

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Based on information presently available, Advanced Coding Technologies LLC (“ACT”) contends that Defendant Google LLC (“Defendant” or “Google”) infringe Claims 1-5 and 7 (the “Asserted Claims”) of U.S. Patent No. 8,230,101 (the “’101 Patent”) through the Accused Products which are manufactured, sold, offered for sale, and/or used by Google.

Representativeness: Each Accused Product, including YouTube (which utilizes one or more video codecs for network content delivery) and any Google device that utilizes YouTube is representative of other Accused Products for the purposes of infringement of the ’101 Patent. Based on publicly available information, ACT believes each Accused Product shares substantially the same structure and functionality with respect to the components which are relevant to infringement given that, among other things, the listed products all purport to implement YouTube.

Google directly infringes each of the Asserted Claims by using, importing, testing, selling, and/or offering for sale the Accused Products in violation of 35 U.S.C. § 271(a).

Google indirectly infringes the Asserted Claims in violation of 35 U.S.C. § 271(b) by inducing third parties, including its users and/or customers, to directly infringe through their operation and use of the Accused Products. Google has knowingly and intentionally induced this direct infringement by, *inter alia*, (i) selling, importing, or otherwise providing the Accused Products to third parties with the intent that the Accused Products will be operated and used in a manner that practices the Asserted Claim; and (ii) marketing and advertising the Accused Products. Google’s marketing and promotional materials for the Accused Products are found, for example, on Google’s website, and in App stores of operating systems for which the Accused Products are made available. For example, Google’s website offers customers instructions and/or manuals for the Accused Products that instruct customers to, among other things, use the accused functionality in the Accused Products. Google’s website also offers support to customers, including instruction to, among other things, use the Accused Products. On information and belief, Google knows that its actions will result in infringement of the Asserted Claims, or subjectively believes that there is a high probability that its actions will result in infringement of the Asserted Claims but has taken deliberate actions to avoid learning these facts.

Plaintiff contends that the Accused Products perform each step of the claimed methods. Plaintiff contends that use, testing, and qualification of the Accused Products by Google itself, as well as use by customers and end-users of the Accused Products, perform each step of the claimed methods. On information and belief, backend servers, under the direction and control of the Accused Products, may perform certain steps of the claimed methods. Google, its customers, and users of the Accused Products derive benefits from their infringement.

On information and belief, the charted version of Google’s products is representative of all versions of the Accused Products, including all variants of the Accused Products made, sold, offered for sale, or used on any operating system.

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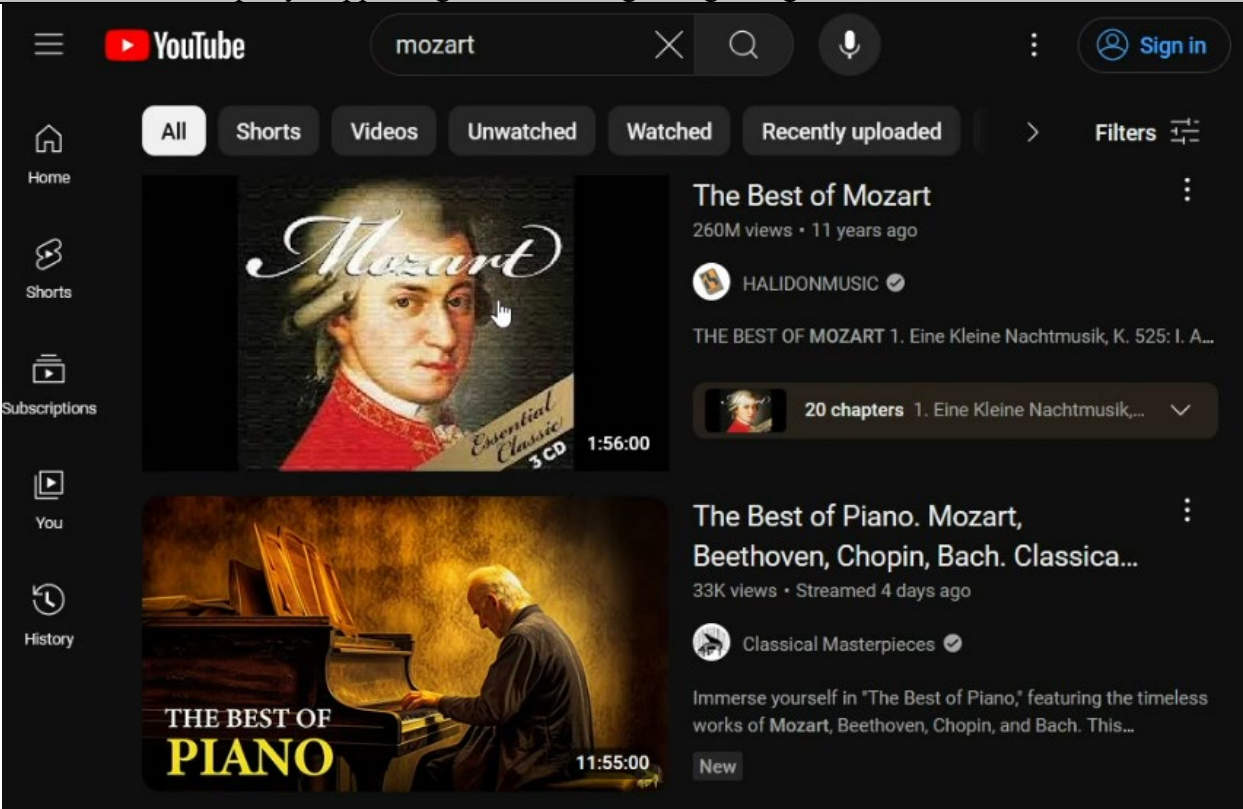
ACT does not concede that any claims of the '101 Patent that are not listed below are not infringed by the identified Accused Products. Moreover, the citations to certain documents and other information below are intended to be exemplary only and in no way foreclose ACT from citing or relying on additional documents, information, source code, and/or testimony at a later time. These contentions are preliminary in nature, and an analysis of Google's products, internal documentation, source code, and/or testimony from relevant witnesses may more fully and accurately describe the infringing features of its Accused Products. Accordingly, ACT reserves the right to supplement, correct, modify, and/or amend these contentions once such additional information is made available to ACT. Furthermore, ACT reserves the right to supplement, correct, modify, and/or amend these contentions as discovery in this case progresses; in view of the Court's claim construction order(s); in view of any positions taken by Google including, but not limited to, positions on claim construction, invalidity, and/or non-infringement; and in connection with the preparation and exchange of expert reports.

The contents of every below claim cell on which another claim cell depends are expressly incorporated by reference in that dependent cell, as if set forth in their entirety therein.

Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google's Accused Products
[1P] A server device for media, the server device for media comprising:	The Google Accused Products are each: A server device for media, the server device for media. Google directly infringes by using, importing, testing, selling, and/or offering for sale devices having the Google Accused Products. For example, YouTube is a video streaming service owned by Google that makes use of a server to stream content using Dynamic Adaptive Streaming over HTTP (DASH) protocol.

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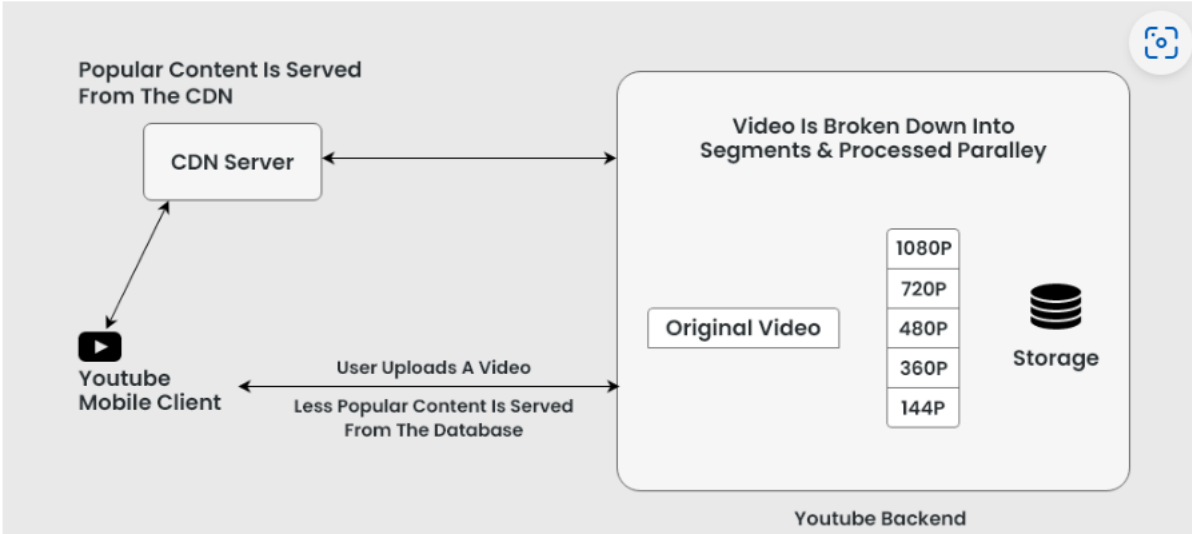
Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
	 <p>The screenshot shows the YouTube interface with the search term 'mozart'. Two video results are visible:</p> <ul style="list-style-type: none">The Best of Mozart: 260M views • 11 years ago, by HALIDONMUSIC. Description: THE BEST OF MOZART 1. Eine Kleine Nachtmusik, K. 525: I. A... 20 chapters. 1. Eine Kleine Nachtmusik,...The Best of Piano. Mozart, Beethoven, Chopin, Bach. Classica...: 33K views • Streamed 4 days ago, by Classical Masterpieces. Description: Immerse yourself in "The Best of Piano," featuring the timeless works of Mozart, Beethoven, Chopin, and Bach. This... New

