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IN THE UNITED STATES DISTRICT COURT

FOR THE CENTRAL DISTRICT OF CALIFORNIA

SANDPIPER CDN, LLC, *Plaintiff*, v. GOOGLE LLC, *Defendant*.	Civil Case No. 2:24-cv-03951 **COMPLAINT FOR PATENT INFRINGEMENT;** **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Sandpiper CDN, LLC ("Sandpiper CDN" or "Plaintiff") hereby files this Complaint for Patent Infringement against Google LLC ("Google" or "Defendant"), alleging infringement of U.S. Patent Nos. 8,478,903; 8,595,778; 8,645,517; 8,719,886; 9,021,112; and 10,924,573.

JURISDICTION

1. This action arises under the United States Patent Laws, Title 35 of the United States Code. This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a).

2. This Court has personal jurisdiction over Google in this action because

GOOGLE EXHIBIT 1022
GOOGLE v. SANDPIPER
IPR2025-01010

Google has committed acts within the Central District of California giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Google would not offend traditional notions of fair play and substantial justice. Defendant Google, directly and/or through subsidiaries or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, using, offering to sell, and selling products and/or services that infringe the Asserted Patents. Google maintains offices and facilities in this District and actively directs its activities to customers located in the State of California.

PARTIES

3. Plaintiff Sandpiper CDN is a Delaware limited liability company with its principal place of business in Wilmington, Delaware.

4. Defendant Google LLC is a Delaware limited liability company with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043. Google maintains a permanent physical presence within the Central District of California, including at 340 Main Street, Los Angeles, California 90291; 12422 W. Bluff Creek Drive, Playa Vista, California 90094; and 5865 Campus Center Drive, Playa Vista, California 90094.[1]

NATURE OF THE ACTION

5. This is a civil action against Google for patent infringement arising under the United States Patent Laws, 35 U.S.C. § 271, *et. seq.* for the infringement of United States Patent Nos. 8,478,903; 8,595,778; 8,645,517; 8,719,886; 9,021,112; and 10,924,573 (collectively "the Asserted Patents"). A true and correct copy of each Asserted Patent is attached to this Complaint as Exhibits A-F, respectively. Each of the Asserted Patents is owned by Plaintiff Sandpiper CDN, and Plaintiff and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-

[1] https://about.google/intl/ALL_us/locations/?region=north-america.

and post-filing damages for the full period allowed by law for infringement of the Asserted Patents, including compliance with 35 U.S.C. § 287.

VENUE

6. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and/or 1400(b). Defendant Google maintains a regular and established place of business in the Central District of California and has committed and continues to commit acts of patent infringement in the Central District of California.

7. Google maintains regular and established places of business in this District, located at 340 Main Street, Los Angeles, California 90291; 12422 W. Bluff Creek Drive, Playa Vista, California 90094; and 5865 Campus Center Drive, Playa Vista, California 90094.

8. Google has conducted and conducts business in the State of California, including in this District. Google, either directly or through subsidiaries and/or intermediaries, makes, uses, offers for sale, sells, and/or advertises its infringing products and/or services in the Central District of California. Google further directs and encourages its customers to use its infringing products and/or services in the United States and the Central District of California.

9. Google, either directly or through subsidiaries and/or intermediaries, has voluntarily placed one or more of its infringing products and/or services into the stream of commerce with the expectation that those products and/or services will be purchased and used by customers in the Central District of California. These infringing products and/or services have been and continue to be used, sold, offered for sale, and/or purchased by customers and/or consumers in the Central District of California.

FACTUAL BACKGROUND

Content Delivery Networks

10. Today, content delivery networks ("CDN") provide the critical services

that enable content providers to quickly deliver online content to millions of consumers simultaneously over the Internet. But this has not always been the case.

11. In the early 1990s, the World Wide Web saw increasing adoption, becoming a household staple. This mass adoption led to data congestion issues due to the ever-growing number of users seeking to simultaneously access Internet content. A typical computer server in the 1990s, for example, could only handle a limited number of simultaneous connections before becoming overloaded. Moreover, signals take time to move through physical internet cables, and consumers living far from the physical server(s) hosting content experienced sluggish load times and high latency due to problems such as overloaded servers, congested network segments, and geographic separation.

Sandpiper Networks

12. In the mid-1990s, Andrew Swart and David Farber were among the first individuals to develop services that allowed content providers to distribute their content over the Internet, while avoiding the common congestion and performance issues that plagued Internet transmission at that time. One solution was to deploy CDN servers around the world, replicate appropriate content from customers' origin servers to appropriate CDN servers, transparently rendezvous end users requesting that content to the "best" CDN server to deliver that content, while providing their customers with control over their content and user experience. This service and its architecture was quickly imitated by many others in the industry.

