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9 *Attorneys for Helios Streaming, LLC,*
10 *and Ideahub, Inc.*

11 UNITED STATES DISTRICT COURT
12 CENTRAL DISTRICT OF CALIFORNIA
13 SOUTHERN DIVISION

15 HELIOS STREAMING, LLC, and
16 IDEAHUB, INC.,

17 Plaintiffs,

18 vs.

19 STARZ ENTERTAINMENT, LLC, and
20 LIONS GATE ENTERTAINMENT
21 CORP.

22 Defendants.
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) Case No.: 8:19-cv-2140

) **COMPLAINT FOR PATENT
INFRINGEMENT**

) DEMAND FOR JURY TRIAL

1 Plaintiffs Helios Streaming, LLC (“Helios”), and Ideahub, Inc. (“Ideahub”)
2 (collectively “Plaintiffs”), for its Complaint against Defendants Starz Entertainment,
3 LLC (“Starz Entertainment”) and Lions Gate Entertainment Corp. (“Lions Gate”)
4 (collectively referred to herein as “Starz” or “Defendants”), allege the following:

5 **NATURE OF THE ACTION**

6 1. This is an action for patent infringement arising under the Patent Laws of
7 the United States, 35 U.S.C. § 1 *et seq.*

8 **THE PARTIES**

9 2. Plaintiff Helios is a limited liability company organized under the laws of
10 the State of Delaware with a place of business at 9880 Irvine Center Drive, Suite 200,
11 Irvine, California 92618.

12 3. Plaintiff Ideahub is a corporation organized under the laws of the
13 Republic of Korea with a place of business at 7 Heolleungro, Seocho-gu, Seoul 06792
14 Republic of Korea.

15 4. Upon information and belief, Starz Entertainment is a limited liability
16 company organized under the laws of the State of Colorado with a place of business at
17 2700 Colorado Ave., Suite 200, Santa Monica, CA 90404. Upon information and
18 belief, Starz Entertainment sells, offers to sell, and/or uses products and services
19 throughout the United States, including in this judicial district, and introduces
20 infringing products and services into the stream of commerce knowing that they
21 would be sold and/or used in this judicial district and elsewhere in the United States.

22 5. Upon information and belief, Lions Gate is a corporation organized under
23 the laws of British Columbia with a place of business at 2700 Colorado Ave., Santa
24 Monica, CA 90404. Upon information and belief, Lions Gate sells, offers to sell,
25 and/or uses products and services throughout the United States, including in this
26 judicial district, and introduces infringing products and services into the stream of
27 commerce knowing that they would be sold and/or used in this judicial district and
28 elsewhere in the United States.

JURISDICTION AND VENUE

1
2 6. This is an action for patent infringement arising under the Patent Laws of
3 the United States, Title 35 of the United States Code.

4 7. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and
5 1338(a).

6 8. Venue is proper in this judicial district under 28 U.S.C. § 1400(b).

7 9. This Court has personal jurisdiction over Starz Entertainment under the
8 laws of the State of California, due at least to their substantial business in California
9 and in this judicial district, directly or through intermediaries, including: (i) at least a
10 portion of the infringements alleged herein; and (ii) regularly doing or soliciting
11 business, engaging in other persistent courses of conduct and/or deriving substantial
12 revenue from goods and services provided to individuals in the State of California.
13 Venue is also proper in this district because Starz Entertainment has a regular and
14 established place of business in this district. For instance, at its Los Angeles location
15 Starz Entertainment conducts operations comprising at least interactive design, digital
16 marketing, brand marketing, media strategy and planning, product management,
17 software engineering, content engagement, creative services, and general business and
18 legal affairs. (*See, e.g.*, [https://starz-](https://starz-openhire.silkroad.com/epostings/index.cfm?version=1&company_id=16761)
19 [openhire.silkroad.com/epostings/index.cfm?version=1&company_id=16761](https://starz-openhire.silkroad.com/epostings/index.cfm?version=1&company_id=16761); select
20 “California” under “State/Province/Region” and click “Perform Search.”)

21 10. This Court has personal jurisdiction over Lions Gate under the laws of
22 the State of California, due at least to their substantial business in California and in
23 this judicial district, directly or through intermediaries, including: (i) at least a portion
24 of the infringements alleged herein; and (ii) regularly doing or soliciting business,
25 engaging in other persistent courses of conduct and/or deriving substantial revenue
26 from goods and services provided to individuals in the State of California. Venue is
27 also proper in this district because Lions Gate has a regular and established place of
28

1 business in this district. For instance, Lions Gate maintains its corporate headquarters
2 in this judicial district at 2700 Colorado Ave., Santa Monica, CA 90404. (See, e.g.,
3 <http://investors.lionsgate.com/information-request/faq>; click “Where is Lionsgate’s
4 Corporate Headquarters.”)

5 **BACKGROUND**

6 11. This action involves ten patents, described in detail in the counts below
7 (collectively, the “Asserted Patents”).

8 12. U.S. Patent No. 10,270,830 (“the ’830 patent”) claims technologies for
9 providing adaptive HTTP streaming services using metadata of media content that
10 were developed in the early 2010s by joint inventors Truong Cong Thang and Jin
11 Young Lee.

12 13. U.S. Patent No. 10,277,660 (“the ’660 patent”) claims technologies for
13 providing adaptive HTTP streaming services using metadata of media content that
14 were developed in the early 2010s by inventors Truong Cong Thang, Jin Young Lee,
15 Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu, and
16 Jae Gon Kim.

17 14. U.S. Patent No. 10,313,414 (“the ’414 patent”) claims technologies for
18 providing adaptive HTTP streaming services using metadata of media content that
19 were developed in the early 2010s by joint inventors Truong Cong Thang and Jin
20 Young Lee.

21 15. U.S. Patent No. 10,356,145 (“the ’145 patent”) claims technologies for
22 providing adaptive HTTP streaming services using metadata of media content that
23 were developed in the early 2010s by joint inventors Truong Cong Thang, Jin Young
24 Lee, Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, and Won
25 Ryu.

26 16. U.S. Patent No. 10,362,130 (“the ’130 patent”) claims technologies for
27 providing adaptive HTTP streaming services using metadata of media content that
28 were developed in the early 2010s by inventors Truong Cong Thang, Jin Young Lee,

1 Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu, and
2 Jae Gon Kim.

3 17. U.S. Patent No. 10,375,373 (“the ’373 patent”) claims technologies for
4 providing adaptive HTTP streaming services using metadata of media content that
5 were developed in the early 2010s by joint inventors Jin Young Lee and Nam Ho Hur.

6 18. U.S. Patent No. 8,645,562 (“the ’562 patent”) claims technologies for
7 providing adaptive HTTP streaming services using metadata of media content that
8 were developed in the early 2010s by joint inventors Truong Cong Thang, Jin Young
9 Lee, Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu,
10 and Jae Gon Kim.

11 19. U.S. Patent No. 8,909,805 (“the ’805 patent”) claims technologies for
12 providing adaptive HTTP streaming services using metadata of media content that
13 were developed in the early 2010s by inventors Truong Cong Thang, Jin Young Lee,
14 Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu, and
15 Jae Gon Kim.

16 20. U.S. Patent No. 9,325,558 (“the ’558 patent”) claims technologies for
17 providing adaptive HTTP streaming services using metadata of media content that
18 were developed in the early 2010s by joint inventors Truong Cong Thang, Jin Young
19 Lee, Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu,
20 and Jae Gon Kim.

21 21. U.S. Patent No. 9,467,493 (“the ’493 patent”) claims technologies for
22 providing adaptive HTTP streaming services using metadata of media content that
23 were developed in the early 2010s by inventors Truong Cong Thang, Jin Young Lee,
24 Seong Jun Bae, Jung Won Kang, Soon Heung Jung, Sang Taick Park, Won Ryu, and
25 Jae Gon Kim.

26 22. The claimed inventions of the Asserted Patents were mostly invented by
27 researchers of the Electronics and Telecommunications Research Institute (“ETRI”),
28 the national leader in Korea in the research and development of information

1 technologies. Since its inception in 1976, ETRI has developed new technologies in
2 4M DRAM computer memory, CDMA and 4G LTE cellular phone communications,
3 LCD displays, Video Coding, and Media Transport & Delivery, the technology at
4 issue in this case. ETRI employs over 1,800 research/technical staff, of whom 94%
5 hold a post-graduate degree and 50% have earned a doctoral degree in their
6 technological field. Over the last five years, ETRI produced 1,524 SCI papers and has
7 467 standard experts, applied for a total of 16,062 patents, has contributed 7,309
8 proposals that have been adopted by international and domestic standard organizations
9 (ISO, IEC, ITU, 3GPP, JTC, IEEE etc.). Dr. Truong Cong Thang and Dr. Jae Gon
10 Kim among the inventors were employees of ETRI and currently Professors at the
11 University of Aizu, Japan, and Korea Aerospace University, respectively.

12 23. The Asserted Patents claim technologies fundamental to Dynamic
13 Adaptive Streaming over HTTP (“DASH”), a media-streaming model for delivering
14 media content.

15 24. DASH technology has been standardized in the ISO/IEC 23009
16 standards, which were developed and published by the International Organization for
17 Standardization (“ISO”) and the International Electrotechnical Commission (“IEC”).

18 25. The claimed inventions of the Asserted Patents have been incorporated
19 into the standard for dynamic adaptive streaming delivery of MPEG media over
20 HTTP, ISO/IEC 23009-1:2014, and subsequent versions of this standard (collectively,
21 these standards are referred to throughout as “MPEG-DASH”).

22 26. MPEG-DASH technologies, including those of the claimed inventions of
23 the Asserted Patents, facilitate high-quality streaming of media content by breaking
24 media content—a movie, for example—into smaller parts that are each made available
25 at a variety of bitrates. As a user plays back downloaded parts of the media content,
26 the user’s device employs an algorithm to select subsequent media parts with the
27 highest possible bitrate that can be downloaded in time for playback without causing
28 delays in the user’s viewing and listening experience.

1 27. The MPEG-DASH standard, including the claimed inventions of the
2 Asserted Patents, therefore enables high-quality streaming of media content over the
3 internet delivered from conventional HTTP web servers, which was not previously
4 possible on a large scale with prior art techniques and devices.

5 28. Between approximately June and August of 2018, Plaintiff Ideahub
6 acquired the Asserted Patents.

7 29. In or about August of 2018, Plaintiff Helios obtained an exclusive license
8 to the Asserted Patents.

9 **COUNT I – INFRINGEMENT OF U.S. PATENT NO. 10,270,830**

10 30. The allegations set forth in the foregoing paragraphs 1 through 29 are
11 incorporated into this First Claim for Relief.

12 31. On April 23, 2019, the '830 patent was duly and legally issued by the
13 United States Patent and Trademark Office under the title “Apparatus and Method for
14 Providing Streaming Content Using Representations.” A true and correct copy of the
15 '830 patent is attached as Exhibit 1.

16 32. Ideahub is the assignee and owner of all right, title, and interest in and to
17 the '830 patent.

18 33. Helios holds the exclusive right to assert all causes of action arising
19 under the '830 patent and the right to collect any remedies for infringement of it.

20 34. Upon information and belief, Starz has and continues to directly infringe
21 at least claims 8, 9, 12, 13, and 14, and to induce the direct infringement of at least
22 claims 1, 2, 5, 6, 7, 15, 18, 19, and 22 of the '830 patent by selling, offering to sell,
23 making, using, and/or providing and causing to be used streaming media content in
24 accordance with the MPEG-DASH standard (the “Accused Instrumentalities”),
25 including one or more videos on demand (“VOD”) such as those available at
26 <https://www.starz.com/>.

27 35. Upon information and belief, the Accused Instrumentalities perform
28 methods of providing media content performed by a server or multiple servers,

1 comprising: transmitting a Media Presentation Description (MPD) of a media content
2 to a client; receiving a request, from the client, for a segment of the media content;
3 transmitting the media content to the client, wherein the MPD includes one or more
4 periods, wherein each of the periods includes one or more adaptation sets, wherein
5 each of the adaptation sets includes one or more representations, wherein each of the
6 representations includes one or more segments, wherein the MPD includes one or
7 more attributes or elements that are common to each of the periods, each of the
8 adaptation sets, each of the representations, and each of the segments, wherein the
9 period includes one or more attributes or elements that are common to each of the
10 adaptation sets, each of the representations, and each of the segments for that period,
11 wherein the adaptation set includes one or more attributes or elements that are
12 common to each of the representations and each of the segments for that adaptation
13 set, and wherein the representation includes one or more attributes or elements that are
14 common to each of the segments for that representation.

15 36. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 8 of the '830 patent.

17 37. Upon information and belief, once a media content is selected via a client
18 of the Accused Instrumentalities, at least one server of the Accused Instrumentalities
19 transmits a Media Presentation Description (MPD) to the client. For example, when
20 "Black Sails: Ep 410" is selected from the videos available at <https://www.starz.com/>,
21 the client receives from at least one server operating on behalf of Starz, an MPD of the
22 form "dashWeb.mpd."

23 38. Upon information and belief, at least one server of the Accused
24 Instrumentalities receives a request from the client for a segment of the media content,
25 and at least one server of the Accused Instrumentalities transmits the media content to
26 the client. For example, when "Black Sails: Ep 410" is selected from the videos
27 available at <https://www.starz.com/>, at least one server operating on behalf of Starz
28

1 receives a request for a segment of “Black Sails: Ep 410,” and at least one server
2 operating on behalf of Starz transmits the requested media content to the client.

3 39. Upon information and belief, the MPD transmitted from at least one
4 server of the Accused Instrumentalities to a client includes one or more periods, and
5 each period includes one or more adaptation sets. For example, the “dashWeb.mpd”
6 MPD for “Black Sails: Ep 410” includes at least one period that includes two audio
7 adaptation sets and a video adaptation set.

8 40. Upon information and belief, each of the adaptation sets of the Accused
9 Instrumentalities includes one or more representations. For example, the video
10 adaptation set for “Black Sails: Ep 410” described immediately above includes eight
11 video representations.

12 41. Upon information and belief, each of the representations of the Accused
13 Instrumentalities includes one or more segments. For example, among the eight video
14 representations described immediately above for “Black Sails: Ep 410,” the video
15 representation “Representation id=‘8’” includes one segment.

16 42. Upon information and belief, the MPD of the Accused Instrumentalities
17 includes one or more attributes or elements that are common to each of the periods,
18 each of the adaptation sets, each of the representations, and each of the segments. For
19 example, the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes the attributes
20 of mediaPresentationDuration and minBufferTime, among others, that are common to
21 each of the periods, each of the adaptation sets, each of the representations, and each
22 of the segments within the “dashWeb.mpd” MPD.

23 43. Upon information and belief, the period of the MPD of the Accused
24 Instrumentalities includes one or more attributes or elements that are common to each
25 of the adaptation sets, each of the representations, and each of the segments for that
26 period. For example, the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes
27 the attributes of a start and a duration at the period level, and the duration at the period
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1 level is common to each hierarchical level below the period, including the adaptation
2 sets, the representations, and the segments.

3 44. Upon information and belief, the adaptation set of the Accused
4 Instrumentalities includes one or more attributes or elements that are common to each
5 of the representations and each of the segments for that adaptation set. For example,
6 the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes a video adaptation set
7 that includes elements or attributes, such as a frame rate, that are common to the
8 representations and segments within that adaptation set.

9 45. Upon information and belief, the representation of the Accused
10 Instrumentalities includes one or more attributes or elements that are common to each
11 of the segments for that representation. For example, the “dashWeb.mpd” MPD for
12 “Black Sails: Ep 410” includes a video representation that includes common elements
13 or attributes such as id, bandwidth, width, height, codecs, and BaseURL, among
14 others, and these elements or attributes are common to each of the segments for that
15 representation.

16 46. Upon information and belief, the Accused Instrumentalities directly
17 infringe claim 9 of the '830 patent.

18 47. Upon information and belief, the Accused Instrumentalities directly
19 infringe claim 8 of the '830 patent for the reasons set forth above in paragraphs 36-45.

20 48. Upon information and belief, the Accused Instrumentalities perform the
21 method of claim 8, wherein the attribute included at an adaptation set level is a
22 suggestedPresentationDelay. For example, the video adaptation set of the
23 “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes an attribute called
24 “suggestedPresentationDelay='PT25.00S'.”

25 49. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 12 of the '830 patent.

27 50. Upon information and belief, the Accused Instrumentalities directly
28 infringe claim 8 of the '830 patent for the reasons set forth above in paragraphs 36-45.

1 51. Upon information and belief, the Accused Instrumentalities perform the
2 method of claim 8, wherein the attribute included at an adaptation set level is a
3 subsegmentStartsWithSAP. For example, the video adaptation set of the
4 “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes an element called
5 “subsegmentStartsWithSAP=‘1’.”

6 52. Upon information and belief, the Accused Instrumentalities directly
7 infringe claim 13 of the ’830 patent.

8 53. Upon information and belief, the Accused Instrumentalities directly
9 infringe claim 8 of the ’830 patent for the reasons set forth above in paragraphs 36-45.

10 54. Upon information and belief, the Accused Instrumentalities perform the
11 method of claim 8, wherein the element included at a representation level is a
12 SegmentBase. For example, the video adaptation set of the “dashWeb.mpd” MPD for
13 “Black Sails: Ep 410” includes an element at the representation level called
14 “SegmentBase.”

15 55. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 14 of the ’830 patent.

17 56. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 8 of the ’830 patent for the reasons set forth above in paragraphs 36-45.

19 57. Upon information and belief, the Accused Instrumentalities perform the
20 method of claim 8, wherein the element included at a representation level is a
21 SegmentTemplate. For example, the video adaptation set of the “dashWeb.mpd”
22 MPD for “Black Sails: Ep 410” includes an element at the representation level called
23 “SegmentTemplate.”