Source: Testing video, timestamp-03:17

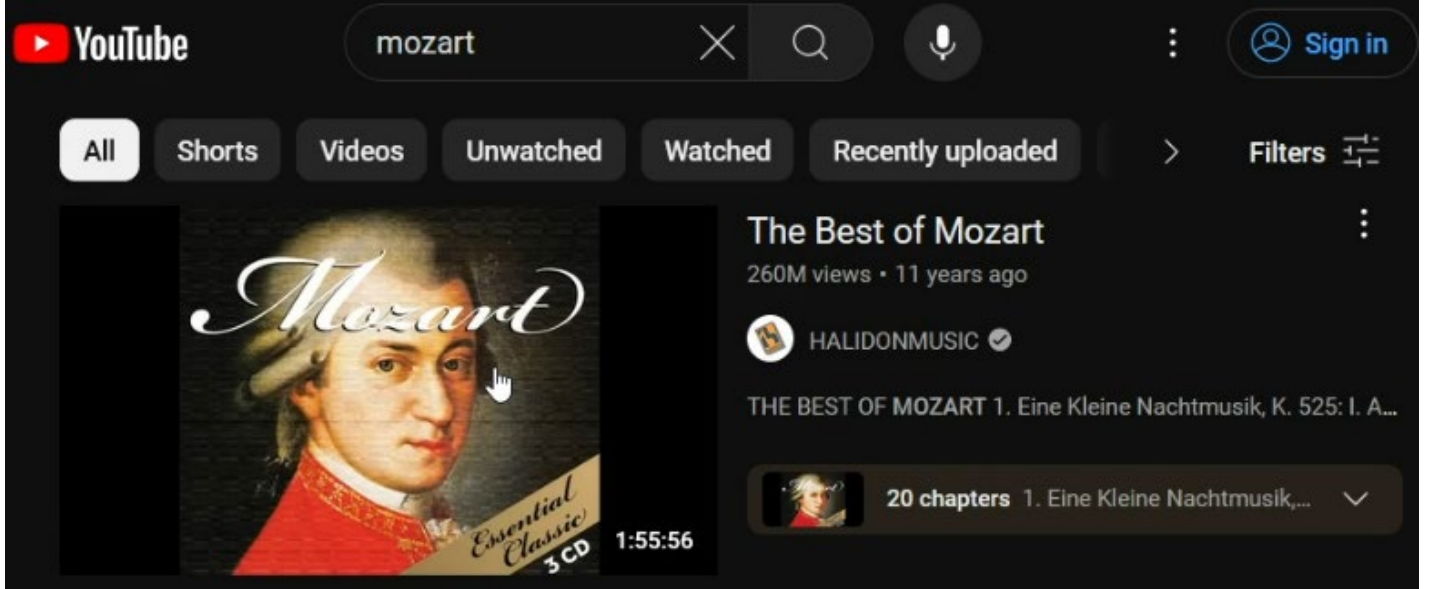
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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products	
	<p><code>cdn.ingestionInfo.ingestionAddress</code></p>	<p>string The primary ingestion URL that you should use to stream video to YouTube you use RTMP, DASH, or HLS. You must stream video to this URL.</p> <p>Depending on which application or tool you use to encode your video stream you may need to enter the stream URL and stream name separately or you may need to concatenate them in the following format:</p> <div style="border: 1px solid #ccc; padding: 10px; text-align: center; background-color: #f9f9f9;"> <p>STREAM_URL / STREAM_NAME</p> </div>
	<p><code>cdn.ingestionInfo.backupIngestionAddress</code></p>	<p>string The backup ingestion URL that you should use to stream video to YouTube you use RTMP, DASH, or HLS. You have the option of simultaneously streaming the content that you are sending to the <code>ingestionAddress</code> to this URL.</p>
<p>Source: https://developers.google.com/youtube/v3/live/docs/liveStreams#cdn.ingestionInfo.rtmpsIngestionAddress</p>		

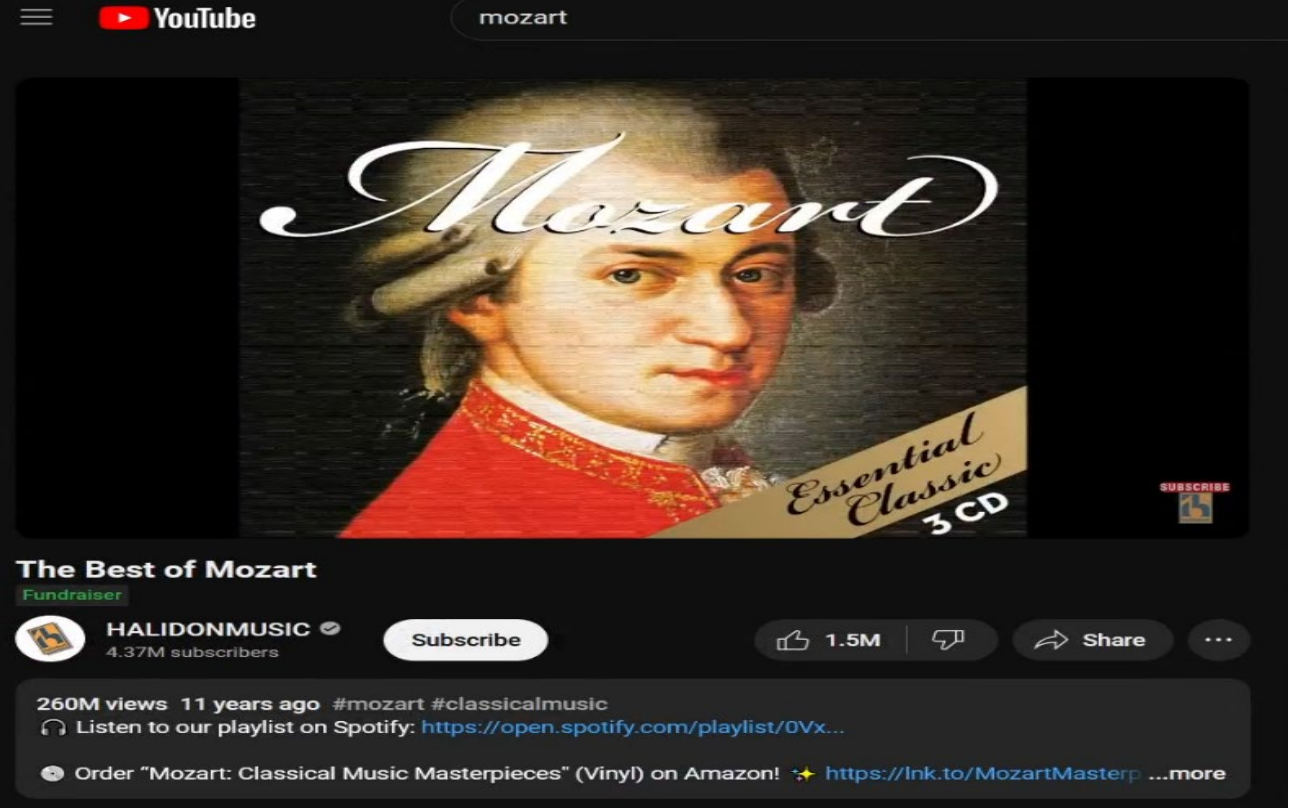
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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
	 <p>The diagram, titled 'Youtube Backend', illustrates the system architecture. On the left, a 'Youtube Mobile Client' (represented by a play button icon) sends a request to a 'CDN Server'. The text above the CDN server states 'Popular Content Is Served From The CDN'. On the right, a large box labeled 'Youtube Backend' contains an 'Original Video' box, a 'Storage' icon (represented by a cylinder), and a list of video resolutions: 1080P, 720P, 480P, 360P, and 144P. The text above this box states 'Video Is Broken Down Into Segments & Processed Parallely'. A double-headed arrow connects the 'CDN Server' and the 'Youtube Backend' box. Below the 'Youtube Backend' box, text indicates 'Less Popular Content Is Served From The Database'. A double-headed arrow connects the 'Youtube Mobile Client' and the 'Youtube Backend' box, with the text 'User Uploads A Video' positioned above it.</p> <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[1A] an internal storage device for storing digital contents, wherein the server device for media responds to a data transmission request from a network player by stream-delivering</p>	<p>The Google Accused Products comprise: an internal storage device for storing digital contents, wherein the server device for media responds to a data transmission request from a network player by stream-delivering corresponding data in corresponding digital contents from the internal storage device to the network player during connection to a network.</p> <p>For example, YouTube comprises of backend server, which it uses for storing the videos. During testing, it was observed that once the user clicks on a video thumbnail (i.e., a data transmission request from a network player), the YouTube website (i.e., the network player) redirects the user to the video page and streams the requested video file.</p>