13. Using solutions developed by Mr. Swart and Mr. Farber, consumers would connect to an edge server that was closer to them and that had available bandwidth. Distributing content across a network of servers alleviated data congestion issues and allowing consumers to connect to edge servers located near them reduced latency. Messrs. Swart and Farber developed and built systems and methods for propagating data from origin servers to edge servers (a process known as

"caching") based on network demand and for seamlessly routing users to the optimal edge server with the correct content.

14. In 1996, Mr. Swart and Mr. Farber founded Sandpiper Networks Inc. to further develop and commercialize their novel concept for a content delivery network. Sandpiper Networks was based in Thousand Oaks, California. Beginning in 1996, Sandpiper Networks designed and built a CDN referred to as "Footprint." By at least May 24, 1996, the Sandpiper team had conceived techniques for delivering streaming resources, such as audio and video, using Sandpiper's CDN.

15. Sandpiper Networks labored not only to build and implement its CDN, but also to protect their groundbreaking innovation through the patent system. Recognizing that its invention could revolutionize content delivery worldwide, Sandpiper Networks filed numerous patent applications directed to its foundational CDN technology, including U.S. Patent Application No. 09/021,506 ("the '506 application"), which was filed on February 10, 1998.

16. By at least May 1998, Sandpiper Networks was caching content and delivering cached content to end users of content providers using its CDN. Sandpiper Networks' first paying customer was the L.A. Times, which paid Sandpiper Networks to host the report of Independent Counsel Ken Starr on his investigation of President Bill Clinton ("the Starr Report") beginning on September 11, 1998. Sandpiper's CDN was capable of caching, and used to cache and deliver Internet resources including *inter alia*, pictures, text files, dynamic resources, and streaming multimedia resources.

17. By October 30, 1998, Sandpiper had partnered with WebRadio to utilize Sandpiper's CDN to deliver streaming audio from radio stations on behalf of WebRadio. This streaming audio was readily available to any Internet user.

18. On April 19, 1999, Sandpiper used its CDN to broadcast a live concert by the band "Big Bad Voodoo Daddy."

19. In December 1999, Sandpiper merged with Digital Island, Inc. ("Digital Island"), which filed additional patent applications directed to CDN technology. For example, patent application, U.S. Patent Application No. 09/612,598 ("the '598 application"), was filed as a continuation of the '506 application and eventually resulted in the '903 patent, which issued on July 2, 2013.

20. Following a series of acquisitions, the assets of Sandpiper Networks and Digital Island, as well as their CDNs and patents, were acquired by Level 3 in January 2007.

Level 3 Enters the CDN Market

21. Following its acquisition of Sandpiper's CDN, Level 3 understood the groundbreaking technologies pioneered by Sandpiper Networks. Level 3 continued building upon the foundation laid by Sandpiper, eventually becoming one of the foremost CDN operators in the United States.

22. Level 3 also continued innovating upon the CDN technologies developed by Sandpiper Networks. On March 21, 2009, Level 3 filed U.S. Patent Application No. 12/408,681 ("the '681 application"). A continuation of the '681 application issued as the '573 patent on February 16, 2021.

23. On March 14, 2013, Level 3 filed U.S. Patent Application No. 13/828,251 ("the '251 application") directed to improving the delivery of content in a CDN. A division of the '251 application issued as the '451 patent on October 8, 2018.

24. On August 14, 2018, Level 3 filed U.S. Patent Application 16/103,575, which issued as the '579 patent on February 16, 2021.

25. On April 27, 2020, Level 3 filed U.S. Patent Application No. 16/859,918 ("the '918 application") directed to improving storage of content in CDNs. The '918 application issued as the '520 patent on October 4, 2022.