24 58. Upon information and belief, the Accused Instrumentalities perform
25 methods of providing media content performed by a DASH (Dynamic Adaptive
26 Streaming over HTTP) client, the method comprising: receiving a Media Presentation
27 Description (MPD) of a media content; and accessing segments of the media content
28 based on information provided by the MPD, wherein the MPD includes one or more

1 periods, wherein each of the periods includes one or more adaptation sets, wherein
2 each of the adaptation sets includes one or more representations, wherein each of the
3 representations includes one or more segments, wherein the MPD includes one or
4 more attributes or elements that are common to each of the periods, each of the
5 adaptation sets, each of the representations, and each of the segments, wherein the
6 period includes one or more attributes or elements that are common to each of the
7 adaptation sets, each of the representations, and each of the segments for that period,
8 wherein the adaptation set includes one or more attributes or elements that are
9 common to each of the representations and each of the segments for that adaptation
10 set, and wherein the representation includes one or more attributes or elements that are
11 common to each of the segments for that representation.

12 59. Upon information and belief, the Accused Instrumentalities directly
13 infringe claim 1 of the '830 patent.

14 60. Upon information and belief, once a media content is selected via a client
15 of the Accused Instrumentalities, the client of the Accused Instrumentalities receives a
16 Media Presentation Description (MPD) and accesses segments of media content based
17 on information provided by the MPD. For example, when "Black Sails: Ep 410" is
18 selected from the videos available at <https://www.starz.com/>, the Starz client receives
19 an MPD of the form "dashWeb.mpd" and accesses segments of "Black Sails: Ep 410"
20 based on information provided by the "dashWeb.mpd" MPD.

21 61. Upon information and belief, the MPD received by the client of the
22 Accused Instrumentalities includes one or more periods, and each period includes one
23 or more adaptation sets. For example, the "dashWeb.mpd" MPD for "Black Sails: Ep
24 410" includes at least one period that includes two audio adaptation sets and a video
25 adaptation set.

26 62. Upon information and belief, each of the adaptation sets of the Accused
27 Instrumentalities includes one or more representations. For example, the video
28

1 adaptation set for “Black Sails: Ep 410” described immediately above includes eight
2 video representations.

3 63. Upon information and belief, each of the representations of the Accused
4 Instrumentalities includes one or more segments. For example, among the five video
5 representations described immediately above for “Black Sails: Ep 410,” the video
6 representation “Representation id=‘8’” includes one segment.

7 64. Upon information and belief, the MPD of the Accused Instrumentalities
8 includes one or more attributes or elements that are common to each of the periods,
9 each of the adaptation sets, each of the representations, and each of the segments. For
10 example, the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes the attributes
11 of mediaPresentationDuration and minBufferTime, among others, that are common to
12 each of the periods, each of the adaptation sets, each of the representations, and each
13 of the segments within the “dashWeb.mpd” MPD.

14 65. Upon information and belief, the period of the MPD of the Accused
15 Instrumentalities includes one or more attributes or elements that are common to each
16 of the adaptation sets, each of the representations, and each of the segments for that
17 period. For example, the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes
18 the attributes of a start and a duration at the period level, and the duration at the period
19 level is common to each hierarchical level below the period, including the adaptation
20 sets, the representations, and the segments.

21 66. Upon information and belief, the adaptation set of the Accused
22 Instrumentalities includes one or more attributes or elements that are common to each
23 of the representations and each of the segments for that adaptation set. For example,
24 the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes a video adaptation set
25 that includes elements or attributes, such as a frame rate, that are common to the
26 representations and segments within that adaptation set.

27 67. Upon information and belief, the representation of the Accused
28 Instrumentalities includes one or more attributes or elements that are common to each

1 of the segments for that representation. For example, the “dashWeb.mpd” MPD for
2 “Black Sails: Ep 410” includes a video representation that includes common elements
3 or attributes such as id, bandwidth, width, height, codecs, and BaseURL, among
4 others, and these elements or attributes are common to each of the segments for that
5 representation.

6 68. Upon information and belief, the Accused Instrumentalities directly
7 infringe claim 2 of the ’830 patent.

8 69. Upon information and belief, the Accused Instrumentalities directly
9 infringe claim 1 of the ’830 patent for the reasons set forth above in paragraphs 59-67.

10 70. Upon information and belief, the Accused Instrumentalities perform the
11 method of claim 1, wherein the attribute included at an adaptation set level is a
12 suggestedPresentationDelay. For example, the video adaptation set of the
13 “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes an attribute called
14 “suggestedPresentationDelay=‘PT25.00S’.”

15 71. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 5 of the ’830 patent.

17 72. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 1 of the ’830 patent for the reasons set forth above in paragraphs 59-67.

19 73. Upon information and belief, the Accused Instrumentalities perform the
20 method of claim 1, wherein the attribute included at an adaptation set level is a
21 subsegmentStartsWithSAP. For example, the video adaptation set of the
22 “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes an element called
23 “subsegmentStartsWithSAP=‘1’.”

24 74. Upon information and belief, the Accused Instrumentalities directly
25 infringe claim 6 of the ’830 patent.

26 75. Upon information and belief, the Accused Instrumentalities directly
27 infringe claim 1 of the ’830 patent for the reasons set forth above in paragraphs 59-67.
28

1 76. Upon information and belief, the Accused Instrumentalities perform the
2 method of claim 1, wherein the element included at a representation level is a
3 SegmentBase. For example, the video adaptation set of the “dashWeb.mpd” MPD for
4 “Black Sails: Ep 410” includes an element at the representation level called
5 “SegmentBase.”

6 77. Upon information and belief, the Accused Instrumentalities directly
7 infringe claim 7 of the '830 patent.

8 78. Upon information and belief, the Accused Instrumentalities directly
9 infringe claim 1 of the '830 patent for the reasons set forth above in paragraphs 59-67.

10 79. Upon information and belief, the Accused Instrumentalities perform the
11 method of claim 1, wherein the element included at a representation level is a
12 SegmentTemplate. For example, the video adaptation set of the “dashWeb.mpd”
13 MPD for “Black Sails: Ep 410” includes an element at the representation level called
14 “SegmentTemplate.”

15 80. Upon information and belief, the Accused Instrumentalities perform
16 methods of providing media content performed by a DASH (Dynamic Adaptive
17 Streaming over HTTP) client, the method comprising: receiving a Media Presentation
18 Description (MPD) of a media content; and accessing segments of the media content
19 based on information provided by the MPD, wherein the MPD includes one or more
20 periods, wherein each of the periods includes one or more adaptation sets, wherein
21 each of the adaptation sets includes one or more representations, wherein each of the
22 representations includes one or more segments, wherein information on a location,
23 availability or property for the one or more segments in a representation are comprised
24 in a SegmentBase element.

25 81. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 15 of the '830 patent.

27 82. Upon information and belief, once a media content is selected via a client
28 of the Accused Instrumentalities, the client of the Accused Instrumentalities receives a

1 Media Presentation Description (MPD) and accesses segments of media content based
2 on information provided by the MPD. For example, when “Black Sails: Ep 410” is
3 selected from the videos available at <https://www.starz.com/>, the Starz client receives
4 an MPD of the form “dashWeb.mpd” and accesses segments of “Black Sails: Ep 410”
5 based on information provided by the “dashWeb.mpd” MPD.

6 83. Upon information and belief, the MPD received by the client of the
7 Accused Instrumentalities includes one or more periods, and each period includes one
8 or more adaptation sets. For example, the “dashWeb.mpd” MPD for “Black Sails: Ep
9 410” includes at least one period that includes two audio adaptation sets and a video
10 adaptation set.

11 84. Upon information and belief, each of the adaptation sets of the Accused
12 Instrumentalities includes one or more representations. For example, the video
13 adaptation set for “Black Sails: Ep 410” described immediately above includes eight
14 video representations.

15 85. Upon information and belief, each of the representations of the Accused
16 Instrumentalities includes one or more segments. For example, among the eight video
17 representations described immediately above for “Black Sails: Ep 410,” the video
18 representation “Representation id=‘8’” includes one segment.

19 86. Upon information and belief, the MPD of the Accused Instrumentalities
20 comprises information on a location, availability or property for the one or more
21 segments in a representation that are comprised in a SegmentBase element. For
22 example, the “dashWeb.mpd” MPD for “Black Sails: Ep 410” includes information on
23 the location, availability and property of the segment through the “SegmentBase”
24 element, and this information includes an indexRange and an initialization range,
25 among other information.

26 87. Upon information and belief, the Accused Instrumentalities directly
27 infringe claim 18 of the ’830 patent.
28

1 88. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 15 of the '830 patent for the reasons set forth above in paragraphs 81-
3 86.

4 89. Upon information and belief, the Accused Instrumentalities perform the
5 method of claim 15, wherein the SegmentBase element is included at a representation
6 level. For example, the "SegmentBase" element of the video adaptation set of the
7 "dashWeb.mpd" MPD for "Black Sails: Ep 410" is included at the representation
8 level.

9 90. Upon information and belief, the Accused Instrumentalities perform
10 methods of providing media content performed by a DASH (Dynamic Adaptive
11 Streaming over HTTP) client, the method comprising: receiving a Media Presentation
12 Description (MPD) of a media content; and accessing segments of the media content
13 based on information provided by the MPD, wherein the MPD includes one or more
14 periods, wherein each of the periods includes one or more adaptation sets, wherein
15 each of the adaptation sets includes one or more representations, wherein each of the
16 representations includes one or more segments, wherein information on a location,
17 availability or property for the one or more segments in a representation are comprised
18 in a SegmentTemplate element.

19 91. Upon information and belief, the Accused Instrumentalities directly
20 infringe claim 19 of the '830 patent.

21 92. Upon information and belief, once a media content is selected via a client
22 of the Accused Instrumentalities, the client of the Accused Instrumentalities receives a
23 Media Presentation Description (MPD) and accesses segments of media content based
24 on information provided by the MPD. For example, when "American Gods Ep 206"
25 is selected from the videos available at <https://www.starz.com/>, the Starz client
26 receives an MPD of the form "starz-cenc.mpd" and accesses segments of "American
27 Gods Ep 206" based on information provided by the "starz-cenc.mpd" MPD.
28

1 93. Upon information and belief, the MPD received by the client of the
2 Accused Instrumentalities includes one or more periods, and each period includes one
3 or more adaptation sets. For example, the “starz-cenc.mpd” MPD for “American
4 Gods Ep 206” includes at least one period that includes an audio adaptation set and a
5 video adaptation set.

6 94. Upon information and belief, each of the adaptation sets of the Accused
7 Instrumentalities includes one or more representations. For example, the audio
8 adaptation set for “American Gods Ep 206” described immediately above includes
9 five audio representations.

10 95. Upon information and belief, each of the representations of the Accused
11 Instrumentalities includes one or more segments. For example, among the five audio
12 representations described immediately above for “American Gods Ep 206,” the audio
13 representation “Representation id=‘8’” includes at least one segment.

14 96. Upon information and belief, the MPD of the Accused Instrumentalities
15 comprises information on a location, availability or property for the one or more
16 segments in a representation that are comprised in a SegmentTemplate element. For
17 example, the “starz-cenc.mpd” MPD for “American Gods Ep 206” includes
18 information on the location, availability and property of the segment through the
19 “SegmentTemplate” element, and this information includes timescale, media,
20 initialization, and SegmentTimeline, among other information.

21 97. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 22 of the ’830 patent.

23 98. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 19 of the ’830 patent for the reasons set forth above in paragraphs 91-
25 96.

26 99. Upon information and belief, the Accused Instrumentalities perform the
27 method of claim 19, wherein the SegmentTemplate element is included at
28 representation level. For example, the video adaptation set of the “starz-cenc.mpd”

1 MPD for “American Gods Ep 206” includes an element called “SegmentTemplate” at
2 the representation set level.

3 100. On information and belief, the Accused Instrumentalities have been used
4 to infringe and continue to directly infringe at least claims 1, 2, 5, 6, 7, 8, 9, 12, 13,
5 14, 15, 18, 19, and 22 of the ’830 patent during the pendency of the ’830 patent.

6 101. Since at least time of receiving this Complaint, Starz has had actual
7 notice that it is directly infringing and/or inducing the infringement of the ’830 patent.

8 102. On information and belief, the Accused Instrumentalities are used,
9 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
10 customers, and end users across the country and in this District.

11 103. Upon information and belief, since at least time of receiving this
12 Complaint, Starz has induced and continues to induce others to infringe at least claims
13 1, 2, 5, 6, 7, 15, 18, 19, and 22 of the ’830 patent under 35 U.S.C. § 271(b) by, among
14 other things, and with specific intent or willful blindness, actively aiding and abetting
15 others to infringe, including but not limited to Starz’s partners and customers, whose
16 use of the Accused Instrumentalities constitutes direct infringement of at least claims
17 1, 2, 5, 6, 7, 15, 18, 19, and 22 of the ’830 patent.

18 104. In particular, Starz’s actions that aid and abet others such as their partners
19 and customers to infringe include distributing the Accused Instrumentalities and
20 providing materials and/or services related to the Accused Instrumentalities. On
21 information and belief, Starz has engaged in such actions with specific intent to cause
22 infringement or with willful blindness to the resulting infringement because Starz has
23 had actual knowledge of the ’830 patent and that its acts were inducing infringement
24 of the ’830 patent since at least time of receiving this Complaint.

25 105. On information and belief, Starz’s infringement has been and continues
26 to be willful.

27 106. Plaintiffs have been harmed by Starz’s infringing activities.
28

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 10,277,660

107. The allegations set forth in the foregoing paragraphs 1 through 106 are incorporated into this Second Claim for Relief.

108. On April 30, 2019, the '660 patent was duly and legally issued by the United States Patent and Trademark Office under the title “Apparatus and Method for Providing Streaming Content.” A true and correct copy of the '660 patent is attached as Exhibit 2.

109. Ideahub is the assignee and owner of all right, title, and interest in and to the '660 patent.

110. Helios holds the exclusive right to assert all causes of action arising under the '660 patent and the right to collect any remedies for infringement of it.

111. Upon information and belief, Starz has and continues to directly infringe at least claims 20 and 21 of the '660 patent by selling, offering to sell, making, using, and/or providing and causing to be used streaming media content in accordance with the MPEG-DASH standard (the “Accused Instrumentalities”), including one or more videos on demand (“VOD”) such as those available at <https://www.starz.com/>.

112. Upon information and belief, the Accused Instrumentalities are used to perform methods for providing media content performed by a server or multiple servers, comprising: receiving, from a client, a Uniform Resource Locator (URL) request for a segment of the media content based on a metadata of the media content, wherein the metadata comprises a BaseURL element; and sending the requested segment to the client; wherein when the metadata does not comprise a sourceURL attribute of the requested segment, the BaseURL element is used to replace the sourceURL attribute, so that the URL is generated.

113. Upon information and belief, the Accused Instrumentalities directly infringe claim 20 of the '660 patent.

114. Upon information and belief, once a media content is selected via a client of the Accused Instrumentalities, at least one server of the Accused Instrumentalities

1 receives, from a client, a Uniform Resource Locator (URL) request for a segment of
2 the media content based on a metadata of the media content, wherein the metadata
3 comprises a BaseURL element, and the server sends the requested segment to the
4 client. For example, after a client selects “Power Ep 101” from the videos available at
5 <https://www.starz.com/>, at least one server operating on behalf of Starz receives, from
6 the client, a URL request for video and audio segments of “Power Ep 101” based on
7 metadata, comprising a BaseURL element, from the “dashWeb.mpd” for “Power Ep
8 101” sent from the server to the client. The server then sends the requested segment to
9 the client.

10 115. Upon information and belief, when the metadata does not comprise a
11 sourceURL attribute of the requested segment, the BaseURL element is used to
12 replace the sourceURL attribute, so that the URL is generated. For example,
13 “Representation id=‘8’” of the “dashWeb.mpd” for “Power Ep 101” does not define a
14 sourceURL attribute, so the sourceURL is replaced by BaseURL element “84ddf578-
15 63c6-478b-8cda-0025bbae365f_hd14.mp4” and the URL is generated.

16 116. Upon information and belief, the Accused Instrumentalities are used to
17 perform methods for providing media content performed by a server or multiple
18 servers, comprising: receiving, from a client, a Uniform Resource Locator (URL)
19 request for a segment of the media content based on a metadata, wherein the metadata
20 comprises multiple BaseURL elements; and sending the requested segment to the
21 client; wherein when the metadata does not comprise a sourceURL attribute of the
22 requested segment, a BaseURL element among the multiple BaseURL elements is
23 used to replace the sourceURL attribute, so that the URL is generated.

24 117. Upon information and belief, the Accused Instrumentalities directly
25 infringe claim 21 of the ’660 patent.

26 118. Upon information and belief, once a media content is selected via a client
27 of the Accused Instrumentalities, at least one server of the Accused Instrumentalities
28 receives, from a client, a Uniform Resource Locator (URL) request for a segment of

1 the media content based on a metadata of the media content, wherein the metadata
2 comprises multiple BaseURL elements; and the server sends the requested segment to
3 the client. For example, after a client selects “Power Ep 101” from the videos
4 available at <https://www.starz.com/>, at least one server operating on behalf of Starz
5 receives, from the client, a URL request for video and audio segments of “Power Ep
6 101” based on metadata, comprising multiple BaseURL elements, from the
7 “dashWeb.mpd” for “Power Ep 101” sent from the server to the client. The server
8 then sends the requested segment to the client.

9 119. Upon information and belief, when the metadata does not comprise a
10 sourceURL attribute of the requested segment, a BaseURL element among the
11 multiple BaseURL elements is used to replace the sourceURL attribute, so that the
12 URL is generated. For example, “Representation id=‘8’” of the “dashWeb.mpd” for
13 “Power Ep 101” does not define a sourceURL attribute, so the sourceURL is replaced
14 by BaseURL element “84ddf578-63c6-478b-8cda-0025bbae365f_hd14.mp4” and the
15 URL is generated.

16 120. On information and belief, the Accused Instrumentalities have been used
17 to infringe and continue to directly infringe at least claims 20 and 21 of the ’660
18 patent during the pendency of the ’660 patent.