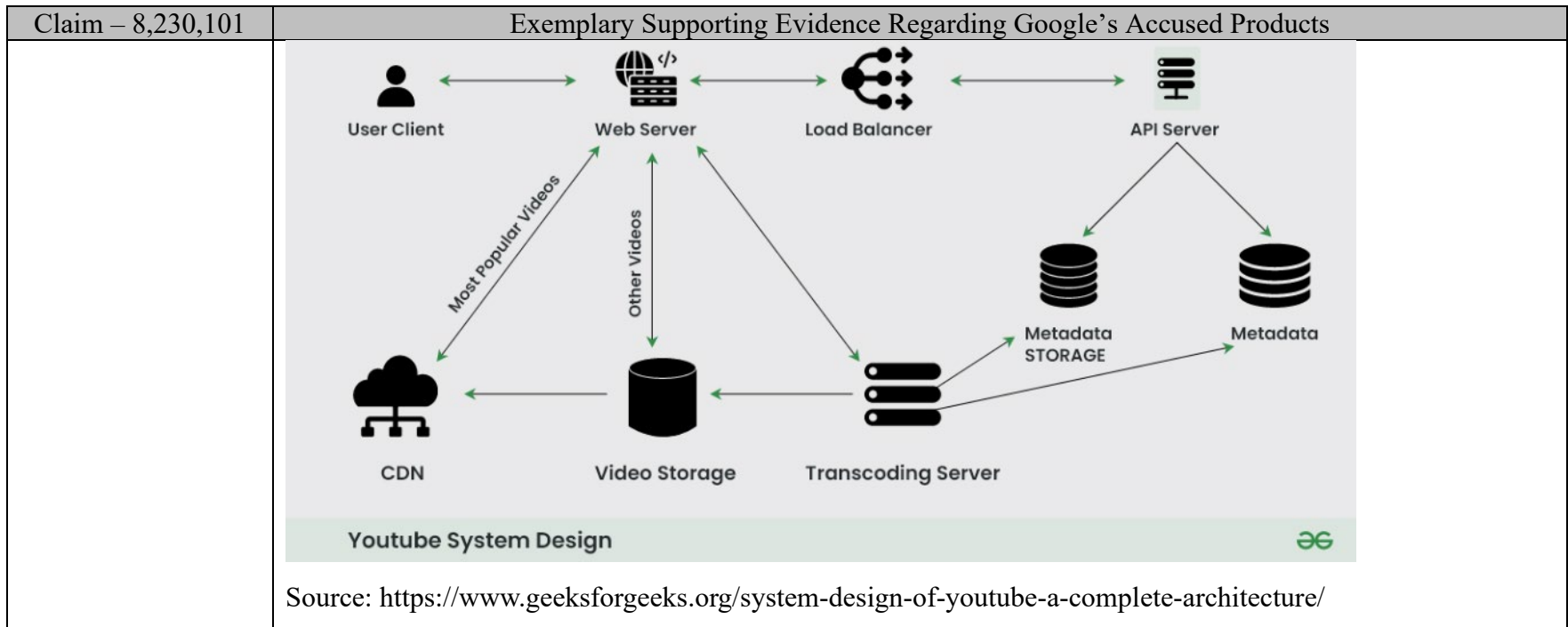
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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>corresponding data in corresponding digital contents from the internal storage device to the network player during connection to a network;</p>	 <p>The screenshot shows a YouTube search interface with the search term 'mozart'. The search results display a video titled 'The Best of Mozart' by the channel 'HALIDONMUSIC'. The video has 260M views and was uploaded 11 years ago. The video thumbnail features a portrait of Mozart and the text 'Mozart' and 'Essential Classic 3 CD'. The video duration is 1:55:56. Below the video, there are 20 chapters, with the first chapter being '1. Eine Kleine Nachtmusik, K. 525: I. A...'. The source is cited as 'Testing video, timestamp-03:21'.</p>

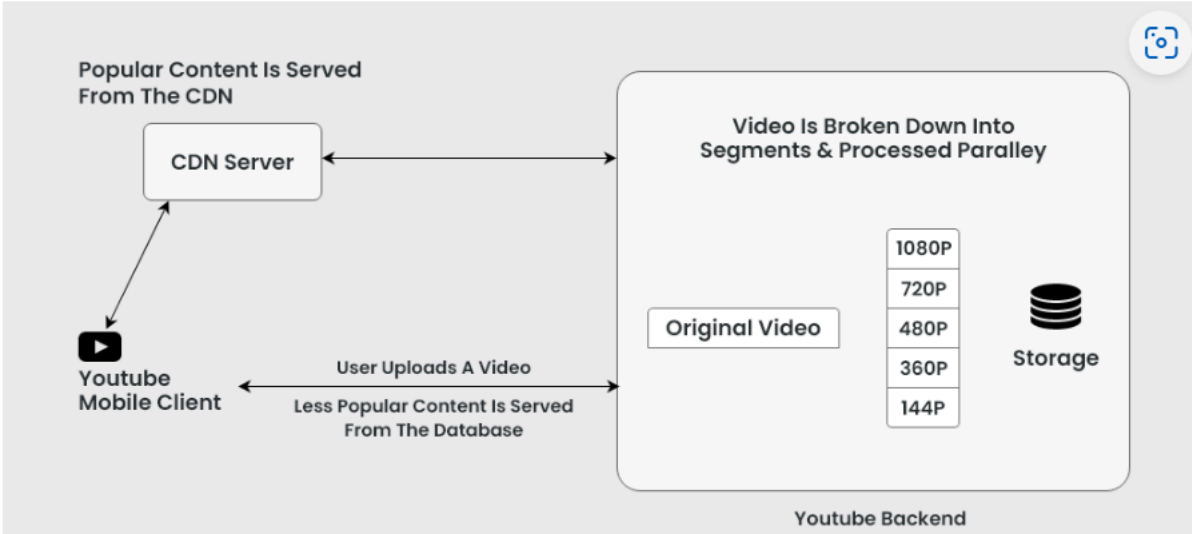
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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
	 <p>The screenshot displays a YouTube video player interface. At the top, the YouTube logo and search bar with the text "mozart" are visible. The video content shows a portrait of Wolfgang Amadeus Mozart with the word "Mozart" written in a large, elegant cursive font across his face. Below the portrait, there is a banner that reads "Essential Classic 3 CD". The video title is "The Best of Mozart" and it is marked as a "Fundraiser". The channel name is "HALIDONMUSIC" with 4.37M subscribers. The video has 260M views and was posted 11 years ago. The video description includes a Spotify link: "Listen to our playlist on Spotify: https://open.spotify.com/playlist/0Vx..." and an Amazon link: "Order 'Mozart: Classical Music Masterpieces' (Vinyl) on Amazon! ✨ https://lnk.to/MozartMasterp ...more". The video player interface also shows engagement buttons for "Like" (1.5M), "Share", and "Subscribe".</p>
	<p>Source: Testing video, timestamp- 3:58</p>

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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
	 <p>The diagram illustrates the YouTube architecture. On the left, a 'Youtube Mobile Client' (represented by a play button icon) sends data to a 'CDN Server'. Above the CDN server, text states 'Popular Content Is Served From The CDN'. On the right, the 'Youtube Backend' is shown, which includes 'Original Video' and 'Storage' (represented by a database icon). A list of video resolutions is shown: 1080P, 720P, 480P, 360P, and 144P. Text above the backend states 'Video Is Broken Down Into Segments & Processed Parallely'. A double-headed arrow connects the CDN server and the Youtube Backend. Below this arrow, text reads 'User Uploads A Video' and 'Less Popular Content Is Served From The Database'.</p> <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[1B] a transfer control unit adapted to transfer and store part of held digital contents in the internal storage device to a network storage device, wherein the network storage device is connected to the network and is capable of storing data, and wherein said transfer control unit does not transfer, from the internal storage device to the network storage device, the digital contents that cannot be recovered if a network failure occurs during the transferring of the digital contents from the internal storage device to the network storage device.</p>	<p>The Google Accused Products comprise: a transfer control unit adapted to transfer and store part of held digital contents in the internal storage device to a network storage device, wherein the network storage device is connected to the network and is capable of storing data, and wherein said transfer control unit does not transfer, from the internal storage device to the network storage device, the digital contents that cannot be recovered if a network failure occurs during the transferring of the digital contents from the internal storage device to the network storage device.</p> <p>For example, YouTube makes use of Content Delivery Network (CDN) to distribute the content to its multiple servers so the user can stream content. While hosting the content on the CDN (i.e., a network storage device), YouTube APIs allows the developer to have multiple URLs for streaming the content, such as “ingestionAddress”, “backupIngestionAddress”, etc. When a user requests data, the Google Cloud storage</p>