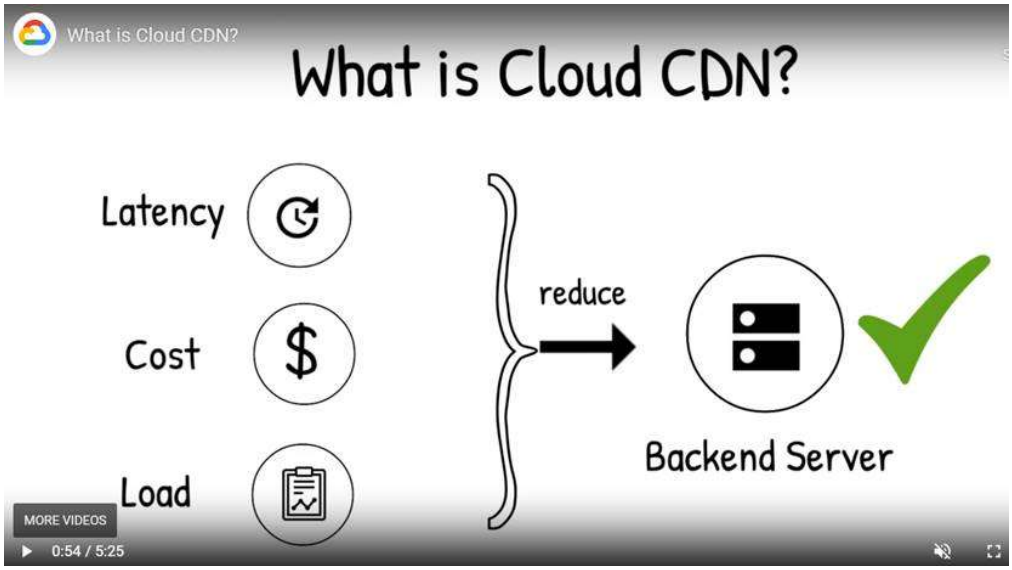
Industry Infringement

26. In the early-to-mid 2000s, demand for CDNs exploded. This increased demand prompted a slew of companies to enter the CDN market. These companies commercialized their own CDNs that incorporated the foundational CDN technology pioneered and patented by Sandpiper Networks and Level 3. In doing so, these companies capitalized on the investment made into CDN research and development made by Level 3 and/or its predecessors, misappropriating years of research and investments.

Google's Infringing Services

27. One such company is Google. Google built its own in-house CDN, which uses technology described and claimed by the Asserted Patents. For example, YouTube, which Google purchased in 2006, relies upon CDN technology to meet its enormous data streaming needs, as well as Google's video search results (powered by YouTube). Google uses and provides content delivery network(s) ("Google CDN"), including Google's internal services and services Google offers to third parties that are used to provide content, such as webpages and/or video streams, over a network. On its website, Google touts the benefits of its infringing CDN services, noting the cost savings and improved performance achieved by using this technology.[2]

[2] https://cloud.google.com/cdn



28. Google CDN is used and sold by Google in connection with services such as Google Cloud CDN, Google Media CDN, Google Cloud DNS, YouTube, and YouTube TV.

29. Google did not license this patented technology from Sandpiper CDN, Level 3 and/or its predecessors. After implementing its in-house CDN using technology described and claimed by the Asserted Patents, Google began directly competing with Level 3 by offering CDN services to third parties.

Sandpiper CDN

30. Given the rampant infringement of its patents, which depressed its revenue and profit, Level 3 decided to exit the CDN market in 2023 and began selling off its CDN assets. Level 3 sold the Asserted Patents to Plaintiff Sandpiper CDN on March 29, 2024. As such, Sandpiper CDN is presently the owner in right, title, and interest in and to each of the Asserted Patents.

31. Named after, and in homage to, the company that originally pioneered and developed CDN technologies in the 1990's, Sandpiper CDN now brings this suit to address Google's longstanding infringement of the patented technology claimed by

the Asserted Patents. The Asserted Patents are valid and enforceable, and the inventions claimed in the Asserted Patents were novel, non-obvious, unconventional, and non-routine at least as of their respective filing dates.

ASSERTED PATENTS

32. Patent Number 8,478,903 ("the '903 Patent") is entitled "Shared Content Delivery Infrastructure," and it claims priority to U.S. Patent Application No. 09/021,506, filed on February 10, 1998.

33. One issue related to using CDN technology is delivering resources associated with more than one content provider. The inventors of the '903 Patent understood that website owners and other content providers want to have their own internet domain shown in end users' browsers, even when the content providers are using a CDN to serve their content.

34. The '903 Patent is directed to CDN technology and to solving issues related to delivering resources from more than one content provider. In some embodiments, this involves replicating content from a source associated with a client of a CDN network onto CDN servers. End user requests are then directed to the CDN servers instead of to the client's source servers (generally referred to as "origin" servers), in some cases. Embodiments of the '903 Patent address issues such as load balancing and reducing traffic to client origin servers. When an origin server receives and must reply to multiple requests, delivery of content from a content provider can be slow. Methods of using CDN servers to deliver content as described in the '903 Patent help to solve this issue.