19 121. Since at least the time of receiving this Complaint Starz has had actual
20 notice that it is directly infringing the ’660 patent.

21 122. On information and belief, the Accused Instrumentalities are used,
22 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
23 customers, and end users across the country and in this District.

24 123. On information and belief, Starz’s infringement has been and continues
25 to be willful.

26 124. Plaintiffs have been harmed by Starz’s infringing activities.
27
28

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 10,313,414

125. The allegations set forth in the foregoing paragraphs 1 through 124 are incorporated into this Third Claim for Relief.

126. On June 4, 2019, the '414 patent was duly and legally issued by the United States Patent and Trademark Office under the title “Apparatus and Method for Providing Streaming Content Using Representations.” A true and correct copy of the '414 patent is attached as Exhibit 3.

127. Ideahub is the assignee and owner of all right, title, and interest in and to the '414 patent.

128. Helios holds the exclusive right to assert all causes of action arising under the '414 patent and the right to collect any remedies for infringement of it.

129. Upon information and belief, Starz has and continues to directly infringe at least claims 11, 18, 21, 24, 25, and 28, and to induce the direct infringement of at least claims 1 and 8 of the '414 patent by selling, offering to sell, making, using, and/or providing and causing to be used streaming media content in accordance with the MPEG-DASH standard (the “Accused Instrumentalities”), including one or more videos on demand (“VOD”) such as those available at <https://www.starz.com/>.

130. Upon information and belief, the Accused Instrumentalities perform methods of providing media content performed by a server or multiple servers, comprising: transmitting a Media Presentation Description (MPD) of a media content to a client; receiving a request, from the client, for a segment of the media content; transmitting the media content to the client, wherein the MPD includes one or more periods, wherein each of the periods includes one or more adaptation sets, wherein each of the adaptation sets includes one or more representations, wherein each of the representations includes one or more segments, wherein the MPD, the period, the adaptation set, the representation or the segments includes one or more attributes or elements, and, wherein the adaptation set includes one or more attributes or elements that are common to each of the representations for that adaptation set.

1 131. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 11 of the '414 patent.

3 132. Upon information and belief, once a media content is selected via a client
4 of the Accused Instrumentalities, at least one server of the Accused Instrumentalities
5 transmits a Media Presentation Description (MPD) of a media content to the client.
6 For example, when the media content "Life" is selected from the videos available at
7 <https://www.starz.com/>, at least one server operating on behalf of Starz transmits an
8 MPD of "Life" of the form "dashWeb.mpd" to the client.

9 133. Upon information and belief, at least one server of the Accused
10 Instrumentalities receives a request from the client for a segment of the media content,
11 and at least one server of the Accused Instrumentalities transmits the media content to
12 the client. For example, when "Life" is selected from the videos available at
13 <https://www.starz.com/>, at least one server operating on behalf of Starz receives a
14 request from the client for a segment of "Life," and at least one server operating on
15 behalf of Starz transmits the requested media content to the client.

16 134. Upon information and belief, the MPD transmitted from at least one
17 server of the Accused Instrumentalities to a client includes one or more periods, and
18 each period includes one or more adaptation sets. For example, the "dashWeb.mpd"
19 MPD for "Life" includes at least one period that includes two audio adaptation sets
20 and a video adaptation set.

21 135. Upon information and belief, each of the adaptation sets of the Accused
22 Instrumentalities includes one or more representations. For example, the video
23 adaptation set for "Life" described immediately above includes eight video
24 representations.

25 136. Upon information and belief, each of the representations of the Accused
26 Instrumentalities includes one or more segments. For example, among the eight video
27 representations described immediately above for "Life," the video representation at
28 the 3000K bandwidth includes a segment.

1 137. Upon information and belief, the MPD, the period, the adaptation set, the
2 representation, or the segments of the Accused Instrumentalities includes one or more
3 attributes or elements. For example, the MPD for “Life” includes attributes or
4 elements such as “type,” “mediaPresentationDuration,” and “minBufferTime”; the
5 period for “Life” includes the attributes or elements of “start,” “duration,” and “id.”;
6 the video adaptation set for “Life” includes attributes or elements such as
7 “mimeType,” “framerate,” and “segmentAlignment”; and the representation for “Life”
8 includes attributes or elements such as “bandwidth,” “width,” “height,” and “codecs.”

9 138. Upon information and belief, the adaptation set of the Accused
10 Instrumentalities includes one or more attributes or elements that are common to each
11 of the representations for that adaptation set. For example, the “dashWeb.mpd” MPD
12 for “Life” includes a video adaptation set that includes attributes or elements such as
13 the mimeType of “video/mp4” and the framerate of “2400/1001” that are common to
14 all the representations in the video adaptation set.

15 139. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 18 of the ’414 patent.

17 140. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 11 of the ’414 patent for the reasons set forth above in paragraphs 131-
19 138.

20 141. Upon information and belief, the Accused Instrumentalities perform the
21 method of claim 11, wherein the attribute included at a representation level is an
22 audioSampleRate, wherein the audioSampleRate specifies a sampling rate of an audio
23 media component type. For example, the “dashWeb.mpd” MPD for “Life” includes
24 the attribute “audioSamplingRate=‘48000’” at the representation level that specifies a
25 sampling rate of an audio media component type.

26 142. Upon information and belief, the Accused Instrumentalities perform
27 methods of providing media content performed by a server or multiple servers,
28 comprising: transmitting a Media Presentation Description (MPD) of a media content

1 to a client; receiving a request, from the client, for a segment of the media content;
2 transmitting the media content to the client, wherein the MPD includes one or more
3 periods, wherein each of the periods includes one or more adaptation sets, wherein
4 each of the adaptation sets includes one or more representations, wherein each of the
5 representations includes one or more segments, and wherein information on a
6 location, availability or property for the one or more segments in a representation is
7 comprised in a SegmentBase element.

8 143. Upon information and belief, the Accused Instrumentalities directly
9 infringe claim 21 of the '414 patent.

10 144. Upon information and belief, once a media content is selected via a client
11 of the Accused Instrumentalities, at least one server of the Accused Instrumentalities
12 transmits a Media Presentation Description (MPD) of a media content to the client.
13 For example, when the media content "Life" is selected from the videos available at
14 <https://www.starz.com/>, at least one server operating on behalf of Starz transmits an
15 MPD of "Life" of the form "dashWeb.mpd" to the client.

16 145. Upon information and belief, at least one server of the Accused
17 Instrumentalities receives a request from the client for a segment of the media content,
18 and at least one server of the Accused Instrumentalities transmits the media content to
19 the client. For example, when "Life" is selected from the videos available at
20 <https://www.starz.com/>, at least one server operating on behalf of Starz receives a
21 request from the client for a segment of "Life," and at least one server operating on
22 behalf of Starz transmits the requested media content to the client.

23 146. Upon information and belief, the MPD transmitted from at least one
24 server of the Accused Instrumentalities to a client includes one or more periods, and
25 each period includes one or more adaptation sets. For example, the "dashWeb.mpd"
26 MPD for "Life" includes at least one period that includes two audio adaptation sets
27 and a video adaptation set.

28

1 147. Upon information and belief, each of the adaptation sets of the Accused
2 Instrumentalities includes one or more representations. For example, the video
3 adaptation set for “Life” described immediately above includes eight video
4 representations.

5 148. Upon information and belief, each of the representations of the Accused
6 Instrumentalities includes one or more segments. For example, among the eight video
7 representations described immediately above for “Life,” the video representation at
8 the 3000K bandwidth includes a segment.

9 149. Upon information and belief, the MPD of the Accused Instrumentalities
10 comprises information on a location, availability or property for the one or more
11 segments in a representation that are comprised in a SegmentBase element. For
12 example, the “dashWeb.mpd” MPD for “Life” includes information on the location,
13 availability and property of the segment in a representation through the
14 “SegmentBase” element, which includes an indexRange and an initialization range.

15 150. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 24 of the ’414 patent.

17 151. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 21 of the ’414 patent for the reasons set forth above in paragraphs 143-
19 149.

20 152. Upon information and belief, the Accused Instrumentalities perform the
21 method of claim 21, wherein the SegmentBase element is included at a representation
22 level. For example, the “SegmentBase” element is included at a representation level
23 in the “dashWeb.mpd” MPD for “Life.”

24 153. Upon information and belief, the Accused Instrumentalities perform
25 methods of providing media content performed by a server or multiple servers,
26 comprising: transmitting a Media Presentation Description (MPD) of a media content
27 to a client; receiving a request, from the client, for a segment of the media content;
28 transmitting the media content to the client, wherein the MPD includes one or more

1 periods, wherein each of the periods includes one or more adaptation sets, wherein
2 each of the adaptation sets includes one or more representations, wherein each of the
3 representations includes one or more segments, and wherein information on a
4 location, availability or property for the one or more segments in a representation is
5 comprised in a SegmentTemplate element.

6 154. Upon information and belief, the Accused Instrumentalities directly
7 infringe claim 25 of the '414 patent.

8 155. Upon information and belief, once a media content is selected via a client
9 of the Accused Instrumentalities, at least one server of the Accused Instrumentalities
10 transmits a Media Presentation Description (MPD) of a media content to the client.
11 For example, when the media content "American Gods EP 206" is selected from the
12 videos available at <https://www.starz.com/>, at least one server operating on behalf of
13 Starz transmits an MPD of "American Gods EP 206" of the form "starz-cenc.mpd" to
14 the client.

15 156. Upon information and belief, at least one server of the Accused
16 Instrumentalities receives a request from the client for a segment of the media content,
17 and at least one server of the Accused Instrumentalities transmits the media content to
18 the client. For example, when "American Gods EP 206" is selected from the videos
19 available at <https://www.starz.com/>, at least one server operating on behalf of Starz
20 receives a request from the client for a segment of "American Gods EP 206," and at
21 least one server operating on behalf of Starz transmits the requested media content to
22 the client.

23 157. Upon information and belief, the MPD transmitted from at least one
24 server of the Accused Instrumentalities to a client includes one or more periods, and
25 each period includes one or more adaptation sets. For example, the "starz-cenc.mpd"
26 MPD for "American Gods EP 206" includes at least one period that includes an audio
27 adaptation set and a video adaptation set.

28

1 158. Upon information and belief, each of the adaptation sets of the Accused
2 Instrumentalities includes one or more representations. For example, the video
3 adaptation set for “American Gods EP 206” described immediately above includes
4 five audio representations.

5 159. Upon information and belief, each of the representations of the Accused
6 Instrumentalities includes one or more segments. For example, among the five audio
7 representations described immediately above for “American Gods EP 206,” the audio
8 representation “id=‘8’” includes at least one segment.

9 160. Upon information and belief, the MPD of the Accused Instrumentalities
10 comprises information on a location, availability or property for the one or more
11 segments in a representation that are comprised in a SegmentTemplate element. For
12 example, the “starz-cenc.mpd” MPD for “American Gods EP 206” includes
13 information on the location, availability and property of the segment in a
14 representation through the “SegmentTemplate” element, which includes information
15 such as timescale, media, initialization, and SegmentTimeline, among other
16 information.

17 161. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 28 of the ’414 patent.

19 162. Upon information and belief, the Accused Instrumentalities directly
20 infringe claim 25 of the ’414 patent for the reasons set forth above in paragraphs 154-
21 160.

22 163. Upon information and belief, the Accused Instrumentalities perform the
23 method of claim 25, wherein the SegmentTemplate element is included at a
24 representation level. For example, for “American Gods EP 206” the
25 SegmentTemplate element is included at a representation level.

26 164. Upon information and belief, the Accused Instrumentalities perform
27 methods of providing media content performed by a DASH (Dynamic Adaptive
28 Streaming over HTTP) client, the method comprising: receiving a Media Presentation

1 Description (MPD) of a media content; and accessing segments of the media content
2 based on information provided by the MPD, wherein the MPD includes one or more
3 periods, wherein each of the periods includes one or more adaptation sets, wherein
4 each of the adaptation sets includes one or more representations, wherein each of the
5 representations includes one or more segments, wherein the MPD, the period, the
6 adaptation set, the representation, or the segments includes one or more attributes or
7 elements, and wherein the adaptation set includes one or more attributes or elements
8 that are common to each of the representations for that adaptation set.

9 165. Upon information and belief, the Accused Instrumentalities directly
10 infringe claim 1 of the '414 patent.

11 166. Upon information and belief, once a media content is selected via a client
12 of the Accused Instrumentalities, the client of the Accused Instrumentalities receives a
13 Media Presentation Description (MPD) and accesses segments of media content based
14 on information provided by the MPD. For example, when "Life" is selected from the
15 videos available at <https://www.starz.com/>, the Starz client receives an MPD of the
16 form "dashWeb.mpd" and accesses segments of "Life" based on information provided
17 by the "dashWeb.mpd" MPD.

18 167. Upon information and belief, the MPD received by the client of the
19 Accused Instrumentalities includes one or more periods, and each period includes one
20 or more adaptation sets. For example, the "dashWeb.mpd" MPD for "Life" includes
21 at least one period that includes two audio adaptation sets and a video adaptation set.

22 168. Upon information and belief, each of the adaptation sets of the Accused
23 Instrumentalities includes one or more representations. For example, the video
24 adaptation set for "Life" described immediately above includes eight video
25 representations.

26 169. Upon information and belief, each of the representations of the Accused
27 Instrumentalities includes one or more segments. For example, among the eight video
28

1 representations described immediately above for “Life,” the video representation at
2 the 3000K bandwidth includes a segment.

3 170. Upon information and belief, the MPD, the period, the adaptation set, the
4 representation, or the segments of the Accused Instrumentalities includes one or more
5 attributes or elements. For example, the MPD for “Life” includes attributes or
6 elements such as “type,” “mediaPresentationDuration,” and “minBufferTime”; the
7 period for “Life” includes the attributes or elements such as “start,” “duration,” and
8 “id”; the video adaptation set for “Life” includes attributes or elements such as
9 “mimeType,” “framerate,” and “segmentAlignment”; and the representation for “Life”
10 includes attributes or elements such as “id,” “bandwidth,” “width,” “height,” and
11 “codecs.”

12 171. Upon information and belief, the adaptation set of the Accused
13 Instrumentalities includes one or more attributes or elements that are common to each
14 of the representations for that adaptation set. For example, the “dashWeb.mpd” MPD
15 for “Life” includes a video adaptation set that includes attributes or elements such as
16 the mimeType of “video/mp4” that is shared by all the representations in the video
17 adaptation set.

18 172. Upon information and belief, the Accused Instrumentalities directly
19 infringe claim 8 of the ’414 patent.

20 173. Upon information and belief, the Accused Instrumentalities directly
21 infringe claim 1 of the ’414 patent for the reasons set forth above in paragraphs 165-
22 171.

23 174. Upon information and belief, the Accused Instrumentalities perform the
24 method of claim 1, wherein the attribute included at a representation level is an
25 audioSampleRate, wherein the audioSampleRate specifies a sampling rate of an audio
26 media component type. For example, the “dashWeb.mpd” MPD for “Life” includes at
27 a representation level the attribute “audioSamplingRate=‘48000’” that specifies a
28 sampling rate of an audio media component type.

1 175. On information and belief, the Accused Instrumentalities have been used
2 to infringe and continue to directly infringe at least claims 1, 8, 11, 18, 21, 24, 25, and
3 28 of the '414 patent during the pendency of the '414 patent.

4 176. Since at least the time of receiving this Complaint, Starz has had actual
5 notice that it is directly infringing and/or inducing the infringement of the '414 patent.

6 177. On information and belief, the Accused Instrumentalities are used,
7 marketed, provided to, and/or used by or for each of Defendant's partners, clients,
8 customers, and end users across the country and in this District.

9 178. Upon information and belief, since at least the time of receiving this
10 Complaint, Starz has induced and continues to induce others to infringe at least claims
11 1 and 8 of the '414 patent under 35 U.S.C. § 271(b) by, among other things, and with
12 specific intent or willful blindness, actively aiding and abetting others to infringe,
13 including but not limited to Starz's partners and customers, whose use of the Accused
14 Instrumentalities constitutes direct infringement of at least claims 1 and 8 of the '414
15 patent.

16 179. In particular, Starz's actions that aid and abet others such as their partners
17 and customers to infringe include distributing the Accused Instrumentalities and
18 providing materials and/or services related to the Accused Instrumentalities. On
19 information and belief, Starz has engaged in such actions with specific intent to cause
20 infringement or with willful blindness to the resulting infringement because Starz has
21 had actual knowledge of the '414 patent and that its acts were inducing infringement
22 of the '414 patent since at least the time of receiving this Complaint.

23 180. On information and belief, Starz's infringement has been and continues
24 to be willful.

25 181. Plaintiffs have been harmed by Starz's infringing activities.

26 **COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 10,356,145**

27 182. The allegations set forth in the foregoing paragraphs 1 through 181 are
28 incorporated into this Fourth Claim for Relief.

1 183. On July 16, 2019, the '145 Patent was duly and legally issued by the
2 United States Patent and Trademark Office under the title "Method and Device for
3 Providing Streaming Content." A true and correct copy of the '145 patent is attached
4 as Exhibit 4.

5 184. Ideahub is the assignee and owner of all right, title, and interest in and to
6 the '145 patent.

7 185. Helios holds the exclusive right to assert all causes of action arising
8 under the '145 patent and the right to collect any remedies for infringement of it.

9 186. Upon information and belief, Starz has and continues to directly infringe
10 at least claims 1, 2, 11, 13, 14, and 15, and to induce the direct infringement of at least
11 claims 3, 4, 5, 7, 8, 9, 17, and 18 of the '145 patent by selling, offering to sell, making,
12 using, and/or providing and causing to be used streaming media content (the "Accused
13 Instrumentalities"), including one or more videos on demand ("VOD") such as those
14 available at <https://www.starz.com/>.

