	4.745789	69.165.102.19	192.168.86.103	TCP	60	https(443) → 49852 [ACK] Seq=1 Ack=518 Win=28896 Len=0
1703	4.748281	192.168.86.103	104.244.42.200	TLSv1.2	587	Application Data
1704	4.748334	192.168.86.103	104.244.42.200	TLSv1.2	100	Application Data
1705	4.750527	69.165.102.19	192.168.86.103	TLSv1.2	239	Server Hello, Change Cipher Spec
1706	4.774528	69.165.102.33	192.168.86.103	TLSv1.2	191	Server Hello, Change Cipher Spec, Finished
1707	4.776143	192.168.86.103	69.165.102.33	TLSv1.2	105	Change Cipher Spec, Finished
1708	4.776435	192.168.86.103	69.165.102.33	HTTP	2094	GET /h5live/stream?url=rtmp%3A%2F%2F69.165.102.139%3A1935%2Fcams%2Fpanetmature%3Fcams%7C%7Ckato%5B%7C%7C%2Ftoryoss1__720p%3A%2Ftoryoss1__720p&stream=Tor
1709	4.778095	104.244.42.200	192.168.86.103	TCP	60	https(443) → 64210 [ACK] Seq=1 Ack=454 Win=4074 Len=0
1710	4.786530	104.244.42.200	192.168.86.103	TCP	60	https(443) → 64210 [ACK] Seq=1 Ack=500 Win=4474 Len=0
1711	4.802536	104.244.42.200	192.168.86.103	TLSv1.2	100	Application Data
1712	4.802596	69.165.102.33	192.168.86.103	TCP	60	https(443) → 49852 [ACK] Seq=138 Ack=569 Win=28896 Len=0
1713	4.807376	192.168.86.103	69.165.102.19	TCP	54	49853 → https(443) [ACK] Seq=518 Ack=86 Win=262144 Len=0
1714	4.809464	69.165.102.33	192.168.86.103	TCP	60	https(443) → 49852 [ACK] Seq=138 Ack=1057 Win=11680 Len=0
1715	4.810427	69.165.102.33	192.168.86.103	TCP	60	https(443) → 49852 [ACK] Seq=138 Ack=2609 Win=34432 Len=0
1716	4.847305	192.168.86.103	104.244.42.200	TCP	54	64210 → https(443) [ACK] Seq=500 Ack=47 Win=1023 Len=0
1717	4.865529	69.165.102.19	192.168.86.103	TLSv1.2	123	Finished
1718	4.865703	192.168.86.103	69.165.102.19	TLSv1.2	239	Change Cipher Spec, Finished
1719	4.865909	192.168.86.103	69.165.102.19	HTTP	1819	GET /connexion/390/s94s168/websocket HTTP/1.1
1720	4.884576	104.244.42.200	192.168.86.103	TLSv1.2	278	Application Data, Application Data
1721	4.901708	69.165.102.19	192.168.86.103	TCP	60	https(443) → 49853 [ACK] Seq=155 Ack=1981 Win=31680 Len=0
1722	4.912523	69.165.102.33	192.168.86.103	HTTP	271	HTTP/1.1 301 Switching Protocols
1723	4.914057	192.168.86.103	69.165.102.33	WebSocket	91	WebSocket Connection Close [FIN] [MASKED]
1724	4.914161	192.168.86.103	69.165.102.33	TCP	54	49852 → https(443) [FIN, ACK] Seq=2646 Ack=355 Win=261888 Len=0
1725	4.924252	192.168.86.103	69.165.102.33	TCP	66	49854 → https(443) [SYN] Seq=0 Win=0 Len=0 MSS=1460 WS=256 SACK_PERM=1
1726	4.924525	192.168.86.103	104.244.42.200	TCP	54	64210 → https(443) [ACK] Seq=500 Ack=271 Win=1022 Len=0
1727	4.936638	69.165.102.33	192.168.86.103	TCP	66	[TCP Dm ACK 1716] https(443) → 49853 [ACK] Seq=355 Ack=2609 Win=34432 Len=0 CF=2646 SR=2647

Transport Layer Security

- TLSv1.2 Record Layer: Handshake Protocol: Server Hello
  - Content Type: Handshake (22)
  - Version: TLS 1.2 (0x0303)
  - Length: 81
- Handshake Protocol: Server Hello
- TLSv1.2 Record Layer: Change Cipher Spec Protocol: Change Cipher Spec
  - Content Type: Change Cipher Spec (20)
  - Version: TLS 1.2 (0x0303)
  - Length: 1
- Change Cipher Spec Message
- TLSv1.2 Record Layer: Handshake Protocol: Finished
  - Content Type: Handshake (22)
  - Version: TLS 1.2 (0x0303)
  - Length: 40
- Handshake Protocol: Finished



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32. The above figures reflect the distribution via the Internet, under a label of “H5Live” (a proprietary streaming protocol), of streaming media, referenced as RTMP and encoded as a plurality of sequential frames adapted for playback at a predetermined playback rate and comprising a plurality of sequential data elements.