35. The inventors devised the concrete solutions recited in the '903 Patent to address unique problems related to providing content from various content providers using CDN technology. For instance, the inventors conceived of approaches to content delivery in a network for delivering resources associated with more than one content provider, embodiments of which involve a shared CDN server and alias

names in order to provide resources in response to requests. The solutions recited in the claims of the ’903 Patent include specific combinations that were not conventional at the time of the invention of the ’903 Patent. The ’903 Patent describes how such solutions are implemented. As one example, the ’903 Patent describes using a second alias name in association with a second resource and a second content provider, and a table that can be consulted to determine a content provider associated with a particular resource. Specific innovations by the inventors enable CDN customers to use their own name while using a provider’s CDN services to serve content to end users.

36. Patent Number 8,595,778 (the ’778 Patent) is entitled “User Authentication in a Content Delivery Network,” and it claims priority to a Provisional Patent Application filed on November 12, 2008.

37. When using a CDN, users are able to consume multimedia content such as video streams. Issues arise for CDNs when managing digital rights to media, such as video streams, that are requested by users. CDNs receive requests from end users to view video streams, even in cases where the end user is not currently authorized to view certain video streams, for example due to the end user’s location or account status. A CDN must authorize certain video streams for viewing by certain users. The inventor of the ’778 Patent recognized these issues and invented methods for delivery of video content across a network only to authorized end users.

38. One practical example of this problem is when a content provider is only licensed to distribute video content in certain geographic areas. The solutions in the ’778 Patent address this problem, for example by describing solutions involving responding to end-user requests for video streams over a network, which include querying a database and processing proximity parameters associated with the end user. The solutions recited in the claims of the ’778 Patent include specific solutions that were not conventional at the time of the invention of the ’778 Patent, and the ’778

Patent describes how the solutions are implemented. As another example, the solutions in the ’778 Patent include specific methods that employ a subscriber verification table relating to authorized subscribers and entries regarding session information associated with delivery of video streams to end users. The ’778 Patent provides technical solutions for content providers seeking to protect their media assets when providing content, with methods directed to providing video streams to authorized end users over networks.

39. Patent Number 8,645,517 (the ’517 Patent) is entitled “Policy-Based Content Delivery Network Selection.” The ’517 Patent claims priority to U.S. Patent Application Number 10/259,497, filed on September 20, 2002.

40. When using CDN technology, challenges arise related to network traffic associated with requests for content. For example, companies that want to provide their content to end users using a CDN face issues regarding directing network traffic to serve end users’ requests. As one example, issues arise when trying to deliver content from multiple servers at geographically-separated locations with suitable end-user experiences under high traffic loads.

41. The inventors of the ’517 Patent understood these challenges faced by CDN providers and their customers relating to directing network traffic and end-user requests for content. The inventors devised solutions utilizing Domain Name Server (DNS) technology and allowing for the resolution of requests to multiple CDNs based on various policies. Embodiments of the disclosed invention solve network traffic issues such as server failure, and controlling the distribution of requests according to economic or contractual parameters, by providing a network distribution infrastructure that can be configured with network traffic rules. These rules can account for factors like server availability, geolocation, load, and latency. The ’517 Patent address specific needs in the art via specific combinations, which were not conventional at the time of the invention of the ’517 Patent, and the ’517 Patent

describes how specific technical solutions are achieved. For instance, content providers must address how to handle requests from end users, in some cases in accordance with policy constraints faced by the content providers, even as network conditions affecting the Internet are subject to change. The inventors of the ’517 Patent developed methods to address these issues, including methods in which a server network implements policy-based traffic direction. For example, embodiments of the invention in the ’517 Patent provide a specific graphical user interface for obtaining at least one policy for the direction of network traffic, such as using a decision tree with resource and branch nodes. The various criteria that can be used may relate to IP addresses or geographic zones, with answers consisting of IP addresses and CNAMEs, for example.

42. Patent Number 8,719,886 (the ’886 Patent) is entitled “Dynamic Processing of Streamed Content,” and it claims priority to a Provisional Patent Application filed on November 12, 2008.

43. Certain obstacles arise when providing content in a CDN. For example, providers of a CDN face issues relating to modifying content, such as video streams, when delivering content. CDN providers desiring to modify video streams required solutions for modifying video stream, including where playback is sought from more than one source.

44. The ’886 Patent provides concrete solutions for delivering video content across a network, in some cases including detecting a trigger signal associated with a video stream. The inventor of the ’886 Patent recognized issues relating to playback of digital content from content publishers over the Internet and desires to modify content, such as video streams. The solutions disclosed in the ’886 Patent relate to specific methods of processing video streams from content sources during delivery across a network. For example, the solutions recited in the claims of the ’886 Patent include specific combinations that were not conventional at the time of the

invention of the ’886 Patent, and the ’886 Patent describes how the solutions are implemented. As one example, the ’886 Patent recites solutions relating to injecting selected content into a video stream based on proximity parameters associated with a client of a video stream, such as proximity parameters that specify a geographic location, based on querying a server.