15 187. Upon information and belief, the Accused Instrumentalities perform
16 methods of providing media content performed by a server or multiple servers,
17 comprising: receiving a request for the media content from a client based on a media
18 presentation description (MPD) with respect to the media content; and providing a
19 segment of media content through streaming to the client in response to the request,
20 wherein the MPD includes one or more periods, wherein the period includes one or
21 more groups, wherein the group includes one or more representations, wherein the
22 representation includes one or more segments, wherein the group includes one or
23 more group elements for each of the groups, and wherein a group element provides a
24 summary of values of all representations with a group.

25 188. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 1 of the '145 patent.

27 189. Upon information and belief, at least one server of the Accused
28 Instrumentalities receives a request for media content from a client based on a media

1 presentation description (MPD) with respect to the media content and provides a
2 segment of media content through streaming to the client in response to the request.
3 For example, when “Far and Away” is selected from the videos available at
4 <https://www.starz.com/>, at least one server operating on behalf of Starz receives a
5 request from the client for a segment of “Far and Away” and, in response to the
6 request, provides a segment of media content through streaming to the client.

7 190. Upon information and belief, the MPD transmitted from at least one
8 server of the Accused Instrumentalities to a client includes one or more periods, and
9 each period includes one or more groups. For example, the “dashWeb.mpd” MPD for
10 “Far and Away” includes at least one period that includes two groups: two audio
11 adaptation sets and a video adaptation set.

12 191. Upon information and belief, each group of the Accused Instrumentalities
13 includes one or more representations. For example, the video adaptation set for “Far
14 and Away” described immediately above includes eight video representations.

15 192. Upon information and belief, each of the representations of the Accused
16 Instrumentalities includes one or more segments. For example, among the eight video
17 representations described immediately above for “Far and Away,” the video
18 representation at the 3000K bandwidth includes a segment.

19 193. Upon information and belief, each group of the Accused Instrumentalities
20 includes one or more group elements for each of the groups. For example, the video
21 adaptation set for “Far and Away,” includes one or more group elements, such as
22 mimeType and framerate, among others.

23 194. Upon information and belief, a group element of the Accused
24 Instrumentalities provides a summary of values of all representations with a group.
25 For example, the video representations within the video adaptation set for “Far and
26 Away” all have the same mimeType, “video/mp4,” which provides a summary of
27 values of all these representations within the video adaptation set.

28

1 195. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 2 of the '145 patent.

3 196. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 1 of the '145 patent for the reasons set forth above in paragraphs 188-
5 194.

6 197. Upon information and belief, the Accused Instrumentalities perform the
7 method of claim 1, wherein the group element includes at least one of (i) an ID of the
8 group, (ii) a minBandWidth indicating a minimum value among bandwidth attributes
9 of all representations in the group, (iii) a maxBandwidth indicating a maximum value
10 among bandwidth attributes of all representations in the group, (iv) a minWidth
11 indicating a minimum value among width attributes of all representations in the group,
12 (v) a maxWidth indicating a maximum value among width attributes of all
13 representations in the group, (vi) a minHeight indicating a minimum value among
14 height attributes of all representations in the group, (vii) a maxHeight indicating a
15 maximum value among height attributes of all representations in the group, (viii) a
16 minFrameRate indicating a minimum value among frame rate attributes of all
17 representations in the group, (ix) a maxFrameRate indicating a maximum value
18 among frame rate attributes of all representations in the group, (x) a language attribute
19 indicating the language of all representations in the group, (xi) a mimeType attribute
20 indicating the mime type for all representations in the group, and (xii) a codec
21 indicating a codec that is used for all representations in the group. For example, the
22 video adaptation set of the “dashWeb.mpd” MPD for “Far and Away” includes a
23 mimeType indicating the mime type for all representations in the video adaptation set.

24 198. Upon information and belief, the Accused Instrumentalities perform
25 methods of providing content performed by a server or multiple servers, the method
26 comprising: receiving, from a client, a transmission request message from the client;
27 transmitting, to the client, a specific Media Presentation Description (MPD) suitable
28 for the client, the specific MPD comprising descriptions of representations of the

1 content suitable for the client; receiving, from the client, a request for content
2 corresponding to a representation in the specific MPD selected by the client, and
3 transmitting the content corresponding to the selected representation in the specific
4 MPD to the client, wherein the specific MPD includes one or more periods, wherein
5 the period includes one or more groups, wherein the group includes one or more
6 representations, wherein the representation includes one or more segments, wherein
7 the specific MPD includes one or more group elements for each of the groups, and
8 wherein the group element is related to a summary of values of attributes of all
9 representations within the group.

10 199. Upon information and belief, the Accused Instrumentalities directly
11 infringe claim 11 of the '145 patent.

12 200. Upon information and belief, at least one server of the Accused
13 Instrumentalities receives, from a client, a transmission request message from the
14 client and transmits, to the client, a specific media presentation description (MPD)
15 suitable for the client, the specific MPD comprising descriptions of representations of
16 the content suitable for the client. For example, when "Far and Away" is selected
17 from the videos available at <https://www.starz.com/> by a client on a personal
18 computer, at least one server operating on behalf of Starz receives a request message
19 from the client for an MPD, and at least one server operating on behalf of Starz
20 transmits a specific MPD for "Far and Away" of the form "dashWeb.mpd" suitable
21 for the client, the "dashWeb.mpd" MPD comprising descriptions of representations of
22 the content suitable for the client, including eight video representations for bandwidths
23 of 250K, 500K, 750K, 950K, 1300K, 1750K, 2400K, and 3000K.

24 201. Upon information and belief, at least one server of the Accused
25 Instrumentalities receives, from the client, a request for content corresponding to a
26 representation in the specific MPD based on the descriptions of the representations.
27 For example, after "Far and Away" is selected from the videos available at
28 <https://www.starz.com/> by a client on a personal computer, at least one server

1 operating on behalf of Starz receives, from the client, a request for content
2 corresponding to at least one of the eight video representations in the specific
3 “dashWeb.mpd” MPD for “Far and Away” for bandwidths of 250K, 500K, 750K,
4 950K, 1300K, 1750K, 2400K, and 3000K.

5 202. Upon information and belief, at least one server of the Accused
6 Instrumentalities transmits the content corresponding to the selected representation in
7 the specific MPD to the client. For example, at least one server operating on behalf of
8 Starz transmits to the client the content corresponding to the at least one of the eight
9 video representations of the “dashWeb.mpd” MPD for “Far and Away” that was
10 selected.

11 203. Upon information and belief, the specific MPD transmitted from at least
12 one server of the Accused Instrumentalities to the client includes one or more periods,
13 and each period includes one or more groups. For example, the “dashWeb.mpd”
14 MPD for “Far and Away” includes at least one period that includes two groups: two
15 audio adaptation sets and a video adaptation set.

16 204. Upon information and belief, each group of the Accused Instrumentalities
17 includes one or more representations. For example, the video adaptation set for “Far
18 and Away” described immediately above includes eight video representations.

19 205. Upon information and belief, each of the representations of the Accused
20 Instrumentalities includes one or more segments. For example, among the eight video
21 representations described immediately above for “Far and Away,” the video
22 representation at the 3000K bandwidth includes a segment.

23 206. Upon information and belief, each group of the specific MPD of the
24 Accused Instrumentalities includes one or more group elements for each of the
25 groups. For example, the video adaptation set for “Far and Away,” includes one or
26 more group elements, such as mimeType and framerate, among others.

27 207. Upon information and belief, the group element of the Accused
28 Instrumentalities is related to a summary of values of attributes of all representations

1 with a group. For example, the video representations within the video adaptation set
2 for “Far and Away” all have the same mimeType, “video/mp4,” which is related to a
3 summary of values of all these representations within the video adaptation set.

4 208. Upon information and belief, the Accused Instrumentalities directly
5 infringe claim 13 of the ’145 patent.

6 209. Upon information and belief, the Accused Instrumentalities directly
7 infringe claim 11 of the ’145 patent for the reasons set forth above in paragraphs 199-
8 207.

9 210. Upon information and belief, the Accused Instrumentalities perform the
10 method of claim 11, wherein the specific MPD is selected among multiple specific
11 MPDs that are generated in advance. For example, the specific “dashWeb.mpd” MPD
12 for “Far and Away” is selected from the personal-computer-specific “dashWeb.mpd”
13 MPD and the mobile-phone-specific “androidMobile.mpd” MPD that were both
14 generated in advance.

15 211. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 14 of the ’145 patent.

17 212. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 11 of the ’145 patent for the reasons set forth above in paragraphs 199-
19 207.

20 213. Upon information and belief, the Accused Instrumentalities perform the
21 method of claim 11, wherein the representations in the specific MPD are specific to a
22 predetermined category of a terminal. For example, the video representations in the
23 specific “dashWeb.mpd” MPD for “Far and Away” are specific to a personal
24 computer, which is a predetermined category of a terminal.

25 214. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 15 of the ’145 patent.

27
28

1 215. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 14 of the '145 patent for the reasons set forth above in paragraphs 211-
3 213.

4 216. Upon information and belief, the Accused Instrumentalities perform the
5 method of claim 14, wherein the terminal is one of a high-definition television
6 (HDTV), a personal computer, and a mobile phone. For example, the terminal
7 described in paragraph 213 above is a personal computer.

8 217. Upon information and belief, the Accused Instrumentalities perform
9 methods of providing media content performed by a client, the method comprising:
10 transmitting a request for the media content to a server based on a media presentation
11 description (MPD) with respect to the media content; and receiving a segment of
12 media content through streaming from the server in response to the request, wherein
13 the MPD includes one or more periods, wherein the period includes one or more
14 groups, wherein the group includes one or more representations, wherein the
15 representation includes one or more segments, wherein the group includes one or
16 more group elements for each of the groups, and wherein a group element provides a
17 summary of values of all representations within a group.

18 218. Upon information and belief, the Accused Instrumentalities directly
19 infringe claim 3 of the '145 patent.

20 219. Upon information and belief, a client of the Accused Instrumentalities
21 transmits a request for media content to a server based on a media presentation
22 description (MPD) with respect to the media content and receives a segment of media
23 content through streaming from the server in response to the request. For example,
24 when a client selects "Far and Away" from the videos available at
25 <https://www.starz.com/>, the client transmits a request for media content to a server
26 operated on behalf of Starz based on a "dashWeb.mpd" MPD with respect to "Far and
27 Away," and the client receives a segment of "Far and Away" through streaming in
28 response to the request.

1 220. Upon information and belief, the received MPD includes one or more
2 periods, and each period includes one or more groups. For example, the
3 “dashWeb.mpd” MPD for “Far and Away” includes at least one period that includes
4 two groups: two audio adaptation sets and a video adaptation set.

5 221. Upon information and belief, the group includes one or more
6 representations. For example, the video adaptation set for “Far and Away” described
7 immediately above includes eight video representations.

8 222. Upon information and belief, the representation includes one or more
9 segments. For example, among the eight video representations described immediately
10 above for “Far and Away,” the video representation at the 3000K bandwidth includes
11 a segment.

12 223. Upon information and belief, the group includes one or more group
13 elements for each of the groups. For example, the video adaptation set for “Far and
14 Away,” includes one or more group elements, such as mimeType and framerate,
15 among others.

16 224. Upon information and belief, a group element provides a summary of
17 values of all representations with a group. For example, the video representations
18 within the video adaptation set for “Far and Away” all have the same mimeType,
19 “video/mp4,” which provides a summary of values of all these representations within
20 the video adaptation set.

21 225. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 4 of the ’145 patent.

23 226. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 3 of the ’145 patent for the reasons set forth above in paragraphs 218-
25 224.

26 227. Upon information and belief, the Accused Instrumentalities perform the
27 method of claim 3, wherein the group element includes at least one of (i) an ID of the
28 group, (ii) a minBandWidth indicating a minimum value among bandwidth attributes

1 of all representations in the group, (iii) a maxBandwidth indicating a maximum value
2 among bandwidth attributes of all representations in the group, (iv) a minWidth
3 indicating a minimum value among width attributes of all representations in the group,
4 (v) a maxWidth indicating a maximum value among width attributes of all
5 representations in the group, (vi) a minHeight indicating a minimum value among
6 height attributes of all representations in the group, (vii) a maxHeight indicating a
7 maximum value among height attributes of all representations in the group, (viii) a
8 minFrameRate indicating a minimum value among frame rate attributes of all
9 representations in the group, (ix) a maxFrameRate indicating a maximum value
10 among frame rate attributes of all representations in the group, (x) a language attribute
11 indicating the language of all representations in the group, (xi) a mimeType attribute
12 indicating the mime type for all representation in the group, and (xii) a codec
13 indicating a codec that is used for all representations in the group. For example, the
14 video adaptation set of the “dashWeb.mpd” MPD for “Far and Away” includes a
15 mimeType attribute indicating the mime type for all representations in the video
16 adaptation set.

17 228. Upon information and belief, the Accused Instrumentalities perform
18 methods of providing content performed by a client, the method comprising:
19 transmitting, to a server, a transmission request message from the client; receiving,
20 from the server, a specific Media Presentation (MPD) suitable for the client, the
21 specific MPD comprising descriptions of representations of the content suitable for
22 the client; selecting an appropriate representation from among the representations in
23 the specific MPD based on the descriptions of the representations; and requesting the
24 server to transmit content corresponding to the selected representation, wherein the
25 specific MPD includes one or more periods, wherein the period includes one or more
26 groups, wherein the group includes one or more representations, wherein the
27 representation includes one or more segments, wherein the specific MPD includes one
28

1 or more group elements for each of the groups, and wherein the group element is
2 related to a summary of values of attributes of all representations within the group.

3 229. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 5 of the '145 patent.

5 230. Upon information and belief, a client of the Accused Instrumentalities
6 transmits, to a server, a transmission request message and receives, from the server, a
7 specific media presentation description (MPD) suitable for the client, the specific
8 MPD comprising descriptions of representations of the content suitable for the client.
9 For example, when a client selects "Far and Away" from the videos available at
10 <https://www.starz.com/>, the client transmits to a server operated on behalf of Starz a
11 transmission request message, and receives from a server operated on behalf of Starz a
12 specific "dashWeb.mpd" MPD for "Far and Away" suitable for the client, the
13 "dashWeb.mpd" MPD comprising descriptions of eight video representations for the
14 bandwidths of 250K, 500K, 750K, 950K, 1300K, 1750K, 2400K and 3000K.

15 231. Upon information and belief, the client of the Accused Instrumentalities
16 selects an appropriate representation from among the representations in the specific
17 MPD based on the descriptions of the representations and requests that the server
18 transmit content corresponding to the selected representation. For example, the client
19 that received the specific "dashWeb.mpd" MPD for "Far and Away" selects at least
20 one of the video representations for the bandwidths of 250K, 500K, 750K, 950K,
21 1300K, 1750K, 2400K and 3000K, and the client requests that a server operating on
22 behalf of Starz transmits content from "Far and Away" corresponding to the selected
23 representation.

24 232. Upon information and belief, the specific MPD includes one or more
25 periods, and the period includes one or more groups. For example, the
26 "dashWeb.mpd" MPD for "Far and Away" includes at least one period that includes
27 two groups: two audio adaptation sets and a video adaptation set.
28

1 233. Upon information and belief, the group includes one or more
2 representations. For example, the video adaptation set for “Far and Away” described
3 immediately above includes eight video representations.

4 234. Upon information and belief, the representation includes one or more
5 segments. For example, among the eight video representations described immediately
6 above for “Far and Away,” the video representation at the 3000K bandwidth includes
7 a segment.

8 235. Upon information and belief, the specific MPD includes one or more
9 group elements for each of the groups. For example, the video adaptation set for “Far
10 and Away,” includes one or more group elements, such as mimeType and framerate,
11 among others.

12 236. Upon information and belief, the group element is related to a summary
13 of values of attributes of all representations with a group. For example, the video
14 representations within the video adaptation set for “Far and Away” all have the same
15 mimeType, “video/mp4,” which is related to a summary of values of all these
16 representations within the video adaptation set.

17 237. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 7 of the ’145 patent.

19 238. Upon information and belief, the Accused Instrumentalities directly
20 infringe claim 5 of the ’145 patent for the reasons set forth above in paragraphs 229-
21 236.

22 239. Upon information and belief, the Accused Instrumentalities perform the
23 method of claim 5, wherein the specific MPD is selected among multiple specific
24 MPDs that are generated in advance. For example, the specific “dashWeb.mpd” MPD
25 for “Far and Away” is selected from the personal-computer-specific “dashWeb.mpd”
26 MPD and the mobile-phone-specific “androidMobile.mpd” MPD that were both
27 generated in advance.
28

1 240. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 8 of the '145 patent.

3 241. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 5 of the '145 patent for the reasons set forth above in paragraphs 229-
5 236.

6 242. Upon information and belief, the Accused Instrumentalities perform the
7 method of claim 5, wherein the representations in the specific MPD are specific to a
8 predetermined category of a terminal. For example, the video representations in the
9 specific “dashWeb.mpd” MPD for “Far and Away” are specific to a personal
10 computer, which is a predetermined category of a terminal.

11 243. Upon information and belief, the Accused Instrumentalities directly
12 infringe claim 9 of the '145 patent.

13 244. Upon information and belief, the Accused Instrumentalities directly
14 infringe claim 8 of the '145 patent for the reasons set forth above in paragraphs 240-
15 242.

16 245. Upon information and belief, the Accused Instrumentalities perform the
17 method of claim 8, wherein the terminal is one of a high-definition television
18 (HDTV), a personal computer, and a mobile phone. For example, the terminal
19 described in paragraph 242 above is a personal computer.

20 246. Upon information and belief, the Accused Instrumentalities perform
21 methods of providing content performed by a client, the method comprising:
22 transmitting, to a server, a transmission request message from the client; receiving,
23 from the server, a specific Media Presentation (MPD), the specific MPD comprising a
24 subset of all representations in a general MPD that are suitable for the client; selecting
25 an appropriate representation from among the representations in the specific MPD,
26 based on the descriptions of the representations; and requesting the server to transmit
27 content corresponding to the selected representation, wherein the specific MPD
28 includes one or more periods, wherein the period includes one or more groups,

1 wherein the group includes one or more representations, wherein the representation
2 includes one or more segments, wherein the specific MPD includes one or more group
3 elements for each of the groups, and wherein the group element is related to a
4 summary of values of attributes of all representations within the group.