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33. On information and belief, Defendants maintained ongoing feeds to their bank of servers, via RTMP, from a substantial plurality of live performers, and buffered each of the incoming streams on their servers (“filling a server buffer allocated in a memory of the server, from a media source, at a constant fill rate equal to the playback rate”).

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34. At or about the time labelled as “46” in the third figure above, the server “receiv[es] via data communications at a server a request from a user computer for the streaming media. As the server buffer, due to the ongoing live nature of the stream, has already been “filled to a predetermined level” when the user request comes in, the server “begin[s] delivery of the streaming media to the user computer.”

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35. The server delivered the requested stream “using a transport mechanism,” which in the case Defendants’ transmission was a websocket over TCP (wss:// websocket protocol), as reflected in the first and second figures above. The server uses a websocket “to send sequential data elements of the streaming media from the server buffer to the user computer.”

1           36.     At the beginning, at streaming startup, there is a buffer-load of “unsent sequential  
2 elements in the server buffer.” As reflected by the observed higher speed of transmission during  
3 startup (third figure), the transport mechanism accepts elements in the initial buffer load, and  
4 sends them at higher than the playback rate (“whenever, after said beginning delivery of the  
5 streaming media to the user, there are unsent sequential data elements in the server buffer,  
6 sending, from the server to the user computer, as much of said unsent sequential data elements  
7 that are in the server buffer as said transport mechanism will accept, at a sending rate in excess of  
8 the playback rate”). The higher rate of this initial phase of delivery is reflected in the visible surge  
9 or burst on streaming startup, and confirmed by the timestamps on the received packets, which  
10 show that the data corresponding to the initial burst is transmitted and received in less time than it  
11 takes to play that data back. Following this initial period, the steady trace at the right of the panel  
12 reflects continuing transmission at the playback rate.

13           37.     The websocket sends each such individual element to the player, when it sends it,  
14 at full line speed, but the throughput will be limited by the rate of arrival of the following  
15 elements from the performer’s feed (*i.e.*, the playback rate), so net transmission at the subsequent  
16 stage of the transmission (right side of the graph) is at the playback rate.

17           38.     Further (per claims 8, 16, and 24 of the ’453 patent), Defendants’ servers’  
18 distribution of live streams are in most cases directed to a plurality of user systems (plurality of  
19 users watching the same performer at the same time). Based on the information referenced herein  
20 as to the large number of viewers who may be simultaneously viewing any given stream, it is  
21 reasonable to infer that a plurality of such viewers are being sent media drawn from a common  
22 buffer on the server. The analysis of packets, requests, and responses, and the fact that the  
23 individual user systems are not making additional requests at the application layer, reflects that,  
24 where the receiving user system is one of a plurality of user systems observing the same live feed,  
25 for each of the plurality of user systems, the corresponding server of Defendants’ maintains a  
26 record of the last streaming media data element that had been sent from the server buffer of that  
27 server to the user system, and uses the record to identify the next streaming media data element in  
28 that server buffer to be sent to the user system, doing this for a plurality of users viewing the same

1 performance. The Defendants' systems employed a transport mechanism operating in accordance  
2 with a reliable transport protocol as recited in claims 9 and 17. Defendants' servers perform these  
3 and other functions in a manner that meets each and every limitation of at least claims 1, 3, 4, 8,  
4 9, 11, 12, 16, 17, 19, 20, and 24 of the '453 patent, thereby directly infringing those claims, either  
5 literally or under the doctrine of equivalents.

6 39. Plaintiff accuses of infringement every server made, provisioned, operated,  
7 maintained, or used by Defendants to serve streaming media via the H5Live protocols, or other  
8 protocol using transmission of media streams over websockets and/or TCP, and every web site,  
9 whether owned or commercially affiliated, original, white-label, or otherwise, for which audio  
10 and/or video is served by said servers by way of any acts of making, using, offering for sale or  
11 selling such servers, services of such servers, or related systems or tangible media, in or  
12 connected to the U.S., during the term of the '453 patent.

13 40. Pursuant to 35 U.S.C. § 284, Plaintiff is entitled to not less than a reasonable  
14 royalty for the use made by Defendants under the '453 patent, in an amount subject to proof at  
15 trial, together with interest and costs as fixed by the Court.

16 41. Plaintiff has complied with all applicable marking provisions of 35 U.S.C.  
17 § 287(a) during the entire term of the '453 patent.

18 42. Plaintiff is entitled to recover all past damages so sustained by Plaintiff as a result  
19 of the infringement alleged herein.