45. Patent Number 9,021,112 (“the ’112 Patent”) is entitled “Content Request Routing and Load Balancing For Content Distribution Networks.” The ’112 Patent is a divisional application of U.S. Patent Application No. 09/982,721, filed on October 18, 2001.

46. When offering CDN services, there is a need for responding to requests by providing content quickly and without unnecessary network traffic to more distant sources. Providers of CDN services face challenges relating to serving content in a timely manner from multiple servers while maintaining a positive user experience.

47. The inventors of the ’112 Patent solved these issues as described in the ’112 Patent. For example, the ’112 Patent includes solutions using DNS technology and anycast addresses in a CDN where the DNS infrastructure routes the content request to the server that is closest in terms of network distance to the user. The described solutions improve upon anycast DNS. The solutions in the ’112 Patent address issues relating to bandwidth and latency, which users may experience as unacceptable delays. The inventors of the ’112 Patent recognized the impact on users’ experiences due to these problems. The inventors devised methods for delivering content in a network involving using multiple servers to serve requests. For example, the inventors provided methods of causing servers to respond to requests, including by using certain hostnames in association with certain servers to retrieve content for users. The solutions recited in the claims of the ’112 Patent include specific combinations that were not conventional at the time of the invention of the ’112 Patent. The ’112 Patent describes how the solutions are implemented. For instance,

the claimed solutions in the ’112 Patent can improve localization for DNS, where servers as close as possible may be desirable but may provide too many options, while the use of anycast as recited in the ’112 Patent can be used to leverage servers closest in the network and to leverage the Border Gateway Protocol and provide for co-location of servers, for example.

48. Patent Number 10,924,573 (“the ’573 Patent”) is entitled “Handling Long-Tail Content in a Content Delivery Network (CDN),” and it claims priority to Provisional Patent Application No. 61/042,412, filed on April 4, 2008.

49. CDN technology generally includes multiple servers used to serve content, which can create problems relating to responding to requests for content. For example, technical issues arise in the context of content delivery using a network and multiple servers, relating to handling requests for resources and timely providing resources to requesting devices.

50. The inventors of the ’573 Patent described solutions to these problems in the ’573 Patent. The ’573 Patent describes a CDN including a tiered server system. In some embodiments, a first tier server attempts to respond to a user request for content. If the first tier server does not have the content, and the content is popular, that server will request the content from higher tier server and subsequently cache the content for future delivery, for example. The disclosed invention addresses the reality of storage limitations by setting forth a framework that automatically caches only popular content, thus both speeding up content delivery and preserving memory space for popular content, in some cases. The inventors devised solutions as shown in the embodiments claimed by the ’573 Patent, for example methods for using tiers of servers and specific processes for obtaining content for a requesting device. The solutions recited in the claims of the ’573 Patent include particular combinations that were not conventional at the time of the invention of the ’573 Patent, such as specific

technical improvements to content delivery networks, and the '573 Patent describes how the solutions are implemented.

THE ACCUSED GOOGLE CDN FUNCTIONALITIES

51. The accused Google functionalities comprise Google CDN. For example, Google uses and sells CDN services via its Cloud CDN and Media CDN offerings, as shown by the below excerpts from Google's website.

> Cloud CDN and Media CDN
>
> **Leverage Google's decade of experience delivering content**
>
> Google's content delivery networks—Cloud CDN and Media CDN—scale to bring content closer to a global audience.

https://cloud.google.com/cdn?hl=en

> Cache hits and cache misses
>
> A cache is a group of servers that stores and manages content so that future requests for that content can be served faster. The cached content is a copy of cacheable content that is stored on origin servers.

https://cloud.google.com/cdn/docs/overview

> IP addressing
>
> Each Edge Cache service that you configure has dedicated, anycast IPv4 and IPv6 addresses, which are associated with each Edge Cache service that you create and are not shared with other customers.

https://cloud.google.com/media-cdn/docs/client-connectivity

> Media CDN lets you easily fetch content from publicly accessible HTTP endpoints. You can use Media CDN with your existing origin infrastructure, whether the content is hosted within Cloud Storage, in another cloud, or within your on-premises infrastructure.

https://cloud.google.com/media-cdn/docs/overview#certificate-support

- Cache fill between the origin and Google's own edge infrastructure is entirely over Google's global private backbone network, which reduces cache fill latency and improves reliability—both are active benefits for live streaming workloads.
- Caches cross-fill from each other where advantageous to do so, further driving down cache fill rates.

https://cloud.google.com/media-cdn/docs/origins#origin-requirements

Advanced routing features

Media CDN provides advanced HTTP routing capabilities that let you map traffic to specific edge configurations and origins at a fine-grained level.