5 247. Upon information and belief, the Accused Instrumentalities directly
6 infringe claim 17 of the '145 patent.

7 248. Upon information and belief, a client of the Accused Instrumentalities
8 transmits, to a server, a transmission request message and receives, from the server, a
9 specific media presentation description (MPD), the specific MPD comprising a subset
10 of all representations in a general MPD that are suitable for the client. For example,
11 when a client selects "Far and Away" from the videos available at
12 <https://www.starz.com/>, the client transmits to a server operated on behalf of Starz a
13 transmission request message, and receives from a server operated on behalf of Starz a
14 specific "dashWeb.mpd" MPD for "Far and Away" suitable for the client, the
15 "dashWeb.mpd" MPD comprising descriptions of eight video representations for the
16 bandwidths of 250K, 500K, 750K, 950K, 1300K, 1750K, 2400K and 3000K, the
17 video representations comprising a subset of all representations in the general MPD
18 that are suitable for the client.

19 249. Upon information and belief, the client of the Accused Instrumentalities
20 selects an appropriate representation from among the representations in the specific
21 MPD, based on the descriptions of the representations and requests that the server
22 transmit content corresponding to the selected representation. For example, the client
23 that received the specific "dashWeb.mpd" MPD for "Far and Away" selects at least
24 one of the video representations for the bandwidths of 250K, 500K, 750K, 950K,
25 1300K, 1750K, 2400K and 3000K, and the client requests that a server operating on
26 behalf of Starz transmits content from "Far and Away" corresponding to the selected
27 representation.
28

1 250. Upon information and belief, the specific MPD includes one or more
2 periods, and the period includes one or more groups. For example, the
3 “dashWeb.mpd” MPD for “Far and Away” includes at least one period that includes
4 two groups: two audio adaptation sets and a video adaptation set.

5 251. Upon information and belief, the group includes one or more
6 representations. For example, the video adaptation set for “Far and Away” described
7 immediately above includes eight video representations.

8 252. Upon information and belief, the representation includes one or more
9 segments. For example, among the eight video representations described immediately
10 above for “Far and Away,” the video representation at the 3000K bandwidth includes
11 a segment.

12 253. Upon information and belief, the specific MPD includes one or more
13 group elements for each of the groups. For example, the video adaptation set for “Far
14 and Away,” includes one or more group elements, such as mimeType and framerate,
15 among others.

16 254. Upon information and belief, the group element is related to a summary
17 of values of attributes of all representations with a group. For example, the video
18 representations within the video adaptation set for “Far and Away” all have the same
19 mimeType, “video/mp4,” which is related to a summary of values of all these
20 representations within the video adaptation set.

21 255. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 18 of the ’145 patent.

23 256. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 17 of the ’145 patent for the reasons set forth above in paragraphs 247-
25 254.

26 257. Upon information and belief, the Accused Instrumentalities perform the
27 method of claim 17, wherein the representations in the specific MPD are specific to a
28 predetermined category of a terminal. For example, the video representations in the

1 specific “dashWeb.mpd” MPD for “Far and Away” are specific to a personal
2 computer, which is a predetermined category of a terminal.

3 258. On information and belief, the Accused Instrumentalities have been used
4 to infringe and continue to directly infringe at least claims 1, 2, 3, 4, 5, 7, 8, 9, 11, 13,
5 14, 15, 17, and 18 of the ’145 patent during the pendency of the ’145 patent.

6 259. Since at least the time of receiving this Complaint Starz has had actual
7 notice that it is directly infringing and/or inducing the infringement of the ’145 patent.

8 260. On information and belief, the Accused Instrumentalities are used,
9 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
10 customers, and end users across the country and in this District.

11 261. Upon information and belief, since at least the time of receiving this
12 Complaint, Starz has induced and continues to induce others to infringe at least claims
13 3, 4, 5, 7, 8, and 9 of the ’145 patent under 35 U.S.C. § 271(b) by, among other things,
14 and with specific intent or willful blindness, actively aiding and abetting others to
15 infringe, including but not limited to Starz’s partners and customers, whose use of the
16 Accused Instrumentalities constitutes direct infringement of at least claims 3, 4, 5, 7,
17 8, and 9 of the ’145 patent.

18 262. In particular, Starz’s actions that aid and abet others such as their partners
19 and customers to infringe include distributing the Accused Instrumentalities and
20 providing materials and/or services related to the Accused Instrumentalities. On
21 information and belief, Starz has engaged in such actions with specific intent to cause
22 infringement or with willful blindness to the resulting infringement because Starz has
23 had actual knowledge of the ’145 patent and that its acts were inducing infringement
24 of the ’145 patent since at least the time of receiving this Complaint.

25 263. On information and belief, Starz’s infringement has been and continues
26 to be willful.

27 264. Plaintiffs have been harmed by Starz’s infringing activities.
28

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 10,362,130

1
2 265. The allegations set forth in the foregoing paragraphs 1 through 264 are
3 incorporated into this Fifth Claim for Relief.

4 266. On July 23, 2019, the '130 patent was duly and legally issued by the
5 United States Patent and Trademark Office under the title “Apparatus and Method for
6 Providing Streaming Contents.” A true and correct copy of the '130 patent is attached
7 as Exhibit 5.

8 267. Ideahub is the assignee and owner of all right, title, and interest in and to
9 the '130 patent.

10 268. Helios holds the exclusive right to assert all causes of action arising
11 under the '130 patent and the right to collect any remedies for infringement of it.

12 269. Upon information and belief, Starz has and continues to directly infringe
13 at least claims 1, 2, 3, 4, 5, and 6 of the '130 patent by selling, offering to sell,
14 making, using, and/or providing and causing to be used streaming media content in
15 accordance with the MPEG-DASH standard (the “Accused Instrumentalities”),
16 including one or more videos on demand (“VOD”) such as those available at
17 <https://www.starz.com/>.

18 270. Upon information and belief, the Accused Instrumentalities perform
19 methods for providing media content performed by a processor in a server, the method
20 comprising: receiving a request for the media content from a client; transmitting the
21 media to the client based on a Media Presentation Description (MPD) of the media
22 content, wherein the MPD comprises one or more periods, wherein the period
23 comprises one or more groups, wherein the group comprises one or more
24 representations, wherein the representation comprises one or more segments, wherein
25 the representation includes a bandwidth attribute related to bandwidth for a
26 hypothetical constant bitrate channel in bits per second (bps), wherein the client is
27 assured of having enough data continuously playout after buffering for minbuffertime,
28 when the representation is delivered to the client, wherein the segment includes sub-

1 segments indexed by segment index, wherein the MPD includes at least one of (i)
2 frame rate, or (ii) timescale describing the number of time units in one second.

3 271. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 1 of the '130 patent.

5 272. Upon information and belief, once a media content is selected via a client
6 of the Accused Instrumentalities, at least one processor of at least one server of the
7 Accused Instrumentalities receives a request for media content from a client. For
8 example, after a client selects "Venom" from the videos available at
9 <https://www.starz.com/>, at least one processor of at least one server operating on
10 behalf of Starz receives a request for the media content of "Venom" from the client.

11 273. Upon information and belief, the Accused Instrumentalities transmit the
12 media to the client based on a Media Presentation Description (MPD) of the media
13 content. For example, after a client selects "Venom" from the videos available at
14 <https://www.starz.com/>, the Accused Instrumentalities transmit a "dashWeb.mpd"
15 MPD for "Venom" to the client.

16 274. Upon information and belief, the MPD includes one or more periods, and
17 the period comprises one or more groups. For example, the "dashWeb.mpd" for
18 "Venom" includes one period, and that period comprises two groups: two audio
19 adaptation sets and a video adaptation set.

20 275. Upon information and belief, the group includes one or more
21 representations. For example, the video adaptation set for "Venom" described
22 immediately above includes eight video representations.

23 276. Upon information and belief, the representation includes one or more
24 segments. For example, among the eight video representations described immediately
25 above for "Venom," "Representation id='7'" includes a segment.

26 277. Upon information and belief, the representation includes a bandwidth
27 attribute related to bandwidth for a hypothetical constant bitrate channel in bits per
28 second (bps), wherein the client is assured of having enough data for continuous

1 payout after buffering for a minBufferTime when the representation is delivered to
2 the client. For example, “Representation id=‘7’” includes a bandwidth attribute of
3 2400K, which is related to bandwidth for a hypothetical constant bitrate channel in
4 bits per second (bps) such that the client is assured of having enough data for
5 continuous payout after buffering for a minBufferTime when the representation is
6 delivered to the client.

7 278. Upon information and belief, the segment includes sub-segments indexed
8 by segment index. For example, in “Representation id=‘7’,” the sub-segments of the
9 segment are indexed by a segment index.

10 279. Upon information and belief, the MPD includes (i) a frame rate or (ii) a
11 timescale describing the number of time units in one second. For example, the
12 “dashWeb.mpd” for “Venom” includes a frame rate for the video adaptation set.

13 280. Upon information and belief, the Accused Instrumentalities directly
14 infringe claim 2 of the ’130 patent.

15 281. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 1 of the ’130 patent for the reasons set forth above in paragraphs 271-
17 279.

18 282. Upon information and belief, the Accused Instrumentalities perform the
19 method of claim 1, wherein each of the representations starts from a start time of the
20 period and continues to an ending point of the period. For example, each
21 representation in the video adaptation set of the “dashWeb.mpd” for “Venom” starts at
22 the period start time and continues to the ending point of that period, in compliance
23 with the MPEG-DASH standard. (*See* Section 5.3.5.1 (“A Representation starts at the
24 start of the Period PeriodStart and continues to the end of the Period.”).)

25 283. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 3 of the ’130 patent.

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1 284. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 2 of the '130 patent for the reasons set forth above in paragraphs 280-
3 282.

4 285. Upon information and belief, the Accused Instrumentalities perform the
5 method of claim 2, wherein the start time of the period is determined below methods,
6 i) when a start attribute exists in a first period element of the first period, a start time
7 of the first period is equal to the start attribute, ii) when a start attribute does not exist
8 in the first period element of the first period, and when a second period element of the
9 second period includes a duration attribute, the start time of the first period is
10 determined by adding the duration attribute of the second period element to a start
11 time of the second period, iii) when a start attribute does not exist in the first period
12 element of the first period, and when the first period is the first of the one or more
13 periods, the start time of the first period is set to 0, wherein the second period is
14 previous period with respect to the first period. For example, the “dashWeb.mpd” of
15 “Venom” has the start attribute “Period start=‘PTOS’.”

16 286. Upon information and belief, the Accused Instrumentalities comprise a
17 server for providing media content, the server comprising: one or more processors
18 configured to: receive a request for the media content from a client; transmit the media
19 to the client based on a Media Presentation Description (MPD) of the media content,
20 wherein the MPD comprises one or more periods, wherein the period comprises one
21 or more groups, wherein the group comprises one or more representations, wherein
22 the representation comprises one or more segments, wherein the representation
23 includes bandwidth attribute related to bandwidth for a hypothetical constant bitrate
24 channel in bits per second (bps), wherein the client is assured of having enough data
25 continuously playout after buffering for minbuffertime, when the representation is
26 delivered to the client, wherein the segment includes sub-segments indexed by
27 segment index, wherein the MPD includes at least one of (i) frame rate, or (ii)
28 timescale describing the number of time units in one second.

1 287. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 4 of the '130 patent.

3 288. Upon information and belief, once a media content is selected via a client
4 of the Accused Instrumentalities, at least one processor of at least one server of the
5 Accused Instrumentalities is configured to receive a request for media content from a
6 client. For example, after a client selects "Venom" from the videos available at
7 <https://www.starz.com/>, at least one processor of at least one server operating on
8 behalf of Starz receives a request for the media content of "Venom" from the client.

9 289. Upon information and belief, the Accused Instrumentalities transmit the
10 media to the client based on a Media Presentation Description (MPD) of the media
11 content. For example, after a client selects "Venom" from the videos available at
12 <https://www.starz.com/>, the at least one processor of at least one server of the Accused
13 Instrumentalities transmits a "dashWeb.mpd" MPD for "Venom" to the client.

14 290. Upon information and belief, the MPD includes one or more periods, and
15 the period comprises one or more groups. For example, the "dashWeb.mpd" for
16 "Venom" includes one period, and that period comprises two groups: two audio
17 adaptation sets and a video adaptation set.

18 291. Upon information and belief, the group includes one or more
19 representations. For example, the video adaptation set for "Venom" described
20 immediately above includes eight video representations.

21 292. Upon information and belief, the representation includes one or more
22 segments. For example, among the eight video representations described immediately
23 above for "Venom," "Representation id='7'" includes a segment.

24 293. Upon information and belief, the representation includes a bandwidth
25 attribute related to bandwidth for a hypothetical constant bitrate channel in bits per
26 second (bps), wherein the client is assured of having enough data for continuous
27 playout after buffering for a minBufferTime when the representation is delivered to
28 the client. For example, "Representation id='7'" includes a bandwidth attribute of

1 2400K, which is related to bandwidth for a hypothetical constant bitrate channel in
2 bits per second (bps) such that the client is assured of having enough data for
3 continuous playout after buffering for a minBufferTime when the representation is
4 delivered to the client.

5 294. Upon information and belief, the segment includes sub-segments indexed
6 by segment index. For example, in “Representation id=‘7’,” the sub-segments of the
7 segment are indexed by a segment index.

8 295. Upon information and belief, the MPD includes (i) a frame rate or (ii) a
9 timescale describing the number of time units in one second. For example, the
10 “dashWeb.mpd” for “Venom” includes a frame rate for the video adaptation set.

11 296. Upon information and belief, the Accused Instrumentalities directly
12 infringe claim 5 of the ’130 patent.

13 297. Upon information and belief, the Accused Instrumentalities directly
14 infringe claim 4 of the ’130 patent for the reasons set forth above in paragraphs 287-
15 295.

16 298. Upon information and belief, the Accused Instrumentalities perform the
17 method of claim 4, wherein each of the representations starts from a start time of the
18 period and continues to an ending point of the period. For example, each
19 representation in the video adaptation set of the “dashWeb.mpd” for “Venom” starts at
20 the period start time and continues to the ending point of that period, in compliance
21 with the MPEG-DASH standard. (*See* Section 5.3.5.1 (“A Representation starts at the
22 start of the Period PeriodStart and continues to the end of the Period.”).)

23 299. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 6 of the ’130 patent.

25 300. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 5 of the ’130 patent for the reasons set forth above in paragraphs 296-
27 299.

28

1 301. Upon information and belief, the Accused Instrumentalities perform the
2 method of claim 5, wherein the start time of the period is determined below methods,
3 i) when a start attribute exists in a first period element of the first period, a start time
4 of the first period is equal to the start attribute, ii) when a start attribute does not exist
5 in the first period element of the first period, and when a second period element of the
6 second period includes a duration attribute, the start time of the first period is
7 determined by adding the duration attribute of the second period element to a start
8 time of the second period, iii) when a start attribute does not exist in the first period
9 element of the first period, and when the first period is the first of the one or more
10 periods, the start time of the first period is set to 0, wherein the second period is
11 previous period with respect to the first period. For example, the “dashWeb.mpd” of
12 “Venom” has the start attribute “Period start=‘PT0S’.”

13 302. On information and belief, the Accused Instrumentalities have been used
14 to infringe and continue to directly infringe at least claims 1, 2, 3, 4, 5, and 6 of the
15 ’130 patent during the pendency of the ’130 patent.

16 303. Since at least July 23, 2019, Starz has had actual notice that it is directly
17 infringing the ’130 patent.

18 304. On information and belief, the Accused Instrumentalities are used,
19 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
20 customers, and end users across the country and in this District.

21 305. On information and belief, Starz’s infringement has been and continues
22 to be willful.

23 306. Plaintiffs have been harmed by Starz’s infringing activities.

24 **COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 10,375,373**

25 307. The allegations set forth in the foregoing paragraphs 1 through 306 are
26 incorporated into this Sixth Claim for Relief.

27 308. On August 6, 2019, the ’373 patent was duly and legally issued by the
28 United States Patent and Trademark Office under the title “Method and Apparatus for

1 Encoding Three-Dimensional (3D) Content.” A true and correct copy of the ’373
2 patent is attached as Exhibit 6.

3 309. Ideahub is the assignee and owner of all right, title, and interest in and to
4 the ’373 patent.

5 310. Helios holds the exclusive right to assert all causes of action arising
6 under the ’373 patent and the right to collect any remedies for infringement of it.

7 311. Upon information and belief, Starz has and continues to directly infringe
8 at least claims 1, 4, 5, 6, 7, and 9, and to induce the direct infringement of at least
9 claims 17, 20, 21, 22, and 23 of the ’373 patent by selling, offering to sell, making,
10 using, and/or providing and causing to be used streaming media content in accordance
11 with the MPEG-DASH standard (the “Accused Instrumentalities”), including one or
12 more videos on demand (“VOD”) such as those available at <https://www.starz.com/>.

13 312. Upon information and belief, the Accused Instrumentalities perform
14 methods of adaptive streaming service performed by a server or multiple servers, the
15 method comprising: receiving a request, from a client, for a segment of a media
16 content based on metadata of the media content, wherein the metadata is a Media
17 Presentation Description (MPD), and wherein the MPD is a description of a media
18 presentation related to the media content; and providing the media content based on
19 the request, wherein the MPD includes at least one period, wherein each period
20 includes at least one adaptation set comprising a media content component, wherein
21 each adaptation set includes at least one representation, wherein each representation
22 includes at least one segment, and wherein the MPD provides information that enables
23 the client to switch from one representation to another representation to adapt to a
24 network condition.

25 313. Upon information and belief, the Accused Instrumentalities directly
26 infringe claim 1 of the ’373 patent.