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<p>network and is capable of storing data, and wherein said transfer control unit does not transfer, from the internal storage device to the network storage device, the digital contents that cannot be recovered if a network failure occurs during the transferring of the digital contents from the internal storage device to the network storage device;</p>	<p>servers first cache (i.e. transferring and storing) the data from cloud storage (i.e. internal storage) to Cloud CDN storage (i.e., Network storage). While delivering the data from the cloud server to various APIs, the data is cached to the cloud CDN storage if it is cacheable, which describes “wherein the digital contents that cannot be recovered if a network failure occurs during the transferring of the digital contents are not transferred from the internal storage device to the network storage device.”</p> <div data-bbox="499 451 961 630" style="background-color: #e0e0e0; padding: 5px;"> <p>cdn</p> </div> <div data-bbox="972 467 1843 618" style="padding: 5px;"> <p>object The cdn object defines the live stream's content delivery network (CDN) settings. These settings provide details about the manner in which you stream your content to YouTube.</p> </div> <p>Source: https://developers.google.com/youtube/v3/live/docs/liveStreams#cdn.ingestionInfo.rtmpsIngestionAddress</p> <div data-bbox="510 776 1696 1312" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p>The diagram illustrates the YouTube architecture. On the left, a 'Youtube Mobile Client' is shown. An arrow points from the client to a 'CDN Server'. Above the CDN server, text states 'Popular Content Is Served From The CDN'. A double-headed arrow connects the CDN server to the 'Youtube Backend'. Inside the backend, text says 'Video Is Broken Down Into Segments & Processed Parallely'. Below this, a list of resolutions is shown: 1080P, 720P, 480P, 360P, and 144P. To the right of the list is a 'Storage' icon. An arrow points from the 'Storage' area back to the 'Youtube Mobile Client', with text indicating 'User Uploads A Video' and 'Less Popular Content Is Served From The Database'. The entire backend area is labeled 'Youtube Backend' at the bottom.</p> </div> <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p>

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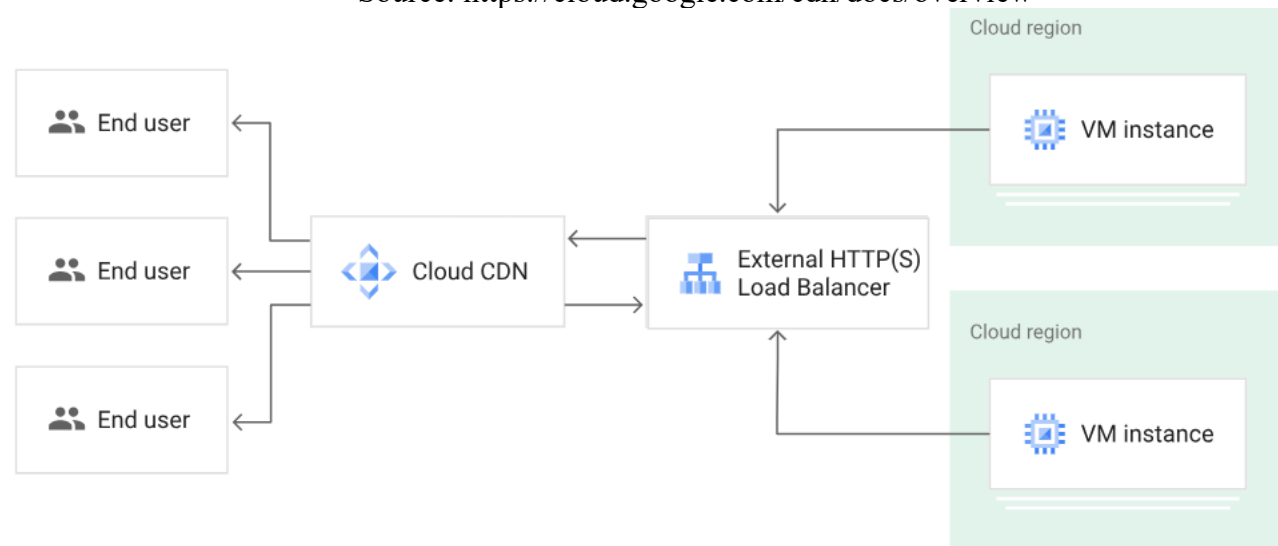
Cloud CDN works with the [global external Application Load Balancer](#) or the [classic Application Load Balancer](#) to deliver content to your users. The external Application Load Balancer provides the frontend IP addresses and ports that receive requests and the backends that respond to the requests.

Source: <https://cloud.google.com/cdn/docs/overview>

Cloud CDN content can be sourced from [various types of backends](#).

In Cloud CDN, these backends are also called *origin servers*. Figure 1 illustrates how responses from origin servers that run on virtual machine (VM) instances flow through an external Application Load Balancer before being delivered by Cloud CDN. In this situation, the [Google Front End \(GFE\)](#) comprises Cloud CDN and the external Application Load Balancer.

Source: <https://cloud.google.com/cdn/docs/overview>




Source: <https://cloud.google.com/cdn/docs/overview>

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	<p>Serving content from a cache ⇔</p> <p>After you enable Cloud CDN, caching happens automatically for all cacheable content. Your origin server uses HTTP headers to indicate which responses are cached. You can also control cacheability by using cache modes.</p> <p>When you use a backend bucket, the origin server is Cloud Storage. When you use VM instances, the origin server is the web server software that you run on those instances.</p> <p>Cloud CDN uses caches in numerous locations around the world. Because of the nature of caches, it is impossible to predict whether a particular request is served out of a cache. You can, however, expect that popular requests for cacheable content are served from a cache most of the time, yielding significantly reduced latencies, reduced cost, and reduced load on your origin servers.</p> <p>For more information about what Cloud CDN caches and for how long, see the Caching overview.</p> <p>To see what Cloud CDN is serving from a cache, you can view logs.</p> <p>Source: https://cloud.google.com/cdn/docs/overview</p>
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	<div data-bbox="506 237 932 672"> <p><code>cdn.ingestionInfo.ingestionAddress</code></p> </div> <div data-bbox="947 237 1822 672"> <p>string The primary ingestion URL that you should use to stream video to YouTube if you use RTMP, DASH, or HLS. You must stream video to this URL.</p> <p>Depending on which application or tool you use to encode your video stream, you may need to enter the stream URL and stream name separately or you may need to concatenate them in the following format:</p> <div data-bbox="953 518 1822 656" style="border: 1px solid #ccc; padding: 10px; background-color: #f9f9f9;"> <p align="center">STREAM_URL/STREAM_NAME </p> </div> </div> <hr/> <div data-bbox="506 672 932 873"> <p><code>cdn.ingestionInfo.backupIngestionAddress</code></p> </div> <div data-bbox="947 672 1822 873"> <p>string The backup ingestion URL that you should use to stream video to YouTube if you use RTMP, DASH, or HLS. You have the option of simultaneously streaming the content that you are sending to the <code>ingestionAddress</code> to this URL.</p> </div> <p>Source: https://developers.google.com/youtube/v3/live/docs/liveStreams#cdn.ingestionInfo.rtmpsIngestionAddress</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[1C] a list information transmission unit adapted to respond to a list presentation request for the held digital contents of</p>	<p>The Google Accused Products comprise: a list information transmission unit adapted to respond to a list presentation request for the held digital contents of the server device for media from the network player by transmitting list information to the network player, wherein the list information lists the digital contents left in the internal storage device and the digital contents transferred from the internal storage device to the network storage device and stored in the network storage device, and wherein the list information maintains a tree structure of the digital contents in the internal storage device before transferring the digital contents to the network storage device.</p>

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<p>the server device for media from the network player by transmitting list information to the network player, wherein the list information lists the digital contents left in the internal storage device and the digital contents transferred from the internal storage device to the network storage device and stored in the network storage device, and wherein the list information maintains a tree structure of the digital contents in the internal storage device before transferring the digital contents to the network storage device;</p>	<p>For example, YouTube uses Dynamic Adaptive Streaming over HTTPS (DASH) to stream videos, which breaks up a media in small segments of 2-10 seconds and streams those contents to the client device. The DASH protocol makes use of Media Presentation Duration files (MPD) (i.e., a list information), that provides the client device with the content segments and the URLs to the subsequent parts of the media file (i.e., transmitting list information to the network player).</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> </div> <p style="text-align: center; margin-top: 10px;">Fig: 17, Source: Testing packet capture, packet 2, Exhibit C</p>