For more information, see Advanced routing.

https://cloud.google.com/media-cdn/docs/overview#certificate-support

52. Google CDN leverages Google's "Cloud DNS," which provides a plurality of Domain Name System (DNS) servers (*e.g.,* via providing "anycast name servers").

Use Google's infrastructure for production quality and high-volume authoritative DNS serving. Your users will have reliable, low-latency access from anywhere in the world using our anycast name servers.

Cloud DNS can scale to large numbers of DNS zones and records. You can reliably create and update millions of DNS records. Our name servers automatically scale to handle query volume.

https://cloud.google.com/dns?hl=en

> **Fast anycast name servers**
>
> Cloud DNS uses our global network of anycast name servers to serve your DNS zones from redundant locations around the world, providing high availability and lower latency for your users.

https://cloud.google.com/dns?hl=en

> Google Cloud DNS is a scalable, reliable and managed authoritative Domain Name System (DNS) service running on the same infrastructure as Google. It has low latency, high availability and is a cost-effective way to make your applications and services available to your users.

https://console.cloud.google.com/marketplace/product/google-cloud-platform/cloud-dns

YouTube

53. Google CDN is also used in connection with Google's YouTube platform, enabling delivery of YouTube's video content across the globe. YouTube provides streaming with ads.

> YouTube Live is an easy way for Creators to reach their community in real time. Whether streaming an event, teaching a class, or hosting a workshop, YouTube has tools that will help manage live streams and interact with viewers in real time.
>
> Creators can live stream on YouTube via webcam, mobile, and encoder streaming. Webcam

https://www.youtube.com/howyoutubeworks/product-features/live/#youtube-live

> For Creators to monetize their live stream or Premiere, their channel needs to be part of the YouTube Partner Program (YPP). Creators have several ways to earn money from live streams and Premieres: Ads, Super Chat and Super Stickers, and Channel Memberships.

https://www.youtube.com/howyoutubeworks/product-features/live/#monetization

Monetize your live stream

Latest updates

- More flexibility added to the mid-roll ad settings for live streams:
  - 'Let YouTube insert mid-rolls' during natural ad breaks, but choose between 3 frequency options for how often ads surface.

https://support.google.com/youtube/answer/7385599?sjid=2366353019137992062-NC

Ad personalization

Google makes your ads more useful on Google services such as Search and YouTube (including portions of YouTube TV). You can control what info we use to show you ads by visiting your ad settings .

https://support.google.com/youtubetv/answer/7126139?hl=en#zippy=%2Clive-tv%2Cad-personalization

Delay a mid-roll ad

If you choose to let YouTube insert mid-roll ads for you, you can delay mid-roll ads during important moments when you don't want viewers interrupted.

In the Live Control Room, go to the top right and click Delay ads . Mid-roll ads are delayed from displaying for viewers for 10 minutes. A 5-second countdown will surface in the LCR for you before ads resume.

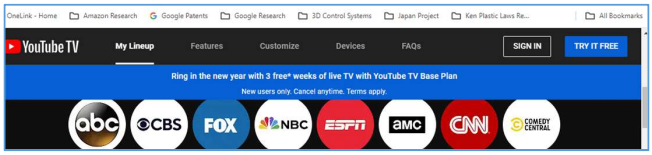
https://support.google.com/youtube/answer/7385599?sjid=2366353019137992062-NC#YTinsertmid

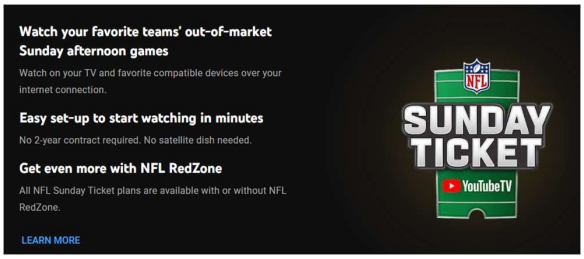
> **Channel level settings for mid-roll ads**
>
> Monetized channels without rights management can set mid-roll ad defaults for future live streams at the channel level. Channel level settings let you choose monetization settings that will be the default for any newly created live streams.
>
> To choose your channel level settings: Open the Live Control Room > In the bottom-left corner, click Settings ⚙.
>
> **Live stream ad revenue**
>
> You can view a breakout of your ad revenue from live streams and live replays in YouTube Analytics. To view your ad revenue breakout for live streams, select the **Live** filter.