27 314. Upon information and belief, at least one server of the Accused
28 Instrumentalities receives a request, from a client, for a segment of a media content

1 based on metadata of the media content, wherein the metadata is a Media Presentation
2 Description (MPD), and wherein the MPD is a description of a media presentation
3 related to the media content. For example, when “Tron: Legacy” is selected by a
4 client from the videos available at <https://www.starz.com/>, at least one server
5 operating on behalf of Starz receives a request from the client for a segment of “Tron:
6 Legacy” based on metadata of this media content, wherein the metadata is a
7 “dashWeb.mpd” MPD that comprises a description of a media presentation related to
8 “Tron: Legacy.”

9 315. Upon information and belief, the media content is provided based on the
10 request. For example, “Tron: Legacy” is provided to the client based on the request
11 received by the server operating on behalf of Starz.

12 316. Upon information and belief, the MPD includes at least one period, and
13 each period includes at least one adaptation set comprising a media content
14 component. For example, the “dashWeb.mpd” MPD for “Tron: Legacy” includes at
15 least one period that includes two audio adaptation sets and a video adaptation set.

16 317. Upon information and belief, each adaptation set includes at least one
17 representation. For example, the video adaptation set for “Tron: Legacy” includes
18 eight video representations.

19 318. Upon information and belief, each representation includes at least one
20 segment. For example, the video representation of “Tron: Legacy” at the 3000K
21 bandwidth includes a segment.

22 319. Upon information and belief, the MPD provides information that enables
23 the client to switch from one representation to another representation to adapt to a
24 network condition. For example, the “dashWeb.mpd” MPD for “Tron: Legacy”
25 includes eight representations in the video adaptation set that allow the client to switch
26 from the 3000K bandwidth representation to the 750K bandwidth representation to
27 adapt to a network condition.
28

1 320. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 4 of the '373 patent.

3 321. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 1 of the '373 patent for the reasons set forth above in paragraphs 313-
5 319.

6 322. Upon information and belief, the Accused Instrumentalities perform the
7 method of claim 1, wherein one representation is switched to another representation at
8 a random access point. For example, one representation is switched to another
9 representation in "Tron: Legacy" at a stream access point, as that term is defined in
10 the MPEG-DASH standard.

11 323. Upon information and belief, the Accused Instrumentalities directly
12 infringe claim 5 of the '373 patent.

13 324. Upon information and belief, the Accused Instrumentalities directly
14 infringe claim 1 of the '373 patent for the reasons set forth above in paragraphs 313-
15 319.

16 325. Upon information and belief, the Accused Instrumentalities perform the
17 method of claim 1, wherein the adaptation set includes at least one of a bandwidth
18 attribute, a width attribute, a height attribute, and a frame rate attribute associated with
19 at least one representation included in the adaptation set. For example, in the
20 "dashWeb.mpd" MPD for "Tron: Legacy," the video adaptation set includes a
21 framerate attribute, among others.

22 326. Upon information and belief, the Accused Instrumentalities directly
23 infringe claim 6 of the '373 patent.

24 327. Upon information and belief, the Accused Instrumentalities directly
25 infringe claim 1 of the '373 patent for the reasons set forth above in paragraphs 313-
26 319.

27 328. Upon information and belief, the Accused Instrumentalities perform the
28 method of claim 1, wherein an element of the media content component includes at

1 least one of (i) an “Accessibility” element related to information about an accessibility
2 scheme, (ii) a “Role” element related to information about a role annotation scheme,
3 (iii) a “Rating” element related to information about a rating scheme, and (iv) a
4 “Viewpoint” element related to information about a viewpoint annotation scheme.
5 For example, in the “dashWeb.mpd” MPD for “Spider-Man: Homecoming” the
6 adaptation set includes a “Role” element.

7 329. Upon information and belief, the Accused Instrumentalities directly
8 infringe claim 7 of the ’373 patent.

9 330. Upon information and belief, the Accused Instrumentalities directly
10 infringe claim 1 of the ’373 patent for the reasons set forth above in paragraphs 313-
11 319.

12 331. Upon information and belief, the Accused Instrumentalities perform the
13 method of claim 1, wherein an element of the adaptation set comprises at least one of:
14 (i) a ContentType attribute which is a media content component type of the adaptation
15 set, (ii) a par attribute which is a picture aspect ratio, (iii) a minBandWidth attribute
16 which is a minimum bandwidth attribute value of all representations within the
17 adaptation set, (iv) a maxBandWidth attribute which is a maximum bandwidth
18 attribute value of all representations within the adaptation set, (v) a minWidth attribute
19 which is a minimum width attribute value of all representations within the adaptation
20 set, (vi) a maxWidth attribute which is a maximum width attribute value of all
21 representations within the adaptation set, (vii) a minHeight attribute which is a
22 minimum height attribute value of all representations within the adaptation set, (viii) a
23 maxHeight attribute which is a maximum height attribute value of all representations
24 within the adaptation set, (ix) a minFrameRate attribute which is a minimum frame
25 rate attribute value of all representations within the adaptation set, and (x) a
26 maxFrameRate attribute which is a maximum frame rate attribute value of all
27 representations within the adaptation set. For example, in the “dashWeb.mpd” MPD
28 for “Spider-Man: Homecoming” the video adaptation set includes elements such as

1 contentType, par, minBandwidth, maxBandwidth, maxWidth, and maxHeight, among
2 others.

3 332. Upon information and belief, the Accused Instrumentalities comprise a
4 server, comprising: one or more processors configured to: receive a request, from a
5 client, for a segment of a media content based on metadata of the media content,
6 wherein the metadata is a Media Presentation Description (MPD), and wherein the
7 MPD is a description of a media presentation related to the media content; and provide
8 the media content based on the request, wherein the MPD includes at least one period,
9 wherein each period includes at least one adaptation set comprising a media content
10 component, wherein each adaptation set includes at least one representation, wherein
11 each representation includes at least one segment, and wherein the MPD provides
12 information that enables the client to switch from one representation to another
13 representation to adapt to a network condition.

14 333. Upon information and belief, the Accused Instrumentalities directly
15 infringe claim 9 of the '373 patent.

16 334. Upon information and belief, at least one server of the Accused
17 Instrumentalities comprises one or more processors configured to receive a request,
18 from a client, for a segment of a media content based on metadata of the media
19 content, wherein the metadata is a Media Presentation Description (MPD), and
20 wherein the MPD is a description of a media presentation related to the media content.
21 For example, when "Tron: Legacy" is selected by a client from the videos available at
22 <https://www.starz.com/>, at least one server comprising one or more processors and
23 operating on behalf of Starz receives a request from the client for a segment of "Tron:
24 Legacy" based on metadata of this media content, wherein the metadata is a
25 "dashWeb.mpd" MPD that comprises a description of a media presentation related to
26 "Tron: Legacy."

27 335. Upon information and belief, the media content is provided based on the
28 request. For example, "Tron: Legacy" is provided to the client based on the request

1 received by the server that comprises one or more processors and operates on behalf
2 of Starz.

3 336. Upon information and belief, the MPD includes at least one period, and
4 each period includes at least one adaptation set comprising a media content
5 component. For example, the “dashWeb.mpd” MPD for “Tron: Legacy” includes at
6 least one period that includes two audio adaptation sets and a video adaptation set.

7 337. Upon information and belief, each adaptation set includes at least one
8 representation. For example, the video adaptation set for “Tron: Legacy” includes
9 eight video representations.

10 338. Upon information and belief, each representation includes at least one
11 segment. For example, the video representation of “Tron: Legacy” at the 3000K
12 bandwidth includes a segment.

13 339. Upon information and belief, the MPD provides information that enables
14 the client to switch from one representation to another representation to adapt to a
15 network condition. For example, the “dashWeb.mpd” MPD for “Tron: Legacy”
16 includes eight representations in the video adaptation set that allow the client to switch
17 from the 3000K bandwidth representation to the 750K bandwidth representation to
18 adapt to a network condition.

19 340. Upon information and belief, the Accused Instrumentalities perform
20 methods of providing adaptive streaming services performed by a client, the methods
21 comprising: transmitting a request, to a server or multiple servers, for a segment of a
22 media content based on metadata of the media content, wherein the metadata is a
23 Media Presentation Description (MPD), and wherein the MPD is a description of a
24 media presentation related to the media content; and receiving the media content,
25 based on the request, from the server or multiple servers, wherein the MPD includes at
26 least one period, wherein each period includes at least one adaptation set comprising a
27 media content component, wherein each adaptation set includes at least one
28 representation, wherein each representation includes at least one segment, and wherein

1 the MPD provides information that enables the client to switch from one
2 representation to another representation to adapt to a network condition.

3 341. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 17 of the '373 patent.

5 342. Upon information and belief, a client of the Accused Instrumentalities
6 transmits a request, to a server or multiple servers, for a segment of a media content
7 based on metadata of the media content, wherein the metadata is a Media Presentation
8 Description (MPD), and wherein the MPD is a description of a media presentation
9 related to the media content. For example, when "Tron: Legacy" is selected by a
10 client from the videos available at <https://www.starz.com/>, that client transmits to at
11 least one server operating on behalf of Starz a request from the client for a segment of
12 "Tron: Legacy" based on metadata of this media content, wherein the metadata is a
13 "dashWeb.mpd" MPD that comprises a description of a media presentation related to
14 "Tron: Legacy."

15 343. Upon information and belief, the media content is received, based on the
16 request, from the server or multiple servers. For example, the client receives the
17 media content of "Tron: Legacy," based on the client's request, from at least one
18 server operating on behalf of Starz.

19 344. Upon information and belief, the MPD includes at least one period, and
20 each period includes at least one adaptation set comprising a media content
21 component. For example, the "dashWeb.mpd" MPD for "Tron: Legacy" includes at
22 least one period that includes two audio adaptation sets and a video adaptation set.

23 345. Upon information and belief, each adaptation set includes at least one
24 representation. For example, the video adaptation set for "Tron: Legacy" includes
25 eight video representations.

26 346. Upon information and belief, each representation includes at least one
27 segment. For example, the video representation of "Tron: Legacy" at the 3000K
28 bandwidth includes a segment.

1 347. Upon information and belief, the MPD provides information that enables
2 the client to switch from one representation to another representation to adapt to a
3 network condition. For example, the “dashWeb.mpd” MPD for “Tron: Legacy”
4 includes eight representations in the video adaptation set that allow the client to switch
5 from the 3000K bandwidth representation to the 750K bandwidth representation to
6 adapt to a network condition.

7 348. Upon information and belief, the Accused Instrumentalities directly
8 infringe claim 20 of the '373 patent.

9 349. Upon information and belief, the Accused Instrumentalities directly
10 infringe claim 17 of the '373 patent for the reasons set forth above in paragraphs 341-
11 347.

12 350. Upon information and belief, the Accused Instrumentalities perform the
13 method of claim 17, wherein one representation is switched to another representation
14 at a random access point. For example, one representation is switched to another
15 representation in “Tron: Legacy” at a stream access point, as that term is defined in
16 the MPEG-DASH standard.

17 351. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 21 of the '373 patent.

19 352. Upon information and belief, the Accused Instrumentalities directly
20 infringe claim 17 of the '373 patent for the reasons set forth above in paragraphs 341-
21 347.

22 353. Upon information and belief, the Accused Instrumentalities perform the
23 method of claim 17, wherein the adaptation set includes at least one of a bandwidth
24 attribute, a width attribute, a height attribute, and a frame rate attribute associated with
25 at least one representation included in the adaptation set. For example, in the
26 “dashWeb.mpd” MPD for “Tron: Legacy” the video adaptation set includes a
27 framerate attribute, among others.

28

1 354. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 22 of the '373 patent.

3 355. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 17 of the '373 patent for the reasons set forth above in paragraphs 341-
5 347.

6 356. Upon information and belief, the Accused Instrumentalities perform the
7 method of claim 17, wherein an element of the media content component includes at
8 least one of (i) an "Accessibility" element related to information about an accessibility
9 scheme, (ii) a "Role" element related to information about a role annotation scheme,
10 (iii) a "Rating" element related to information about a rating scheme, and (iv) a
11 "Viewpoint" element related to information about a viewpoint annotation scheme.
12 For example, in the "dashWeb.mpd" MPD for "Spider-Man: Homecoming" the
13 adaptation set includes a "Role" element.

14 357. Upon information and belief, the Accused Instrumentalities directly
15 infringe claim 23 of the '373 patent.

16 358. Upon information and belief, the Accused Instrumentalities directly
17 infringe claim 17 of the '373 patent for the reasons set forth above in paragraphs 341-
18 347.

19 359. Upon information and belief, the Accused Instrumentalities perform the
20 method of claim 17, wherein an element of the adaptation set comprises at least one
21 of: (i) a ContentType attribute which is a media content component type of the
22 adaptation set, (ii) a par attribute which is a picture aspect ratio, (iii) a minBandWidth
23 attribute which is a minimum bandwidth attribute value of all representations within
24 the adaptation set, (iv) a maxBandWidth attribute which is a maximum bandwidth
25 attribute value of all representations within the adaptation set, (v) a minWidth attribute
26 which is a minimum width attribute value of all representations within the adaptation
27 set, (vi) a maxWidth attribute which is a maximum width attribute value of all
28 representations within the adaptation set, (vii) a minHeight attribute which is a

1 minimum height attribute value of all representations within the adaptation set, (viii) a
2 maxHeight attribute which is a maximum height attribute value of all representations
3 within the adaptation set, (ix) a minFrameRate attribute which is a minimum frame
4 rate attribute value of all representations within the adaptation set, and (x) a
5 maxFrameRate attribute which is a maximum frame rate attribute value of all
6 representations within the adaptation set. For example, in the “dashWeb.mpd” MPD
7 for “Spider-Man: Homecoming” the video adaptation set includes elements such as
8 contentType, par, minBandwidth, maxBandwidth, maxWidth, and maxHeight, among
9 others.

10 360. On information and belief, the Accused Instrumentalities have been used
11 to infringe and continue to directly infringe at least claims 1, 4, 5, 6, 7, 9, 17, 20, 21,
12 22, and 23 of the '373 patent during the pendency of the '373 patent.

13 361. Since at least August 6, 2019, Starz has had actual notice that it is
14 directly infringing and/or inducing the infringement of the '373 patent.

15 362. On information and belief, the Accused Instrumentalities are used,
16 marketed, provided to, and/or used by or for each of Defendant's partners, clients,
17 customers, and end users across the country and in this District.

18 363. Upon information and belief, since at least August 6, 2019, Starz has
19 induced and continues to induce others to infringe at least claims 17, 20, 21, 22, and
20 23 of the '373 patent under 35 U.S.C. § 271(b) by, among other things, and with
21 specific intent or willful blindness, actively aiding and abetting others to infringe,
22 including but not limited to Starz's partners and customers, whose use of the Accused
23 Instrumentalities constitutes direct infringement of at least claims 17, 20, 21, 22, and
24 23 of the '373 patent.

25 364. In particular, Starz's actions that aid and abet others such as their partners
26 and customers to infringe include distributing the Accused Instrumentalities and
27 providing materials and/or services related to the Accused Instrumentalities. On
28 information and belief, Starz has engaged in such actions with specific intent to cause

1 infringement or with willful blindness to the resulting infringement because Starz has
2 had actual knowledge of the '373 patent and that its acts were inducing infringement
3 of the '373 patent since at least August 6, 2019.

4 365. On information and belief, Starz's infringement has been and continues
5 to be willful.

6 366. Plaintiffs have been harmed by Starz's infringing activities.

7 **COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 8,645,562**

8 367. The allegations set forth in the foregoing paragraphs 1 through 366 are
9 incorporated into this Seventh Claim for Relief.

10 368. On February 4, 2014, the '562 patent was duly and legally issued by the
11 United States Patent and Trademark Office under the title "Apparatus and Method for
12 Providing Streaming Content." A true and correct copy of the '562 patent is attached
13 as Exhibit 7.

14 369. Ideahub is the assignee and owner of all right, title, and interest in and to
15 the '562 patent.

16 370. Helios holds the exclusive right to assert all causes of action arising
17 under the '562 patent and the right to collect any remedies for infringement of it.

18 371. Upon information and belief, Starz has and continues to induce the direct
19 infringement of at least claims 1, 2, 4, 5, 7, and 8 of the '562 patent by selling,
20 offering to sell, making, using, and/or providing and causing to be used streaming
21 media content in accordance with the MPEG-DASH standard (the "Accused
22 Instrumentalities"), including one or more videos on demand ("VOD") such as those
23 available at <https://www.starz.com/>.

24 372. Upon information and belief, the Accused Instrumentalities are used to
25 perform methods for providing media, the method comprising: receiving metadata of
26 media, the metadata comprising one or more BaseURL elements; sending a request
27 for a segment of the media using a Uniform Resource Locator (URL) of the segment,
28 the URL being resolved with respect to a BaseURL element; receiving the segment;

1 and decoding and rendering data of the media that is included in the segment, wherein
2 the request is sent using an HTTP GET method, the BaseURL element specifies one
3 or more common locations for segments, and the segment is one of the segments.

4 373. Upon information and belief, the Accused Instrumentalities directly
5 infringe claim 1 of the '562 patent.

6 374. Upon information and belief, a client of the Accused Instrumentalities
7 receives metadata of media, the metadata comprising one or more BaseURL elements.
8 For example, when "Toy Story 3" is selected by a client from the videos available at
9 <https://www.starz.com/>, the client receives metadata of "Toy Story 3" in the form of a
10 "dashWeb.mpd" MPD, which comprises one or more BaseURL elements.

11 375. Upon information and belief, the client of the Accused Instrumentalities
12 sends a request for a segment of the media using a Uniform Resource Locator (URL)
13 of the segment, the URL being resolved with respect to a BaseURL element. For
14 example, the client receiving the "dashWeb.mpd" MPD for "Toy Story 3" sends a
15 request for a segment of "Toy Story 3" using a URL that is resolved with respect to
16 the BaseURL element in the "dashWeb.mpd" MPD.