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	<p><u>The basic idea of MPEG-DASH is to send audio and video as a series of small files, typically containing about 2-10 seconds worth of media, called media Segments. An index file, or playlist, called the Media Presentation Description (MPD) provides the client with the URLs to the Segments.</u> This allows the client to control the media delivery by requesting the Segments using HTTP and splicing them together before decoding and play-out. Because the media is encoded at several bit rates, the client can adapt the download speed to the available bit rate on the channel. As a result, buffer underruns and re-buffering events can be reduced significantly. Since media is delivered as a series of HTTP downloads, DASH can make effective use of existing HTTP infrastructures, with widely deployed HTTP servers able to be reused instead of installing special media servers. In addition, HTTP caches and proxies for efficient content delivery can be reused in existing Content Delivery Networks (CDNs). Finally, problems with firewalls and Network Address Translation (NAT) are greatly reduced compared to RTP based streaming. Fig. 2.1 illustrates the overall system architecture of DASH, which is explained in more detail in the following paragraphs.</p> <p>Source: https://www.mpeg.org/wp-content/uploads/whitepapers/files/MPEG-DASH/Part_3/w15072.zip</p> <p>Furthermore, the MPD files, once downloaded on the client device provide access to the segments of content and schedule the download of the remaining parts of the content based on the availability of the existing MPD files on the device. (i.e., wherein the list information lists the digital contents left in the internal storage device and the digital contents transferred from the internal storage device to the network storage device and stored in the network storage device).</p>

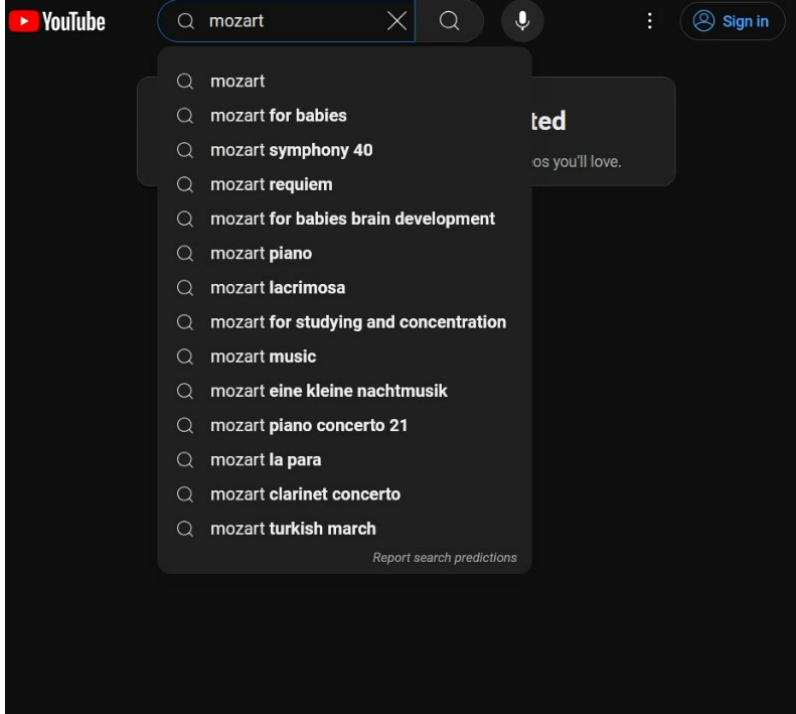
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	<p>On the client side, the content is typically processed as follows. Firstly, the MPD is downloaded by the DASH access client, which is responsible for scheduling the downloads, i.e. when to download which Segment. After analyzing the MPD, it decides which Segments should be downloaded first, e.g. the first Segment of the first Representation as shown in Fig. 2.1. After the download is complete, the Segment is passed to the Media Player API, which will then commence decoding and play-out. The download of the first segment also allows an estimation of the available bit rate on the channel, which is used by the HTTP access client to schedule further downloads. If required, it will switch the Representation in order to better adapt to the channel conditions. Note that the AAC decoder within the Media Player is not re-initialized when switching Representations. Instead, the same instance is running continuously and is unaware of any switching process. For example, the AAC decoder illustrated in Fig. 2.1 decodes AU-4 from Encoder-1 followed by AU-5 from Encoder-2. This switching of bit streams is a unique feature of DASH and requires special consideration during the encoding process. The solution presented in this document is fully standard compatible and avoids decoder changes.</p> <p>Source: https://www.mpeg.org/wp-content/uploads/whitepapers/files/MPEG-DASH/Part_3/w15072.zip</p> <p>Additionally, the MPD files’ XML structure have URLs stored in the “Period” tags in a branched manner, wherein a single period comprises of multiple “BaseURL” (i.e., list information maintains a tree structure)</p>

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	<pre> <?xml version="1.0" ?> <MPD mediaPresentationDuration="PT887.957333333S" minBufferTime="PT2S" profiles="http://dashif.org/guidelines/dash264,urn:mpeg:dash:profile:isoff-on-demand:2011" type="static" xmlns="urn:mpeg:dash:schema:mpd:2011" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:mpeg:DASH:schema:MPD:2011 DASH-MPD.xsd"> <BaseURL>./</BaseURL> <Period> <AdaptationSet contentType="audio" mimeType="audio/mp4" codecs="mp4a.40.5" lang="en" subsegmentAlignment="true" subsegmentStartsWithSAP="1"> <AudioChannelConfiguration schemeIdUri="urn:mpeg:mpegB:cicp:ChannelConfiguration" value="2" /> <Representation audioSamplingRate="48000" bandwidth="24000" id="sintel-24"> <BaseURL>sintel-24.mp4</BaseURL> <SegmentBase indexRange="606-2776"> <Initialization range="0-608" /> </SegmentBase> </Representation> <Representation audioSamplingRate="48000" bandwidth="64000" id="sintel-64"> <BaseURL>sintel-64.mp4</BaseURL> <SegmentBase indexRange="606-2776"> <Initialization range="0-608" /> </SegmentBase> </Representation> <Representation audioSamplingRate="48000" bandwidth="96000" id="sintel-96"> <BaseURL>sintel-96.mp4</BaseURL> <SegmentBase indexRange="606-2776"> <Initialization range="0-608" /> </SegmentBase> </Representation> </AdaptationSet> </Period> </MPD> </pre> <p>Source: https://www.mpeg.org/wp-content/uploads/whitepapers/files/MPEG-DASH/Part_3/w15072.zip</p>

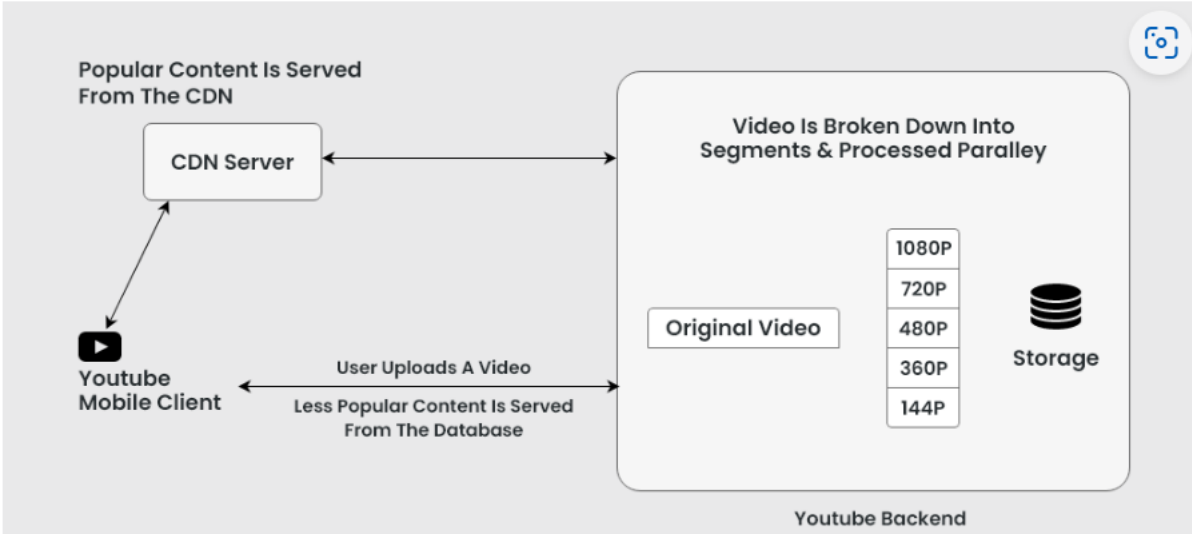
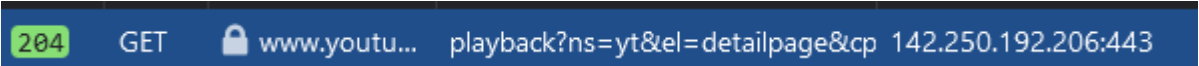
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Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
	<p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[1D] a search unit adapted to respond to a data transmission request for the held digital contents from the network player by searching for a location where the held digital contents are currently stored; and</p>	<p>The Google Accused Products comprise: a search unit adapted to respond to a data transmission request for the held digital contents from the network player by searching for a location where the held digital contents are currently stored.</p> <p>For example, when the user searches for the “Mozart” videos, the corresponding network packets search through the various servers owned by Google and provides the user the requested content once it is found.</p>  <p>Source: Testing Video, timestamp-3:05</p>