https://support.google.com/youtube/answer/7385599?sjid=2366353019137992062-NC#channel_settings_midroll

YouTube TV

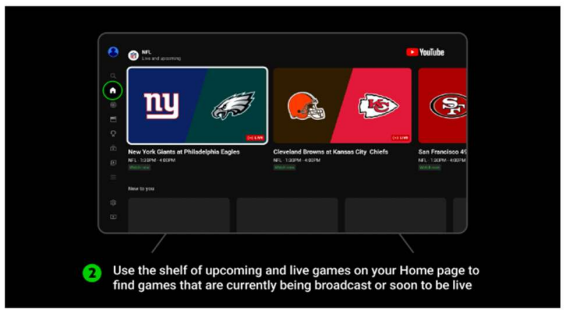
54. Google CDN also is used to deliver Google's YouTube TV service. To use YouTube TV, users enter credential information to access video streams, and some content requires users to subscribe to access an associated video stream.





https://tv.youtube.com/welcome/

55. YouTube TV receives a request from an end user for delivery of a video stream across a network and provides controls for said end user to request delivery of a video stream by, for example, selecting a specific event to stream.



To start watching on your smart TV or streaming device:

1. Open the YouTube app > sign in with the Google Account that you used to purchase NFL Sunday Ticket. Learn how to download and sign in to the YouTube app on your TV.
2. Live and upcoming NFL games available in your area will show up on the **Home** tab and on the NFL channel page. You can find the NFL channel page by entering "NFL" in the search bar.
   a. If the game is live, select the game to start watching.
   b. If the game is scheduled for later, select the game > select **Notify me** to get an alert on your phone when the game is live.

https://support.google.com/youtube/answer/13821595?hl=en

`snippet.resourceId`	`object` The `id` object contains information about the channel that the user subscribed to.
`snippet.resourceId.kind`	`string` The type of the API resource.
`snippet.resourceId.channelId`	`string` The value that YouTube uses to uniquely identify the channel that the user subscribed to.
`snippet.channelId`	`string` The ID that YouTube uses to uniquely identify the subscriber's channel. The `resource_id` object identifies the channel that the user subscribed to.

https://developers.google.com/youtube/v3/docs/subscriptions

Google Cloud provides an intelligent, open, and unified data and AI cloud built from the same underlying architecture that powers Google's most popular, global products, like YouTube, Search, and Maps. Revolutionize customer experiences with operational databases you know and love, in virtually any environment whether in the cloud or on-premises.

https://cloud.google.com/solutions/databases?hl=en

COUNT I: INFRINGEMENT OF THE '903 PATENT

56. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

57. Google directly infringed at least claim 28 of the '903 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within the United States its Google CDN offering, both for the distribution of content via its own platforms and to provide CDN services to Google customers.

58. As further set forth in Exhibit G, Google provided and continued to provide a method in a content delivery system operative in a computer network for delivering content to client machines, the computer network comprising a plurality of origin servers, each of said origin servers having resources associated therewith, and the content delivery system comprising at least one shared repeater server operable to replicate resources associated with the plurality of origin servers. Google associates at least one repeater server with a first alias name, wherein requests for a first resource, located on a first origin server, are directed based at least in part on the first alias name. Google also associates the at least one repeater server with a second alias name, wherein requests for a second resource located on a second origin server are directed to the at least one repeater server for delivery of the second resource. Google provides a table listing origin servers having content located thereon, wherein said content is authorized for delivery to client machines via the at least one shared repeater server wherein the origin servers comprise a first and second origin server. Finally the at least one repeater server utilized by Google is constructed and adapted to analyze, using the table and the alias name received with a client request to determine the origin server associated with the requested resource.

COUNT II: INFRINGEMENT OF THE '778 PATENT

59. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

60. Google directly infringes at least claim 1 of the '778 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within

the United States its Google CDN, both for the distribution of content via its own platforms and to provide CDN services to Google customers. As further set forth in Exhibit H, Google provides a method for authorizing delivery of a video stream to an end user including receiving a request across a network, querying a subscription database, processing a reply from the subscription database, and performing at least one of transmitting a notification to the end user that the end user is not authorized and initiating delivery of the video stream to the end user, as shown in the attached claim chart.