20 **COUNT II: DIRECT INFRINGEMENT OF CLAIMS**  
21 **7, 14, AND 21 OF THE '839 PATENT**

22 43. Plaintiff repeats and realleges the allegations of paragraphs 1-42 above as if fully  
23 set forth at length herein.

24 44. As with respect to the '453 patent, Defendants' systems also practiced "loading a  
25 server buffer with media data elements" (*see* ¶ 36), "sending an initial amount of streaming media  
26 data elements to the user system at an initial sending rate more rapid than the playback rate" (*see*  
27 initial fast transfer reflected in the left side of the third figure), "thereafter, sending further  
28 streaming media data elements to the user system at about the playback rate and filling the server

1 buffer or moving a data window through the server buffer at about the playback rate” (see  
2 relatively flat section on the right side of the third figure). Per observation, the “initial amount of  
3 streaming media data elements, and the initial sending rate, were sufficient for the user system to  
4 begin playing back the streaming media while the user buffer continued to fill.” Furthermore,  
5 absent interruptions, it was observed that the flat section on the right side of the third figure  
6 would continue, such that “the further streaming media data elements [were] received at about the  
7 playback rate by the user system if there are no interruptions in the transmission of streaming  
8 media data elements between the server and the user system.” Furthermore, the underlying  
9 transport was observed to be TCP, and it was both observed and understood that the system  
10 would as a result “detect[] if any interruptions in the transmission of streaming media data  
11 elements between the server and the user system have occurred such that streaming media data  
12 elements that have been sent by the server to the user system have been delayed or not received  
13 by the user system.”

14 45. Per claims 7, 14, and 21, which each incorporated the foregoing or like limitations  
15 (from claims 1, 8, and 15, respectively), “the streaming media is distributed to a plurality of user  
16 systems”; for each of the plurality of user systems, in a manner corresponding to that described in  
17 ¶ 38 with respect to the ’453 patent, Defendants’ system “maintained a record of the last  
18 streaming media data element that had been sent to the user system, and us[ed] the record to  
19 identify the next streaming media data element to be sent to the user system,” thereby directly  
20 infringing claims 7, 14, and 21, either literally or under the doctrine of equivalents.

21 46. Defendants are estopped under 35 U.S.C. § 315(d) with respect to claims 7, 14,  
22 and 21 of the ’839 patent.

23 47. Plaintiff accuses of infringement of claims 7, 14, and 21 of the ’839 patent, every  
24 server made, provisioned, operated, maintained, or used by Defendants to serve streaming media  
25 via the H5Live protocols, or other protocol using transmission of media streams over websockets  
26 and/or TCP, and every web site, whether owned or commercially affiliated, original, white-label,  
27 or otherwise, for which audio and/or video is served by said servers by way of any acts of  
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1 making, using, offering for sale or selling such servers, services of such servers, or related  
2 systems or tangible media, in or connected to the U.S., during the term of the '839 patent.

3 48. Pursuant to 35 U.S.C. § 284, Plaintiff is entitled to not less than a reasonable  
4 royalty for the use made by Defendants under the '839 patent, in an amount subject to proof at  
5 trial, together with interest and costs as fixed by the Court.

6 49. Plaintiff has complied with all applicable marking provisions of 35 U.S.C.  
7 § 287(a) during the entire term of the '839 patent.

8 50. Plaintiff is entitled to recover all past damages so sustained by Plaintiff as a result  
9 of the infringement alleged herein.

10 **COUNT III: DIRECT INFRINGEMENT OF CLAIMS**  
11 **1, 8, AND 14 OF THE '611 PATENT**

12 51. Plaintiff repeats and realleges the allegations of paragraphs 1-50 above as if fully  
13 set forth at length herein.

14 52. As with respect to claims 1, 9, and 17 of the '453 patent, Defendants' systems also  
15 practiced "sending initial streaming media elements to the user system at an initial sending rate  
16 more rapid than the playback rate, to fill the user buffer" (see ¶ 36, and see also the initial fast  
17 transfer reflected in the left side of the third figure). As observed in operation the initial streaming  
18 media elements in the amount and at the rate so received are sufficient, in the case of Defendants'  
19 systems, for the user system to begin playing back the streaming media while the user buffer  
20 continues to fill. Defendants' systems also meet the limitation wherein after the user buffer has  
21 been filled, of "sending further streaming media data elements to the user system at about the  
22 playback rate" (as reflected in the right side of the third figure above). Furthermore, as described  
23 above with respect to the '453 patent, Defendants' systems, being fed from a live source, fill the  
24 server buffer at a constant fill rate equal to the playback rate, and the sending at about the  
25 playback rate "matches the constant fill rate of a server buffer, and is received at the same rate by  
26 the user computer if there are no interruptions in the transmission of media data between the  
27 server and the user's computer," as observed during the period reflected by the relatively flat line  
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1 graphed at the right side of the third figure above. Defendants thereby infringed at least claims 1,  
2 8, and 14 of the '611 patent, either literally or under the doctrine of equivalents.