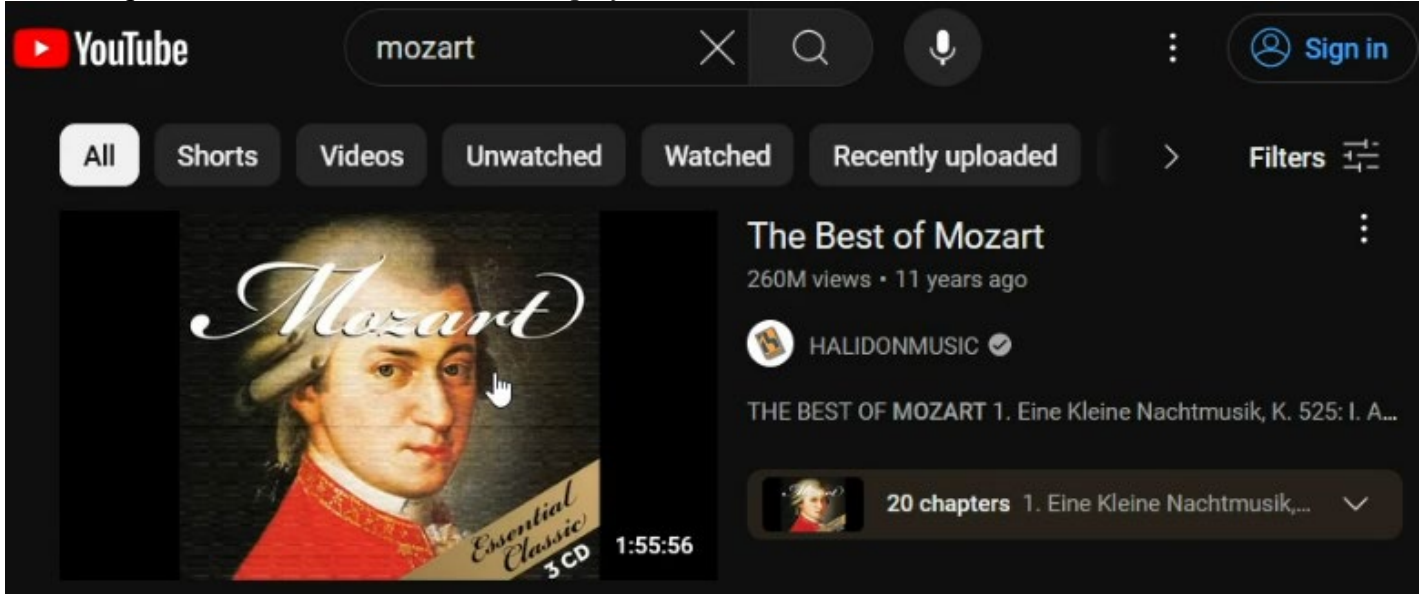
Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products													
	<table border="1"> <tr> <td>Transformer</td> <td>Headers</td> <td>TextView</td> <td>SyntaxView</td> <td>ImageView</td> <td>HexView</td> <td>WebView</td> <td>Auth</td> <td>Caching</td> <td>Cookies</td> <td>Raw</td> <td>JSON</td> <td>XML</td> </tr> </table> <pre> * OEB65C7B08ACB5AF1FDF471461B70D4C416F4753 [SubjectAltNames] *.google.com, *.appengine.google.com, *.bdn.dev, *.origin-test.bdn.dev, *.cloud.google.com, *.crowdsourcing.google.com, *.datacompute.google.com, *.google.ca, *.google.cl, *.google.co.in, *.google.co.jp, *.google.co.uk, *.google.com.ar, *.google.com.au *.google.com.br, *.google.com.co, *.google.com.mx, *.google.com.tr, *.google.com.vn, *.google.de, *.google.es, *.google.fr, *.google.hu, *.google.it, *.google.nl, *.google.pl, *.google.pt, *.googleapis.cn, *.googlevideo.com, *.gstatic.cn, *.gstatic-cn.com, googlecnapps.cn, *.googlecnapps.cn, googleapps-cn.com, *.googleapps-cn.com, gkecnapps.cn, *.gkecnapps.cn, googledownloads.cn, *.googledownloads.cn, recaptcha.net.cn, *.recaptcha.net.cn, recaptcha-cn.net, *.recaptcha-cn.net, widevine.cn, *.widevine.cn, ampproject.org.cn, *.ampproject.org.cn, ampproject.net.cn, *.ampproject.net.cn, google-analytics-cn.com, *.google-analytics-cn.com, googleadservices-cn.com, *.googleadservices-cn.com, googleads-cn.com, *.googleads-cn.com, googleapis-cn.com, *.googleapis-cn.com, googleoptimize-cn.com, *.googleoptimize-cn.com, doubleclick-cn.net, *.doubleclick-cn.net, *.fls.doubleclick-cn.net, *.g.doubleclick- cn.net, doubleclick.cn, *.doubleclick.cn, *.fls.doubleclick.cn, *.g.doubleclick.cn, dartsearch-cn.net, *.dartsearch-cn.net, googletraveladservices-cn.com, *.googletraveladservices-cn.com, googletagservices-cn.com, *.googletagservices-cn.com, googletagmanager-cn.com, *.googletagmanager-cn.com, googlesyndication-cn.com, *.googlesyndication-cn.com, *.safeiframe, googlesyndication-cn.com, app-measurement-cn.com, *.app-measurement-cn.com, gvt1-cn.com, *.gvt1-cn.com, gvt2-cn.com, *.gvt2-cn.com, 2mdn-cn.net, *.2mdn-cn.net, googleflights-cn.net, *.googleflights-cn.net, admob-cn.com, *.admob-cn.com, googlesandbox cn.com, *.googlesandbox-cn.com, *.safeframe, googlesandbox-cn.com, *.gstatic.com, *.metric.gstatic.com, *.gvt1.com, *.gcpcdn.gvt1.com, *.gvt2.com, *.gcp.gvt2.com, *.url.google.com, *.youtube-nocookie.com, *.ytimg.com, android.com, *.android.com, *.flash.android.com, g.cn, *.g.cn, g.co, *.g.co, goo.gl, www.goo.gl, google-analytics.com, *.google-analytics.com, google.com, googlecommerce.com, *.googlecommerce.com, ggpht.cn, *.ggpht.cn, urchin.com, *.urchin.com, youtu.be, youtube.com, *.youtube.com, youtubeeducation.com, *.youtubeeducation.com, youtubekids.com, *.youtubekids.com, yt.be, *.yt.be, android.clients.google.com, *.android.google.cn, *.chrome.google.cn, *.developers.google.cn </pre> <p>Find... (press Ctrl+Enter to highlight all) View in Note</p>	Transformer	Headers	TextView	SyntaxView	ImageView	HexView	WebView	Auth	Caching	Cookies	Raw	JSON	XML
Transformer	Headers	TextView	SyntaxView	ImageView	HexView	WebView	Auth	Caching	Cookies	Raw	JSON	XML		
<p>[1E] a digital contents data transmission processing unit adapted to allow the corresponding data in held digital contents to be stream-delivered</p>	<p>Source: Testing packet capture, response of packet 20</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p> <p>The Google Accused Products comprise: a digital contents data transmission processing unit adapted to allow the corresponding data in held digital contents to be stream-delivered from the network storage device to the network player, if the result of search shows the network storage device.</p> <p>For example, after searching through the various servers owned by Google, the network storage device provides the user the requested content once it is found (i.e., “allow the corresponding data in held digital contents to be stream-delivered from the network storage device to the network player, if the result of search shows the network storage device”).</p>													