COUNT III: INFRINGEMENT OF THE '517 PATENT

61. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

62. Google directly infringed at least claim 1 of the '517 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within the United States its Google CDN, both for the distribution of content via its own platforms and to provide CDN services to Google customers. As further set forth in Exhibit I, Google provided and continues to provide a method that is operable in a framework in which an adaptive traffic control name server network implements policy-based traffic direction, the name server network comprising at least one domain name server comprising hardware in combination with software and constructed and adapted to provide adaptive policy-based domain name service. Google further provides a graphical user interface (GUI). Google also uses said GUI to obtain at least one policy for direction of network traffic, wherein the GUI supports the setting of said at least one policy using a decision tree representing rules. Google provides this at least one policy to a name server network, wherein the decision tree comprises one or more resource nodes, and one or more branch nodes, wherein the one or more resource nodes specifies one or more answers to be provided in response to a DNS request, and wherein the one or more branch nodes specify one or more

decision criteria to be applies, and wherein the GUI supports the specification of one or more answers for the one or more resource nodes and one or more decision criteria for the one or more branch nodes, wherein the one or more criteria are selected from criteria related to world zones, countries, states, time zones, etc.

COUNT IV: INFRINGEMENT OF THE '886 PATENT

63. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

64. Google directly infringes at least claim 1 of the '886 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within the United States its Google CDN, both for the distribution of content via its own platforms and to provide CDN services to Google customers. As further set forth in Exhibit J, Google provides a method for delivery of video content across a network comprising: receiving a video stream from a content source for delivery to a client of a content publisher, wherein the client subscribes to the content publisher to receive video content; detecting a trigger signal within the video stream, wherein the trigger signal is indicative of a temporal mark injected into the video stream by the content publisher; processing the trigger signal to determine whether to modify delivery of the video stream to the client; and if necessary, modifying delivery of the video stream in accordance with the processing of the trigger signal, wherein processing the trigger signal comprises querying a data repository related to a content programming schedule associated with the content publisher.

COUNT V: INFRINGEMENT OF THE '112 PATENT

65. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

66. Google directly infringed at least claim 1 of the '112 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within the United States its Google CDN, both for the distribution of content via its own

platforms and to provide CDN services to Google customers. As further set forth in Exhibit K, Google provided and continues to provide a method of content delivery in a network. Google provides a plurality of DNS servers associated with a CDN, said plurality of CDN DNS servers sharing a common anycast address wherein each CDN DNS server is associated with a respective plurality of content servers. Google also causes said plurality of CDN DNS servers to be authoritative for a hostname associated with a content provider by causing said common anycast address to be associated with said hostname. In response to a request for content associated with the content provider and issued by a client, said request including at least a hostname, Google causes the hostname to be resolved to a common anycast addres by an ISP DNS server and then one of Google's CDN DNS servers resolvers the hostname to identify an IP address for use by the client to retrieve the content from a content server.

COUNT VI: INFRINGEMENT OF THE '573 PATENT

67. Plaintiff hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

68. Google directly infringes at least claim 1 of the '573 Patent by making, using, selling, offering for sale, importing, exporting, suppling, or distributing within the United States its Google CDN, both for the distribution of content via its own platforms and to provide CDN services to Google customers. As further set forth in Exhibit L, Google provides a method of content delivery in a content delivery network. Google receives, at a first server of a first tier of servers, a request from a requesting device for a resource available from Google's CDN, Next, Google accesses a popularity service associated with its CDN to determine a popularity designation associated with the requested resource and requests the resource from a second server of the CDN. Google then processes, at a first server of the first tier servers, a redirect instruction from the second server of the CDN to obtain the

resource from a content server of the CDN. Google's CDN receives an instruction to not cache a portion of the resource at the first server when that portion of the resource is obtained from the content server of the CDN.

PRAYER FOR RELIEF

Wherefore, Plaintiff requests entry of judgment in its favor and against Google as follows:

A. Judgment that Google has directly infringed one or more claims of the Asserted Patents;

B. An award of damages to compensate Plaintiff for Google's infringement, including damages pursuant to 35 U.S.C. § 284, as well as prejudgment and post-judgment interest;

C. An award of costs and expenses in this action, including an award of Plaintiff's reasonable attorneys' fees pursuant to 35 U.S.C. § 285;

D. A permanent injunction restraining and enjoining Google, and its respective officers, agents, servants, employees, attorneys, and those persons in active concert or participation with Google who receive actual notice of the order by personal service or otherwise, from any further sales or use of their infringing products and/or services and any other infringement of the Asserted Patents;

E. A finding that this is an exceptional case and ordering Google to pay Plaintiff's costs of suit and attorneys' fees; and

F. Any such other and further relief as the Court may deem just, proper, and equitable under the circumstances.

JURY DEMAND

Plaintiff respectfully demands a trial by jury on all claims and issues so triable.

Dated: May 10, 2024

Respectfully submitted,

/s/ Mayela C. Montenegro-Urch
Mayela C. Montenegro-Urch

Attorneys for Plaintiff
Sandpiper CDN, LLC