3 53. Plaintiff accuses of infringement of claims 1, 8, and 14 of the '611 patent, every  
4 server made, provisioned, operated, maintained, or used by Defendants to serve streaming media  
5 via the H5Live protocols, or other protocol using transmission of media streams over websockets  
6 and/or TCP, and every web site, whether owned or commercially affiliated, original, white-label,  
7 or otherwise, for which audio and/or video is served by said servers by way of any acts of  
8 making, using, offering for sale or selling such servers, services of such servers, or related  
9 systems or tangible media, in or connected to the U.S., during the term of the '611 patent.

10 54. Pursuant to 35 U.S.C. § 284, Plaintiff is entitled to not less than a reasonable  
11 royalty for the use made by Defendants under the '611 patent, in an amount subject to proof at  
12 trial, together with interest and costs as fixed by the Court.

13 55. Plaintiff has complied with all applicable marking provisions of 35 U.S.C.  
14 § 287(a) during the entire term of the '611 patent.

15 56. Plaintiff is entitled to recover all past damages so sustained by Plaintiff as a result  
16 of the infringement alleged herein.

#### 17 **COUNT IV: WILLFUL INFRINGEMENT**

18 57. Plaintiff repeats and realleges the allegations of paragraphs 1-56 above as if fully  
19 set forth at length herein.

20 58. Defendants were on notice of the '839 and '611 patents at least as early as the May  
21 30, 2014 filing date of the prior lawsuit asserting the '839 and '611 patents, on which date WAG  
22 also sent a demand letter to Defendants attaching the original complaint in the prior case. This  
23 notice was prior to Defendants' adopting their Websocket implementations as described above.  
24 Defendants have in the past unsuccessfully challenged the claims of those patents asserted herein  
25 in administrative proceedings and their filings in those proceedings also reflect that they were  
26 monitoring developments in the family of the '453 patent and thus also were aware of the  
27 issuance of the '453 patent on February 18, 2020. Defendants either continued their use of the  
28 Accused Protocols in deliberate disregard of their knowledge of the issuance and their own

1 infringement of the '453 patent, or were willfully blind to their infringement of the '453 patent by  
2 continued use of the Accused Protocols. In either case, Defendants were aware or should have  
3 been aware at least from the date(s) of notice as alleged herein that there was an objectively high  
4 likelihood that their actions thereafter constituted patent infringement. Defendants have no good  
5 faith basis to believe that their continuing conduct as alleged herein does not constitute patent  
6 infringement.

7 59. Defendants' infringements as alleged above was willful and deliberate, entitling  
8 Plaintiff to increased damages under 35 U.S.C. § 284.

9 60. Defendants' willful infringement further renders this an exceptional case under 35  
10 U.S.C. § 285, which entitles Plaintiff to an award of reasonable attorneys' fees.

11 **PRAYER FOR RELIEF**

12 WHEREFORE, Plaintiff WAG ACQUISITION, L.L.C. requests an entry of judgment in  
13 its favor and against Defendants as follows:

- 14 a. Declaring that Defendants have infringed one or more claims of United States  
15 Patent No. 10,567,453, claims 7, 14, and 21 of United States Patent No. 8,364,839,  
16 and at least claims 1, 8, and 14 of United States Patent No. 8,185,611 during the  
17 respective terms thereof;
- 18 b. Declaring that Defendants' infringement was willful, and awarding enhanced  
19 damages as a result of that willfulness under 35 U.S.C. § 284, against Defendants,  
20 jointly and severally;
- 21 c. Awarding to Plaintiff the past damages arising out of Defendants' infringement of  
22 United States Patent Nos. 10,567,453, 8,364,839, and 8,185,611, jointly and  
23 severally;
- 24 d. Awarding attorneys' fees, costs, or other damages pursuant to 35 U.S.C. §§ 284 or  
25 285 or as otherwise permitted by law, against the Defendants, jointly and  
26 severally;
- 27 e. Awarding costs in this action to Plaintiff; and
- 28 f. For such other and further relief as the Court may deem just and proper.



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**DEMAND FOR JURY TRIAL**

Plaintiff demands trial by jury on all issues.

DATED: November 13, 2023

RITA M. HAEUSLER  
HANNAH A. BOGEN  
HUGHES HUBBARD & REED LLP

By: /s/ Rita M. Haeusler

Rita M. Haeusler  
Attorneys for Plaintiff  
WAG ACQUISITION, L.L.C.