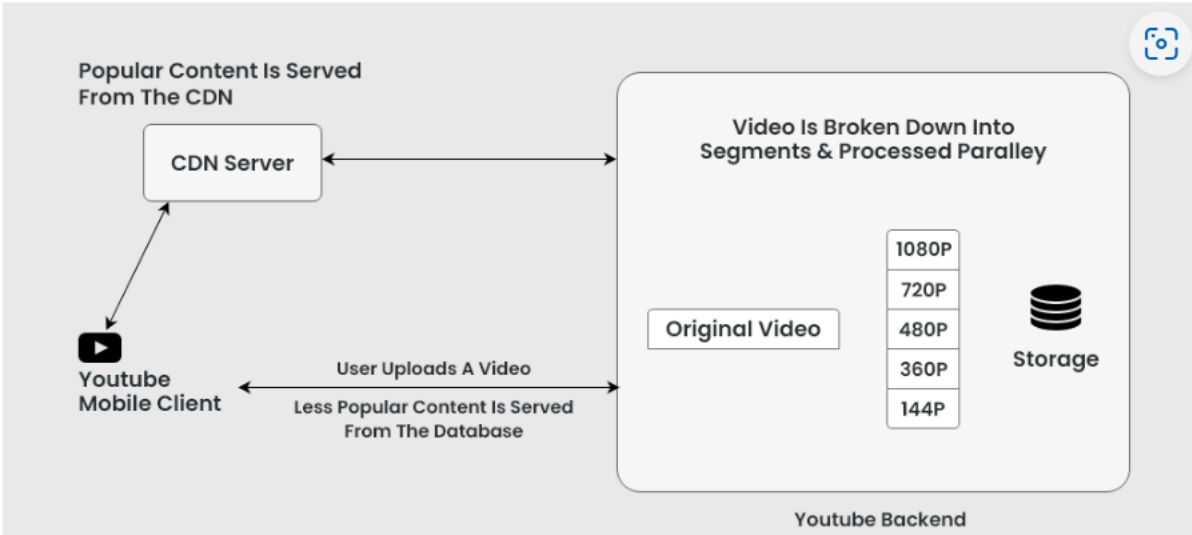
Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>from the network storage device to the network player, if the result of search shows the network storage device,</p>	<p>As shown in the packet capture images below, when a request to access the content from YouTube API is placed, the packets corresponding to the streamed content are observed from Google Servers (Packet 317). It shows the content stored on Google servers can be streamed/played via API requests, and hence the Google Cloud with integration to its services like YouTube acts as a media player</p>  <p>The diagram illustrates the YouTube architecture. On the left, a 'Youtube Mobile Client' sends a request to a 'CDN Server'. The 'CDN Server' is labeled 'Popular Content Is Served From The CDN'. A bidirectional arrow connects the 'CDN Server' to the 'Youtube Backend'. The 'Youtube Backend' is labeled 'Video Is Broken Down Into Segments & Processed Parallely'. It contains an 'Original Video' box, a 'Storage' icon, and a list of resolutions: 1080P, 720P, 480P, 360P, and 144P. A bidirectional arrow connects the 'Youtube Mobile Client' to the 'Youtube Backend', with the label 'User Uploads A Video' above and 'Less Popular Content Is Served From The Database' below. A small camera icon is in the top right corner of the diagram.</p> <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p>  <p>The screenshot shows a network packet capture entry with a status of '204 GET' and a URL: 'www.youtu... playback?ns=yt&el=detailpage&cp 142.250.192.206:443'.</p> <p>Source: Packet Capture corresponding to accessing content via YouTube</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>

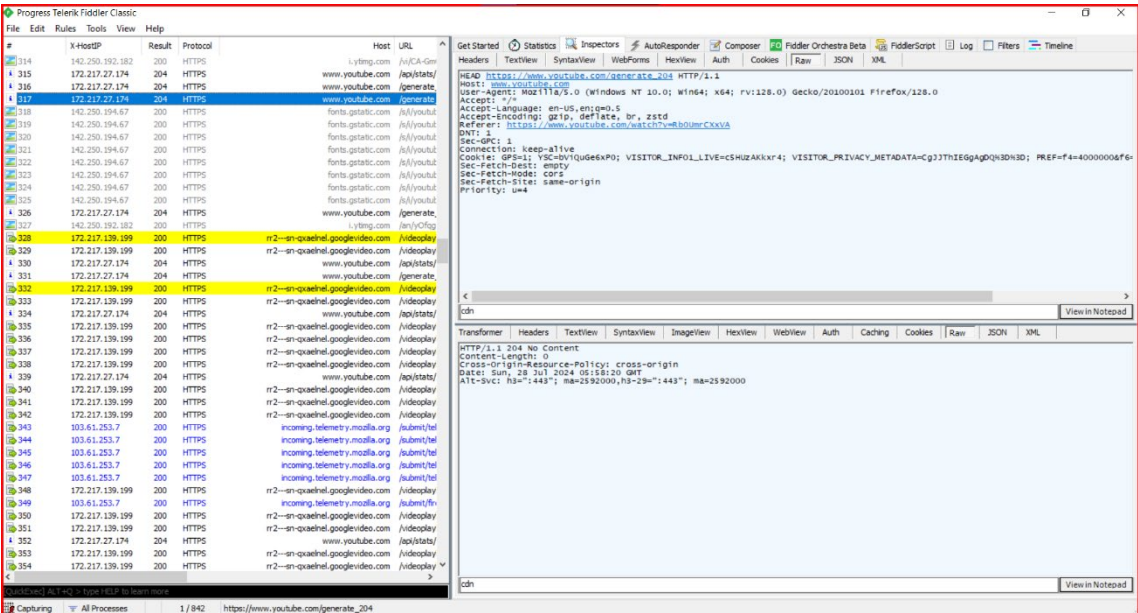
Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>[1F] wherein the server device for media is a media player.</p>	<p>The Google Accused Products comprise: wherein the server device for media is a media player.</p> <p>For example, the Youtube server is a media player.</p>  <p>Source: Testing video, timestamp-03:21</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[2] The server device for media according to claim 1, wherein said digital contents data transmission processing unit</p>	<p>The Google Accused Products comprise: The server device for media according to claim 1, wherein said digital contents data transmission processing unit causes the network storage device to transmit the corresponding data to the server device for media, and then transmits the corresponding data received from the network storage device from the server device for media to the network player.</p> <p><i>See Claim [1E].</i></p>

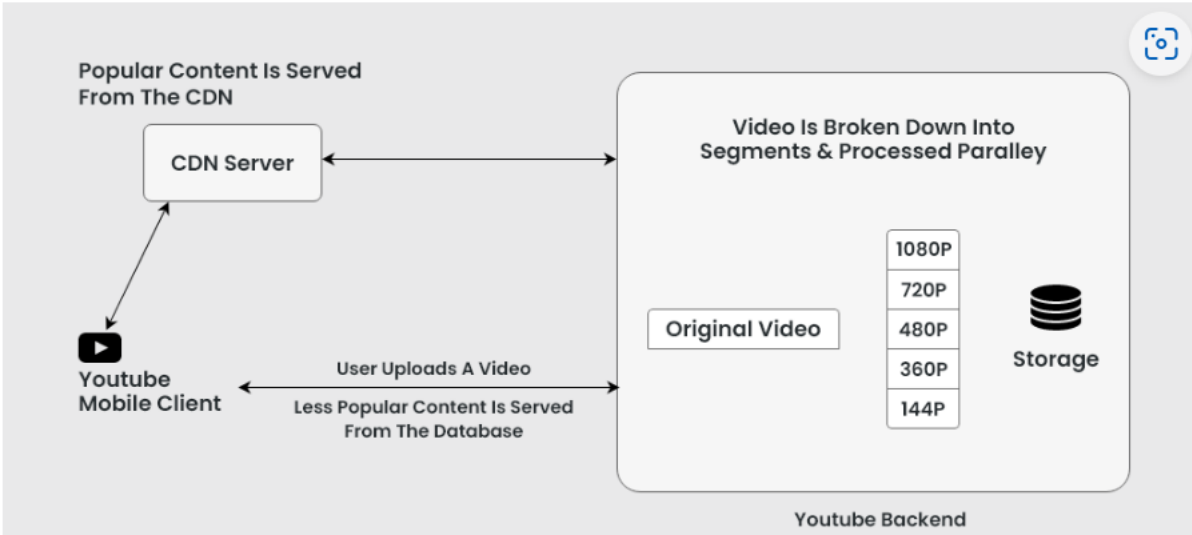
Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>causes the network storage device to transmit the corresponding data to the server device for media, and then transmits the corresponding data received from the network storage device from the server device for media to the network player.</p>	<p>As shown below, the digital contents data transmission processing unit causes the network storage device (e.g., CDN Server) to transmit the data to the server device (i.e., Youtube Backend) for the ultimate transmission to the network player (e.g., Youtube Mobile Client) for playing.</p>  <p>The diagram illustrates the YouTube architecture. On the left, a 'Youtube Mobile Client' is shown. An arrow points from the client to a 'CDN Server' with the text 'Popular Content Is Served From The CDN'. A double-headed arrow connects the 'CDN Server' to the 'Youtube Backend'. Inside the 'Youtube Backend' box, there is a section titled 'Video Is Broken Down Into Segments & Processed Parallely' which includes a list of resolutions: 1080P, 720P, 480P, 360P, and 144P, and a 'Storage' icon. An arrow points from the 'Youtube Backend' to the 'Youtube Mobile Client' with the text 'User Uploads A Video' and 'Less Popular Content Is Served From The Database'.</p> <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[3] The server device for media according to claim 1, wherein said digital contents data transmission</p>	<p>The Google Accused Products comprise: The server device for media according to claim 1, wherein said digital contents data transmission processing unit transmits the corresponding data and information for identifying the network storage device to the network player, and causes the network storage device to directly transmit the corresponding data to the network player.</p> <p>See Claim [1E]. As shown below, the digital contents data transmission processing unit transmits</p>