17 376. Upon information and belief, the client of the Accused Instrumentalities
18 receives the segment and decodes and renders data of the media that is included in the
19 segment. For example, the client receives the requested segment of "Toy Story 3" and
20 decodes and renders the data of the media included in the segment so the user of the
21 client can consume the desired content.

22 377. Upon information and belief, the request is sent using an HTTP GET
23 method; the BaseURL element specifies one or more common locations for segments;
24 and the segment is one of the segments. For example, the client requesting a segment
25 of "Toy Story 3" makes the request via the HTTP GET method, and the BaseURL
26 element of the "dashWeb.mpd" MPD for "Toy Story 3" specifies one or more
27 common locations for segments, including the requested segment.

28

1 378. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 2 of the '562 patent.

3 379. Upon information and belief, the Accused Instrumentalities directly
4 infringe claim 1 of the '562 patent for the reasons set forth above in paragraphs 373-
5 377.

6 380. Upon information and belief, the Accused Instrumentalities perform the
7 method of claim 1, wherein the metadata is a Media Presentation Description (MPD)
8 of the media. For example, when "Toy Story 3" is selected by a client from the videos
9 available at <https://www.starz.com/>, the client receives metadata of "Toy Story 3" in
10 the form of a "dashWeb.mpd" MPD.

11 381. Upon information and belief, the Accused Instrumentalities are used to
12 perform methods for providing media, the method comprising: receiving metadata of
13 media, the metadata comprising one or more BaseURL elements; sending a request
14 for a segment of the media using a Uniform Resource Locator (URL) of the segment,
15 the URL being resolved with respect to a BaseURL element; receiving the segment;
16 and decoding and rendering data of the media that is included in the segment, wherein
17 the metadata comprises a range attribute, and wherein the request comprises a request
18 for bytes of a resource indicated by the URL that are designated by the range attribute,
19 the BaseURL element specifies one or more common locations for segments, and the
20 segment is one of the segments.

21 382. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 4 of the '562 patent.

23 383. Upon information and belief, a client of the Accused Instrumentalities
24 receives metadata of media, the metadata comprising one or more BaseURL elements.
25 For example, when "Toy Story 3" is selected by a client from the videos available at
26 <https://www.starz.com/>, the client receives metadata of "Toy Story 3" in the form of a
27 "dashWeb.mpd" MPD, which comprises one or more BaseURL elements.

28

1 384. Upon information and belief, the client of the Accused Instrumentalities
2 sends a request for a segment of the media using a Uniform Resource Locator (URL)
3 of the segment, the URL being resolved with respect to a BaseURL element. For
4 example, the client receiving the “dashWeb.mpd” MPD for “Toy Story 3” sends a
5 request for a segment of “Toy Story 3” using a URL that is resolved with respect to
6 the BaseURL element in the “dashWeb.mpd” MPD.

7 385. Upon information and belief, the client of the Accused Instrumentalities
8 receives the segment and decodes and renders data of the media that is included in the
9 segment. For example, the client receives the requested segment of “Toy Story 3” and
10 decodes and renders the data of the media included in the segment so the user of the
11 client can consume the desired content.

12 386. Upon information and belief, the metadata comprises a range attribute,
13 the request comprises a request for bytes of a resource indicated by the URL that are
14 designated by the range attribute, the BaseURL element specifies one or more
15 common locations for segments, and the segment is one of the segments. For
16 example, the metadata of the “dashWeb.mpd” for “Toy Story 3” comprises a range
17 attribute comprising “indexRange=‘1586-38573’” and “Initialization range=‘0-
18 1585’,” which specify byte ranges that are requested in the request; and the BaseURL
19 element of the “dashWeb.mpd” MPD for “Toy Story 3” specifies one or more
20 common locations for segments, including the requested segment.

21 387. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 5 of the ’562 patent.

23 388. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 4 of the ’562 patent for the reasons set forth above in paragraphs 382-
25 386.

26 389. Upon information and belief, the Accused Instrumentalities perform the
27 method of claim 4, wherein the metadata is a Media Presentation Description (MPD)
28 of the media. For example, when “Toy Story 3” is selected by a client from the videos

1 available at <https://www.starz.com/>, the client receives metadata of “Toy Story 3” in
2 the form of a “dashWeb.mpd” MPD.

3 390. Upon information and belief, the Accused Instrumentalities are used to
4 perform methods for providing media, the method comprising: receiving metadata of
5 media, the metadata comprising one or more BaseURL elements; sending a request
6 for a segment of the media using a Uniform Resource Locator (URL) of the segment,
7 the URL being resolved with respect to a BaseURL element; receiving the segment;
8 and decoding and rendering data of the media that is included in the segment, wherein
9 the URL is an absolute URL or a relative URL, the BaseURL element specifies one or
10 more common locations for segments, and the segment is one of the segments.

11 391. Upon information and belief, the Accused Instrumentalities directly
12 infringe claim 7 of the ’562 patent.

13 392. Upon information and belief, a client of the Accused Instrumentalities
14 receives metadata of media, the metadata comprising one or more BaseURL elements.
15 For example, when “Toy Story 3” is selected by a client from the videos available at
16 <https://www.starz.com/>, the client receives metadata of “Toy Story 3” in the form of a
17 “dashWeb.mpd” MPD, which comprises one or more BaseURL elements.

18 393. Upon information and belief, the client of the Accused Instrumentalities
19 sends a request for a segment of the media using a Uniform Resource Locator (URL)
20 of the segment, the URL being resolved with respect to a BaseURL element. For
21 example, the client receiving the “dashWeb.mpd” MPD for “Toy Story 3” sends a
22 request for a segment of “Toy Story 3” using a URL that is resolved with respect to
23 the BaseURL element in the “dashWeb.mpd” MPD.

24 394. Upon information and belief, the client of the Accused Instrumentalities
25 receives the segment and decodes and renders data of the media that is included in the
26 segment. For example, the client receives the requested segment of “Toy Story 3” and
27 decodes and renders the data of the media included in the segment so the user of the
28 client can consume the desired content.

1 395. Upon information and belief, the URL is an absolute URL or a relative
2 URL; the BaseURL element specifies one or more common locations for segments;
3 and the segment is one of the segments. For example, the URL used by client to
4 request a segment of “Toy Story 3” is an absolute URL using the prefix “https://,” and
5 the BaseURL element of the “dashWeb.mpd” MPD for “Toy Story 3” specifies one or
6 more common locations for segments, including the requested segment.

7 396. Upon information and belief, the Accused Instrumentalities directly
8 infringe claim 8 of the ’562 patent.

9 397. Upon information and belief, the Accused Instrumentalities directly
10 infringe claim 7 of the ’562 patent for the reasons set forth above in paragraphs 391-
11 395.

12 398. Upon information and belief, the Accused Instrumentalities perform the
13 method of claim 7, wherein the metadata is a Media Presentation Description (MPD)
14 of the media. For example, when “Toy Story 3” is selected by a client from the videos
15 available at <https://www.starz.com/>, the client receives metadata of “Toy Story 3” in
16 the form of a “dashWeb.mpd” MPD.

17 399. On information and belief, the Accused Instrumentalities have been used
18 to infringe and continue to directly infringe at least claims 1, 2, 4, 5, 7, and 8 of the
19 ’562 patent during the pendency of the ’562 patent.

20 400. Since at least approximately August 23, 2018, Starz has had actual notice
21 that it is inducing the direct infringement of the ’562 patent.

22 401. On information and belief, the Accused Instrumentalities are used,
23 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
24 customers, and end users across the country and in this District.

25 402. Upon information and belief, since at least approximately August 23,
26 2018, Starz has induced and continues to induce others to infringe at least claims 1, 2,
27 4, 5, 7, and 8 of the ’562 patent under 35 U.S.C. § 271(b) by, among other things, and
28 with specific intent or willful blindness, actively aiding and abetting others to infringe,

1 including but not limited to Starz’s partners and customers, whose use of the Accused
2 Instrumentalities constitutes direct infringement of at least claims 1, 2, 4, 5, 7, and 8 of
3 the ’562 patent.

4 403. In particular, Starz’s actions that aid and abet others such as their partners
5 and customers to infringe include distributing the Accused Instrumentalities and
6 providing materials and/or services related to the Accused Instrumentalities. On
7 information and belief, Starz has engaged in such actions with specific intent to cause
8 infringement or with willful blindness to the resulting infringement because Starz has
9 had actual knowledge of the ’562 patent and that its acts were inducing infringement
10 of the ’562 patent since at least approximately August 23, 2018.

11 404. On information and belief, Starz’s infringement has been and continues
12 to be willful.

13 405. Plaintiffs have been harmed by Starz’s infringing activities.

14 **COUNT VIII – INFRINGEMENT OF U.S. PATENT NO. 8,909,805**

15 406. The allegations set forth in the foregoing paragraphs 1 through 405 are
16 incorporated into this Eighth Claim for Relief.

17 407. On December 9, 2014, the ’805 patent was duly and legally issued by the
18 United States Patent and Trademark Office under the title “Apparatus and Method for
19 Providing Streaming Content.” A true and correct copy of the ’805 patent is attached
20 as Exhibit 8.

21 408. Ideahub is the assignee and owner of all right, title, and interest in and to
22 the ’805 patent.

23 409. Helios holds the exclusive right to assert all causes of action arising
24 under the ’805 patent and the right to collect any remedies for infringement of it.

25 410. Upon information and belief, Starz has and continues to induce the direct
26 infringement of at least claims 1, 2, 3, and 4 of the ’805 patent by selling, offering to
27 sell, making, using, and/or providing and causing to be used streaming media content
28 in accordance with the MPEG-DASH standard (the “Accused Instrumentalities”),

1 including one or more videos on demand (“VOD”) such as those available at
2 <https://www.starz.com/>.

3 411. Upon information and belief, the Accused Instrumentalities are used to
4 perform methods for providing media, the method comprising: receiving metadata of
5 media, the metadata comprising one or more periods; processing the received
6 metadata and extracting information included in the metadata, wherein the metadata
7 includes a range attribute; requesting a segment suitable for a specific interval based
8 on a request for bytes of a resource indicated by a URL that are designated by the
9 range attribute; accessing segments of the media based on information provided by the
10 metadata; decoding and rendering data of the media that is included in the segments;
11 wherein each of the periods comprises one or more representations of the media,
12 wherein each of the representations starts from a beginning point of a period including
13 each of the representation and continues to an ending point of the period, and
14 comprises one or more segments; and wherein determining the start of a first period
15 among one or more period comprises: when a start attribute exists in the first period
16 element of the first period, a start time of the first period is equivalent to a value of the
17 start attribute, when a start attribute does not exist in the first period element of the
18 first period, and when a second period element of the second period includes a
19 duration attribute, the start time of the first period is obtained by adding a value of the
20 duration attribute of the second period element to a start time of the second period,
21 and when a start attribute does not exist in the first period element of the first period,
22 and when the first period is the first of the one or more periods, the start time of the
23 first period is zero.

24 412. Upon information and belief, the Accused Instrumentalities directly
25 infringe claim 1 of the ’805 patent.

26 413. Upon information and belief, the Accused Instrumentalities receive
27 metadata of media, the metadata comprising one or more periods. For example, when
28 “Toy Story 3” is selected by a client from the videos available at

1 <https://www.starz.com/>, the client receives metadata of “Toy Story 3” in the form of a
2 “dashWeb.mpd” MPD that comprises one period.

3 414. Upon information and belief, the Accused Instrumentalities process the
4 received metadata and extract information included in the metadata, wherein the
5 metadata includes a range attribute. For example, a client of the Accused
6 Instrumentalities processes the metadata of the “dashWeb.mpd” for “Toy Story 3” and
7 extracts information included in the metadata, and the metadata of the
8 “dashWeb.mpd” for “Toy Story 3” comprises a range attribute comprising
9 “indexRange=‘1586-38573’” and “Initialization range=‘0-1585’.”

10 415. Upon information and belief, the Accused Instrumentalities request a
11 segment suitable for a specific interval based on a request for bytes of a resource
12 indicated by a URL that are designated by the range attribute. For example, a segment
13 is requested suitable for a specific interval based on a request for bytes indicated by a
14 URL that are designated by the range attribute comprising “indexRange=‘1586-
15 38573’” and “Initialization range=‘0-1585’.”

16 416. Upon information and belief, the Accused Instrumentalities access
17 segments of the media based on information provided by the metadata and decode and
18 render data of the media that is included in the segments. For example, the client
19 receives the requested segment of “Toy Story 3” and decodes and renders the data of
20 the media included in the segment so the user of the client can consume the desired
21 content.

22 417. Upon information and belief, each of the periods comprises one or more
23 representations of the media. For example, the “dashWeb.mpd” for “Toy Story 3”
24 comprises eight video representations.

25 418. Upon information and belief, each of the each of the representations
26 starts from a beginning point of a period including each of the representation and
27 continues to an ending point of the period, and comprises one or more segments. For
28 example, each representation in the video adaptation set of the “dashWeb.mpd” for

1 “Toy Story 3” comprises one or more segments and starts at the period start time and
2 continues to the ending point of that period, in compliance with the MPEG-DASH
3 standard. (See Section 5.3.5.1 (“A Representation starts at the start of the Period
4 PeriodStart and continues to the end of the Period.”).)

5 419. Upon information and belief, the Accused Instrumentalities determine the
6 start of a first period among one or more periods by a process that comprises when a
7 start attribute exists in the first period element of the first period, a start time of the
8 first period is equivalent to a value of the start attribute, when a start attribute does not
9 exist in the first period element of the first period, and when a second period element
10 of the second period includes a duration attribute, the start time of the first period is
11 obtained by adding a value of the duration attribute of the second period element to a
12 start time of the second period, and when a start attribute does not exist in the first
13 period element of the first period, and when the first period is the first of the one or
14 more periods, the start time of the first period is zero. For example, the
15 “dashWeb.mpd” of “Toy Story 3” has the start attribute “Period start=‘PT0S’.”

16 420. Upon information and belief, the Accused Instrumentalities directly
17 infringe claim 2 of the ’805 patent.

18 421. Upon information and belief, the Accused Instrumentalities directly
19 infringe claim 1 of the ’805 patent for the reasons set forth above in paragraphs 412-
20 419.

21 422. Upon information and belief, the Accused Instrumentalities perform the
22 method of claim 1, wherein the metadata is a Media Presentation Description (MPD)
23 of the media. For example, the metadata of “Toy Story 3” is a “dashWeb.mpd.”

24 423. Upon information and belief, the Accused Instrumentalities directly
25 infringe claim 3 of the ’805 patent.

26 424. Upon information and belief, the Accused Instrumentalities directly
27 infringe claim 1 of the ’805 patent for the reasons set forth above in paragraphs 412-
28 419.

1 425. Upon information and belief, the Accused Instrumentalities perform the
2 method of claim 1, wherein each of the periods is defined by a period element. For
3 example, the “dashWeb.mpd” for “Toy Story 3” includes a period that is defined by
4 period elements including “start” and “duration” attributes, among others.

5 426. Upon information and belief, the Accused Instrumentalities directly
6 infringe claim 4 of the ’805 patent.

7 427. Upon information and belief, the Accused Instrumentalities directly
8 infringe claim 3 of the ’805 patent for the reasons set forth above in paragraphs 423-
9 425.

10 428. Upon information and belief, the Accused Instrumentalities perform the
11 method of claim 3, wherein the period element comprises a start attribute indicating a
12 start time of a period. For example, the “dashWeb.mpd” for “Toy Story 3” includes a
13 period that comprises a “start” attribute indicating a start time of a period.

14 429. On information and belief, the Accused Instrumentalities have been used
15 to infringe and continue to directly infringe at least claims 1, 2, 3, and 4 of the ’805
16 patent during the pendency of the ’805 patent.

17 430. Since at least approximately August 23, 2018, Starz has had actual notice
18 that it is inducing the direct infringement of the ’805 patent.

19 431. On information and belief, the Accused Instrumentalities are used,
20 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
21 customers, and end users across the country and in this District.

22 432. Upon information and belief, since at least approximately August 23,
23 2018, Starz has induced and continues to induce others to infringe at least claims 1, 2,
24 3, and 4 of the ’805 patent under 35 U.S.C. § 271(b) by, among other things, and with
25 specific intent or willful blindness, actively aiding and abetting others to infringe,
26 including but not limited to Starz’s partners and customers, whose use of the Accused
27 Instrumentalities constitutes direct infringement of at least claims 1, 2, 3, and 4 of the
28 ’805 patent.

1 433. In particular, Starz’s actions that aid and abet others such as their partners
2 and customers to infringe include distributing the Accused Instrumentalities and
3 providing materials and/or services related to the Accused Instrumentalities. On
4 information and belief, Starz has engaged in such actions with specific intent to cause
5 infringement or with willful blindness to the resulting infringement because Starz has
6 had actual knowledge of the ’805 patent and that its acts were inducing infringement
7 of the ’805 patent since at least approximately August 23, 2018.

8 434. On information and belief, Starz’s infringement has been and continues
9 to be willful.

10 435. Plaintiffs have been harmed by Starz’s infringing activities.

11 **COUNT IX – INFRINGEMENT OF U.S. PATENT NO. 9,325,558**

12 436. The allegations set forth in the foregoing paragraphs 1 through 435 are
13 incorporated into this Ninth Claim for Relief.

14 437. On April 26, 2016, the ’558 patent was duly and legally issued by the
15 United States Patent and Trademark Office under the title “Apparatus and Method for
16 Providing Streaming Contents.” A true and correct copy of the ’558 patent is attached
17 as Exhibit 9.

18 438. Ideahub is the assignee and owner of all right, title, and interest in and to
19 the ’558 patent.

20 439. Helios holds the exclusive right to assert all causes of action arising
21 under the ’558 patent and the right to collect any remedies for infringement of it.

22 440. Upon information and belief, Starz has and continues to induce the direct
23 infringement of at least claims 1, 2, 3, 4, and 5 of the ’558 patent by selling, offering
24 to sell, making, using, and/or providing and causing to be used streaming media
25 content in accordance with the MPEG-DASH standard (the “Accused
26 Instrumentalities”), including one or more videos on demand (“VOD”) such as those
27 available at <https://www.starz.com/>.

28

1 441. Upon information and belief, the Accused Instrumentalities are used to
2 perform methods for providing media content including one or more periods, the
3 method comprising: receiving metadata of the media content from a server, the
4 metadata comprising a minBufferTime attribute indicating a minimum amount of
5 initially buffered media content that is required to ensure playout of the media content,
6 the minBufferTime attribute being defined in segment unit, wherein the metadata is a
7 media presentation description (MPD) that provides descriptive information that
8 enables a client to select one or more representations; receiving the media content
9 from the server, and buffering the received media content by at least the minimum
10 amount; and playing back the media content, wherein the minBufferTime attribute
11 relates to the one or more periods, and wherein the minBufferTime attribute relates to
12 providing a minimum amount of initially buffered media at a beginning of a media
13 presentation, at a beginning of the one or more periods of the media presentation, or at
14 any random access point of the media presentation.

15 442. Upon information and belief, the Accused Instrumentalities directly
16 infringe claim 1 of the '558 patent.

17 443. Upon information and belief, a client of the Accused Instrumentalities
18 provides media content including one or more periods by a method comprising
19 receiving metadata of the media content from a server, the metadata comprising a
20 minBufferTime attribute indicating a minimum amount of initially buffered media
21 content that is requires to ensure playout of the media content, the minBufferTime
22 attribute being defined in segment unit. For example, when “Toy Story 3” is selected
23 by a client from the videos available at <https://www.starz.com/>, the client receives
24 metadata of “Toy Story 3” in the form of a “dashWeb.mpd” MPD, which includes one
25 period and a minBufferTime attribute defined in a segment unit and indicating a
26 minimum amount of initially buffered media content that is required to ensure playout
27 of the media content.

28

1 444. Upon information and belief, the metadata is a media presentation
2 description (MPD) that provides descriptive information that enables a client to select
3 one or more representations. For example, when “Toy Story 3” is selected by a client
4 from the videos available at <https://www.starz.com/>, the client receives metadata of
5 “Toy Story 3” in the form of a “dashWeb.mpd” MPD, which provides descriptive
6 information that enables the client to select one or more representations of “Toy Story
7 3.”

8 445. Upon information and belief, the client receives the media content from
9 the server, buffers the received media content by at least the minimum amount, and
10 plays back the media content. For example, after the client has selected one or more
11 representations of “Toy Story 3,” the client receives the requested media content of
12 “Toy Story 3” from the server and buffers the received media content by at least the
13 minimum amount to facilitate successful playback of the content.

14 446. Upon information and belief, the minBufferTime attribute relates to the
15 one or more periods. For example, as the minBufferTime attribute in the
16 “dashWeb.mpd” MPD for “Toy Story 3” is found at the MPD level, the
17 minBufferTime attribute relates to the lower hierarchical levels, including the
18 period(s).

19 447. Upon information and belief, the minBufferTime attribute relates to
20 providing a minimum amount of initially buffered media at a beginning of a media
21 presentation, at a beginning of the one or more periods of the media presentation, or at
22 any random access point of the media presentation. For example, as the
23 “dashWeb.mpd” MPD for “Toy Story 3” has only one period, the minBufferTime
24 attribute relates to providing a minimum amount of initially buffered media at the
25 beginning of the media presentation.

26 448. Upon information and belief, the Accused Instrumentalities directly
27 infringe claim 2 of the ’558 patent.
28

1 449. Upon information and belief, the Accused Instrumentalities directly
2 infringe claim 1 for the reasons set forth above in paragraphs 442-447.

3 450. Upon information and belief, the Accused Instrumentalities perform the
4 method of claim 1, wherein the metadata is the Media Presentation Description of the
5 media content. For example, when “Toy Story 3” is selected by a client from the
6 videos available at <https://www.starz.com/>, the client receives metadata of “Toy Story
7 3” in the form of a “dashWeb.mpd” MPD.

8 451. Upon information and belief, the Accused Instrumentalities directly
9 infringe claim 3 of the ’558 patent.

10 452. Upon information and belief, the Accused Instrumentalities directly
11 infringe claim 1 for the reasons set forth above in paragraphs 442-447.

12 453. Upon information and belief, the Accused Instrumentalities perform the
13 method of claim 1, wherein the minBufferTime attribute indicates the minimum
14 amount of the initially buffered media content that is required to ensure playout of the
15 media content when the media content is continuously delivered at or above a value of
16 a bandwidth attribute of the metadata. For example, the “dashWeb.mpd” MPD for
17 “Toy Story 3” includes a minBufferTime attribute and a bandwidth attribute, and the
18 minBufferTime attribute indicates the minimum amount of the initially buffered
19 media content that is required to ensure playout of the media content when the media
20 content is continuously delivered at or above the value of the bandwidth attribute.

21 454. Upon information and belief, the Accused Instrumentalities directly
22 infringe claim 4 of the ’558 patent.

23 455. Upon information and belief, the Accused Instrumentalities directly
24 infringe claim 1 for the reasons set forth above in paragraphs 442-447.

25 456. Upon information and belief, the Accused Instrumentalities perform the
26 method of claim 1, wherein each of the periods comprises one or more representations
27 of the media content, each of the representations being a structured collection of one
28 or more media components within a period, and wherein the bandwidth attribute is an

1 attribute of each of the representations, and describes a minimum bandwidth of a
2 hypothetical constant bitrate channel over which each of the representations are able
3 to be continuously delivered after the client buffers each of the representations for at
4 least minBufferTime. For example, the “dashWeb.mpd” MPD for “Toy Story 3”
5 includes one period, a minBufferTime attribute, and a bandwidth attribute, the period
6 comprising one or more representations of the media content, which are each
7 structured as a collection of one or more media components within a period, and the
8 bandwidth attribute is an attribute of each of the representations that describes a
9 minimum bandwidth of a hypothetical constant bitrate channel over which each of the
10 representations are able to be continuously delivered after the client buffers for at least
11 a minBufferTime.

12 457. Upon information and belief, the Accused Instrumentalities directly
13 infringe claim 5 of the '558 patent.

14 458. Upon information and belief, the Accused Instrumentalities directly
15 infringe claim 4 for the reasons set forth above in paragraphs 454-456.

16 459. Upon information and belief, the Accused Instrumentalities perform the
17 method of claim 4, wherein each of the representations comprises one or more
18 segments. For example, in the “dashWeb.mpd” MPD for “Toy Story 3,”
19 “Representation id=‘8’” comprises one or more segments.

20 460. On information and belief, the Accused Instrumentalities have been used
21 to infringe and continue to directly infringe at least claims 1, 2, 3, 4, and 5 of the '558
22 patent during the pendency of the '558 patent.

23 461. Since at least approximately August 23, 2018, Starz has had actual notice
24 that it is inducing the direct infringement of the '558 patent.

25 462. On information and belief, the Accused Instrumentalities are used,
26 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
27 customers, and end users across the country and in this District.

28

1 463. Upon information and belief, since at least approximately August 23,
2 2018, Starz has induced and continues to induce others to infringe at least claims 1, 2,
3 3, 4, and 5 of the '558 patent under 35 U.S.C. § 271(b) by, among other things, and
4 with specific intent or willful blindness, actively aiding and abetting others to infringe,
5 including but not limited to Starz's partners and customers, whose use of the Accused
6 Instrumentalities constitutes direct infringement of at least claims 1, 2, 3, 4, and 5 of
7 the '558 patent.

8 464. In particular, Starz's actions that aid and abet others such as their partners
9 and customers to infringe include distributing the Accused Instrumentalities and
10 providing materials and/or services related to the Accused Instrumentalities. On
11 information and belief, Starz has engaged in such actions with specific intent to cause
12 infringement or with willful blindness to the resulting infringement because Starz has
13 had actual knowledge of the '558 patent and that its acts were inducing infringement
14 of the '558 patent since at least approximately August 23, 2018.

15 465. On information and belief, Starz's infringement has been and continues
16 to be willful.

17 466. Plaintiffs have been harmed by Starz's infringing activities.

18 **COUNT X – INFRINGEMENT OF U.S. PATENT NO. 9,467,493**

19 467. The allegations set forth in the foregoing paragraphs 1 through 466 are
20 incorporated into this Tenth Claim for Relief.

21 468. On October 11, 2016, the '493 patent was duly and legally issued by the
22 United States Patent and Trademark Office under the title "Apparatus and Method for
23 Providing Streaming Content." A true and correct copy of the '493 patent is attached
24 as Exhibit 10.

25 469. Ideahub is the assignee and owner of all right, title, and interest in and to
26 the '493 patent.

27 470. Helios holds the exclusive right to assert all causes of action arising
28 under the '493 patent and the right to collect any remedies for infringement of it.

1 471. Upon information and belief, Starz has and continues to induce the direct
2 infringement of at least claims 1, 2, and 4 of the '493 patent by selling, offering to
3 sell, making, using, and/or providing and causing to be used streaming media content
4 in accordance with the MPEG-DASH standard (the "Accused Instrumentalities"),
5 including one or more videos on demand ("VOD") such as those available at
6 <https://www.starz.com/>.

7 472. Upon information and belief, the Accused Instrumentalities are used to
8 perform methods for providing media, the methods comprising: receiving metadata of
9 media, the metadata comprising one or more BaseURL elements; sending a request
10 for a segment of the media using a Uniform Resource Locator (URL) of the segment,
11 the URL being resolved with respect to a BaseURL element; receiving the segment;
12 and decoding and rendering data of the media that is included in the segment, wherein
13 the metadata selectively comprises a sourceURL attribute of the segment, and
14 wherein, when the metadata selectively comprises the sourceURL attribute of the
15 segment, a BaseURL element among the BaseURL elements is mapped to the
16 sourceURL attribute, so that the URL is generated.

17 473. Upon information and belief, the Accused Instrumentalities directly
18 infringe claim 1 of the '493 patent.

19 474. Upon information and belief, the Accused Instrumentalities receive
20 metadata of media, the metadata comprising one or more BaseURL elements. For
21 example, when "Toy Story 3" is selected by a client from the videos available at
22 <https://www.starz.com/>, the client receives metadata of "Toy Story 3" in the form of a
23 "dashWeb.mpd" MPD, which comprises one or more BaseURL elements.

24 475. Upon information and belief, the Accused Instrumentalities send a
25 request for a segment of the media using a Uniform Resource Locator (URL) of the
26 segment, the URL being resolved with respect to a BaseURL element. For example,
27 the client receiving the "dashWeb.mpd" MPD for "Toy Story 3" sends a request for a
28

1 segment of “Toy Story 3” using a URL that is resolved with respect to the BaseURL
2 element in the “dashWeb.mpd” MPD.

3 476. Upon information and belief, the Accused Instrumentalities receives the
4 segment and decodes and renders data of the media that is included in the segment.
5 For example, the client receives the requested segment of “Toy Story 3” and decodes
6 and renders the data of the media included in the segment so the user of the client can
7 consume the desired content.

8 477. Upon information and belief, the metadata selectively comprises a
9 sourceURL attribute of the segment, and, when the metadata selectively comprises the
10 sourceURL attribute of the segment, a BaseURL element among the BaseURL
11 elements is mapped to the sourceURL attribute, so that the URL is generated. For
12 example, as the “dashWeb.mpd” for “Toy Story 3” selectively comprises a
13 sourceURL attribute, the BaseURL element “c11181e6-3991-4b71-a8c0-
14 c0d941da1b30_hd14.mp4” is mapped to the sourceURL attribute so that the URL is
15 generated.

16 478. Upon information and belief, the Accused Instrumentalities directly
17 infringe claim 2 of the ’493 patent.

18 479. Upon information and belief, the Accused Instrumentalities directly
19 infringe claim 1 of the ’805 patent for the reasons set forth above in paragraphs 473-
20 477.

21 480. Upon information and belief, the Accused Instrumentalities perform the
22 method of claim 1, wherein the metadata is a Media Presentation Description (MPD)
23 of the media. For example, the metadata of “Toy Story 3” is a “dashWeb.mpd.”

24 481. Upon information and belief, the Accused Instrumentalities are used to
25 perform methods for providing media, the methods comprising: receiving metadata of
26 media, the metadata comprising one or more BaseURL elements; sending a request
27 for a segment of the media using a Uniform Resource Locator (URL) of the segment,
28 the URL being resolved with respect to a BaseURL element; receiving the segment;

1 and decoding and rendering data of the media that is included in the segment, wherein
2 the metadata is a Media Presentation Description (MPD) of the media, wherein the
3 metadata selectively comprises a sourceURL attribute of the segment, and wherein,
4 when the metadata selectively comprises the sourceURL attribute of the segment, a
5 BaseURL element among the BaseURL elements is mapped to the sourceURL
6 attribute, so that the URL is generated.

7 482. Upon information and belief, the Accused Instrumentalities directly
8 infringe claim 4 of the '493 patent.

9 483. Upon information and belief, the Accused Instrumentalities receive
10 metadata of media, the metadata comprising one or more BaseURL elements. For
11 example, when "Toy Story 3" is selected by a client from the videos available at
12 <https://www.starz.com/>, the client receives metadata of "Toy Story 3" in the form of a
13 "dashWeb.mpd" MPD, which comprises one or more BaseURL elements.

14 484. Upon information and belief, the Accused Instrumentalities send a
15 request for a segment of the media using a Uniform Resource Locator (URL) of the
16 segment, the URL being resolved with respect to a BaseURL element. For example,
17 the client receiving the "dashWeb.mpd" MPD for "Toy Story 3" sends a request for a
18 segment of "Toy Story 3" using a URL that is resolved with respect to the BaseURL
19 element in the "dashWeb.mpd" MPD.

20 485. Upon information and belief, the Accused Instrumentalities receives the
21 segment and decodes and renders data of the media that is included in the segment.
22 For example, the client receives the requested segment of "Toy Story 3" and decodes
23 and renders the data of the media included in the segment so the user of the client can
24 consume the desired content.

25 486. Upon information and belief, the metadata is a Media Presentation
26 Description (MPD) of the media. For example, the metadata is "dashWeb.mpd" MPD
27 for "Toy Story 3."
28

1 487. Upon information and belief, the metadata selectively comprises a
2 sourceURL attribute of the segment, and, when the metadata selectively comprises the
3 sourceURL attribute of the segment, a BaseURL element among the BaseURL
4 elements is mapped to the sourceURL attribute, so that the URL is generated. For
5 example, as the “dashWeb.mpd” for “Toy Story 3” selectively comprises a
6 sourceURL attribute, the BaseURL element “c11181e6-3991-4b71-a8c0-
7 c0d941da1b30_hd14.mp4” is mapped to the sourceURL attribute so that the URL is
8 generated.

9 488. On information and belief, the Accused Instrumentalities have been used
10 to infringe and continue to directly infringe at least claims 1, 2 and 4 of the ’493
11 patent during the pendency of the ’493 patent.

12 489. Since at least approximately August 23, 2018, Starz has had actual notice
13 that it is inducing the direct infringement of the ’493 patent.

14 490. On information and belief, the Accused Instrumentalities are used,
15 marketed, provided to, and/or used by or for each of Defendant’s partners, clients,
16 customers, and end users across the country and in this District.

17 491. Upon information and belief, since at least approximately August 23,
18 2018, Starz has induced and continues to induce others to infringe at least claims 1, 2
19 and 4 of the ’493 patent under 35 U.S.C. § 271(b) by, among other things, and with
20 specific intent or willful blindness, actively aiding and abetting others to infringe,
21 including but not limited to Starz’s partners and customers, whose use of the Accused
22 Instrumentalities constitutes direct infringement of at least claims 1, 2 and 4 of the
23 ’493 patent.

24 492. In particular, Starz’s actions that aid and abet others such as their partners
25 and customers to infringe include distributing the Accused Instrumentalities and
26 providing materials and/or services related to the Accused Instrumentalities. On
27 information and belief, Starz has engaged in such actions with specific intent to cause
28 infringement or with willful blindness to the resulting infringement because Starz has

1 had actual knowledge of the '493 patent and that its acts were inducing infringement
2 of the '493 patent since at least approximately August 23, 2018.

3 493. On information and belief, Starz's infringement has been and continues
4 to be willful.

5 494. Plaintiffs have been harmed by Starz's infringing activities.

6 **STATEMENT REGARDING FRAND OBLIGATION**

7 495. Plaintiffs contend that, pursuant to relevant ISO and IEC guidelines,
8 bylaws, and policies, many of the claims of the Asserted Patents are subject to Fair,
9 Reasonable, and Non-Discriminatory ("FRAND") licensing obligations to willing
10 licensees.

11 496. To the extent Starz refuses to willingly take a license under such claims
12 of the Asserted Patents under FRAND terms, Plaintiffs reserve the right to treat Starz
13 as an unwilling licensee, such that Plaintiffs would not be bound by any FRAND
14 licensing obligation for purposes of this action or any license to Starz. Accordingly,
15 Plaintiffs seek the maximum available reasonable royalty damages to compensate for
16 Starz's infringing activities.

17 **JURY DEMAND**

18 Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiffs demand
19 a trial by jury on all issues triable as such.

20 **PRAYER FOR RELIEF**

21 WHEREFORE, Plaintiffs demand judgment for itself and against Starz as
22 follows:

- 23 A. An adjudication that Starz has infringed each of the Asserted Patents;
24 B. An award of damages to be paid by Starz adequate to compensate
25 Plaintiffs for Starz's past infringement of each of the Asserted Patents, and any
26 continuing or future infringement through the date such judgment is entered, including
27 interest, costs, expenses and an accounting of all infringing acts including, but not
28 limited to, those acts not presented at trial;

1 C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an
2 award of Plaintiffs' reasonable attorneys' fees; and

3 D. An award to Plaintiffs of such further relief at law or in equity as the
4 Court deems just and proper.

5 Dated: November 6, 2019

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