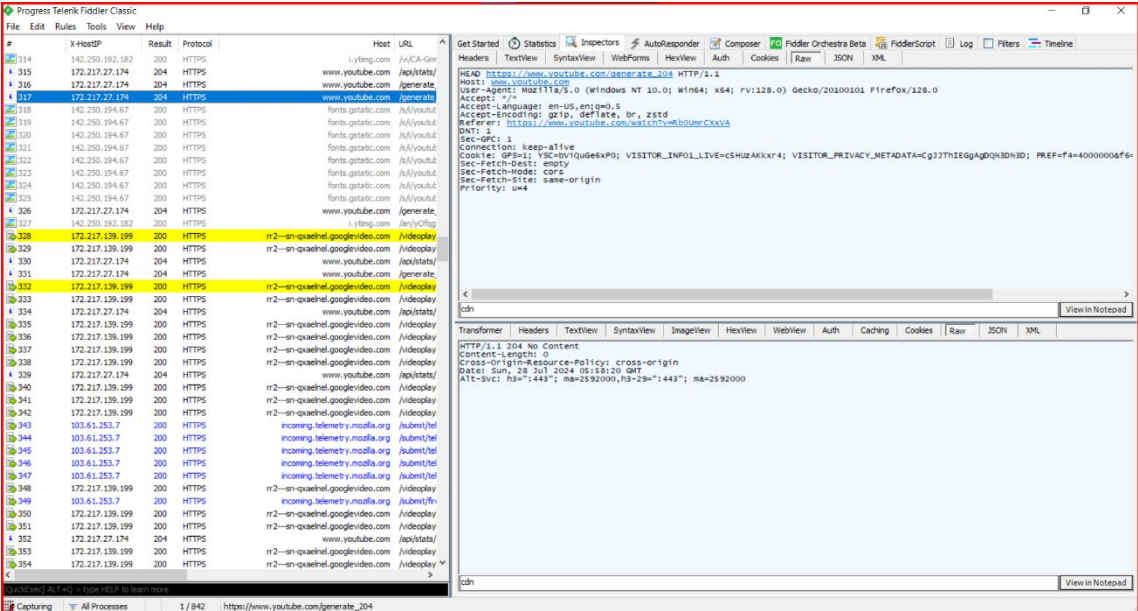
Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>processing unit transmits the corresponding data and information for identifying the network storage device to the network player, and causes the network storage device to directly transmit the corresponding data to the network player.</p>	<p>corresponding data and information for identification of the network storage device because the network storage device may be identified by host or URL:</p>  <p>Source: You Tube Packet Capture for Accessing a user playlist</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[4] The server device for media according to claim 1, further comprising a return control unit adapted to cause the digital contents</p>	<p>The Google Accused Products comprise: The server device for media according to claim 1, further comprising a return control unit adapted to cause the digital contents corresponding to a predetermined condition among the digital contents which have been transferred to the network storage device to be returned from the network storage device to the internal storage device.</p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>corresponding to a predetermined condition among the digital contents which have been transferred to the network storage device to be returned from the network storage device to the internal storage device.</p>	<p>For example, digital contents that meet a certain predetermined condition, such as being considered “less popular content,” may be returned from the network storage device (e.g., CDN Server) to an internal storage device (e.g., Youtube backend database).</p>  <p>Source: https://www.geeksforgeeks.org/system-design-of-youtube-a-complete-architecture/</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[5] The server device for media according to claim 1, wherein said list information transmission unit</p>	<p>The Google Accused Products comprise: The server device for media according to claim 1, wherein said list information transmission unit makes the list information to be transmitted to the network player include information for identifying whether each digital content is currently stored in the internal storage device or the network storage device in the display list of the network player.</p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>makes the list information to be transmitted to the network player include information for identifying whether each digital content is currently stored in the internal storage device or the network storage device in the display list of the network player.</p>	<p>For example, as shown below, the list information transmission unit lists information identifying the source of the digital content (e.g., “host,” “URL,” etc.) that can correspond to the internal storage device or network storage device.</p>  <p>The screenshot shows the Fiddler interface with a list of captured requests. The selected request is to <code>https://www.youtube.com/generate_204</code> with a status of 204. The right pane shows the request headers, including <code>Host: www.youtube.com</code>, <code>User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:128.0) Gecko/20100101 Firefox/128.0</code>, and <code>Referer: https://www.youtube.com/watch?v=4b0uerCKXvA</code>. The bottom pane shows the response body, which is empty.</p> <p>Source: You Tube Packet Capture for Accessing a user playlist</p> <p>Further, to the extent this element is performed at least in part by software source code, ACT reserves the right to supplement these contentions pursuant to production of such source code and to the extent Defendant requires additional information in accordance with P.R. 3-1 and for any other reasons.</p>
<p>[7P] A method for controlling a server device for media which is equipped with an internal storage device for</p>	<p>Users of the Google Accused Products perform a method for controlling a server device for media which is equipped with an internal storage device for storing digital contents. Google directly infringes and induces infringement by causing a user to perform the claimed method on the Google Accused Products. Users of the Google Accused Products directly infringe by using the Google Accused Products. Google induces infringement by users by supplying the Google Accused Products and instructing and encouraging users to use the Google Accused Products in an infringing manner.</p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>storing digital contents, the method comprising the steps of:</p>	<p><i>See Claim [1P].</i></p>
<p>[7A] responding to a data transmission request from a network player by stream-delivering corresponding data in corresponding digital contents from the internal storage device to the network player during connection to a network;</p>	<p>Users of the Google Accused Products perform responding to a data transmission request from a network player by stream-delivering corresponding data in corresponding digital contents from the internal storage device to the network player during connection to a network.</p> <p><i>See Claim [1A].</i></p>
<p>[7B] transferring and storing part of held digital contents in the internal storage device to a network storage device, wherein the network storage device is connected to the network and is capable of storing data, and wherein the digital contents that cannot be recovered if a</p>	<p>Users of the Google Accused Products perform transferring and storing part of held digital contents in the internal storage device to a network storage device, wherein the network storage device is connected to the network and is capable of storing data, and wherein the digital contents that cannot be recovered if a network failure occurs during the transferring of the digital contents are not transferred from the internal storage device to the network storage device.</p> <p><i>See Claim [1B].</i></p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>network failure occurs during the transferring of the digital contents are not transferred from the internal storage device to the network storage device;</p>	
<p>[7C] responding to a list presentation request for the held digital contents of the server device for media from the network player by transmitting list information to the network player, wherein the list information lists the digital contents left in the internal storage device and the digital contents transferred from the internal storage device to the network storage device and stored in the network storage device, and wherein</p>	<p>Users of the Google Accused Products perform responding to a list presentation request for the held digital contents of the server device for media from the network player by transmitting list information to the network player, wherein the list information lists the digital contents left in the internal storage device and the digital contents transferred from the internal storage device to the network storage device and stored in the network storage device, and wherein the list information maintains a tree structure of the digital contents in the internal storage device before transferring the digital contents to the network storage device.</p> <p><i>See Claim [1C].</i></p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
<p>the list information maintains a tree structure of the digital contents in the internal storage device before transferring the digital contents to the network storage device;</p>	
<p>[7D] responding to a data transmission request for the held digital contents from the network player by searching for a location where the held digital contents are currently stored; and</p>	<p>Users of the Google Accused Products perform responding to a data transmission request for the held digital contents from the network player by searching for a location where the held digital contents are currently stored.</p> <p><i>See Claim [1D].</i></p>
<p>[7E] allowing the corresponding data in held digital contents to be stream-delivered from the network storage device to the network player, if the result of search shows the network storage device,</p>	<p>Users of the Google Accused Products perform allowing the corresponding data in held digital contents to be stream-delivered from the network storage device to the network player, if the result of search shows the network storage device.</p> <p><i>See Claim [1E].</i></p>

Appendix E-2 - Claim Chart for U.S. Patent No. 8,230,101 Against YouTube and Google Products Utilizing YouTube

Claim – 8,230,101	Exemplary Supporting Evidence Regarding Google’s Accused Products
[7F] wherein the service device for media is a media player.	Users of the Google Accused Products perform the claimed method wherein the service device for media is a media player. <i>See Claim [1F].</i>