IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

VOCALIFE LLC,	§	
	§	
Plaintiff,	§	Case No.
	§	
	§	**JURY TRIAL DEMANDED**
v.	§	
	§	
GOOGLE LLC,	§	
	§	
Defendant.	§	
	§	
	§	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Vocalife, LLC ("Vocalife" or "Plaintiff") files this Complaint against Defendant Google LLC ("Google" or "Defendant"), for patent infringement under 35 U.S.C. § 271 and alleges as follows:

THE PARTIES

1. Vocalife is a limited liability company organized and existing under the laws of the State of Texas, with its principal place of business located at 7300 Lone Star Drive, C200 Plano, Texas 75024. Vocalife is the owner of all right, title, and interest in and to, or is the exclusive licensee with the right to sue for U.S. Patent Nos. RE47,049 and RE48,371.

2. Google LLC is a Delaware corporation and maintains its principal place of business located at 1600 Amphitheatre Parkway, Mountain View, California 94043, and may be served with process through its registered agent, Corporation Service Company at 251 Little Falls Drive, Wilmington, DE 19808.

3. Upon information and belief, Google LLC does business in Texas, directly or through intermediaries, and offers its products and/or services, including those accused herein of

infringement, to customers and potential customers located in Texas, including in the Judicial Eastern District of Texas.

4. On information and belief, Google maintains regular and established places of business within this Judicial District including at least the following locations: (1) 700 Lakeside Parkway, Flower Mound, Texas 75028; (2) 1201 East Spring Creek Parkway, Suite C-130, Plano, TX 75074; (3) 6205 Coit Road, Suite 336, Plano, TX 75024; (4) 1920 Eldorado Parkway, Suite 600, McKinney, TX 75069; and (5) 2707 Cross Timbers, Suite 122, Flower Mound, TX 75028. Upon information and belief, Google employs individuals in this Judicial District involved in the sales and marketing of its products.

JURISDICTION

5. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq*. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over Google. Google regularly conducts business and has committed acts of patent infringement that give rise to this action, and have established minimum contacts with this forum such that exercise of jurisdiction over Google would not offend traditional notions of fair play and substantial justice. Google has committed and continues to commit acts of infringement in this Judicial District, by, among other things, offering to sell, selling, using, importing, and making products and services that infringe the asserted patents. Google has further induced acts of patent infringement by others in this Judicial District and/or has contributed to patent infringement by others in this Judicial District, the State of Texas, and elsewhere in the United States.

7. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391 and 1400(b). Google is registered to do business in Texas and, upon information and belief, Google

has transacted business in the Eastern District of Texas and has committed acts of direct and indirect infringement in the Eastern District of Texas. Google has regular and established places of business in this Judicial District as set forth below and is deemed to reside in this Judicial District.

8. Google is a multi-national technology company that collects, stores, organizes, and distributes data. In addition to its service model for distribution of data (*e.g.*, movies, search results, maps, music, etc.), Google has an expansive regime that gathers data on residents of this Judicial District through the hardware devices it sells (*e.g.*, phones, tablets, and home audio devices) and, also, through the operating systems and apps it provides. As an example, Google gathers data when a resident runs its operating systems and apps (*e.g.*, Android and Google Assistant).[1] As another example, Google gathers data when a resident interacts with Google's plethora of services such as search, Google Assistant voice services, email, music, and movie streaming. *See* https://safety.google/privacy/data (indicating that Google gathers data from "things you search for," "Videos you watch," "Ads you view or click," "Your location," "Websites you visit," and "Apps, browsers, and devices you use to access Google services"). As yet another example, Google gathers data "where you've been," "everything you've ever searched—and deleted," "all the apps you use," "all of your YouTube history," "which events you attended, and when," "information you deleted [on your computer]," "your workout routine," "years' worth of photos," and "every email you ever sent."[2]

9. In addition to extensive data gathering on residents of this Judicial District, Google

[1] *See, e.g.*, "AP Exclusive: Google tracks your movements, like it or not," https://apnews.com/727aefab64d4411bac257a07c1af0ecb/AP-Exclusive:-Google-tracks-yourmovements,-like-it-or-not; *see also* https://assistant.google.com/.

[2] *See* https://www.theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-google-has-on-you-privacy.

has a substantial presence in this District directly through the products and services Google provides residents of this District (some of which also gather data).[3] Google derives revenue through, among other things, sale of the Google Home smart speaker products,[4] through sharing residents' data with third-parties,[5] and through serving advertisements to residents.[6]

10. Google describes itself as an "information company."[7] Its vision is "to provide access to the world's information in one click," and its mission is "to organize the world's information and make it universally accessible and useful."[8] Making information available to people wherever they are and as quickly as possible is critical to Google's business.[9]

11. Google's CEO, Sundar Pichai, explained, "We want to make sure that no matter who you are and where you are or how advanced the device you are using—Google works for you."[10] To meet this goal, Google developed a content delivery network that it calls the Edge Network.

12. One non-limiting example of physical presence in this Judicial District is Google's Edge Network. Google provides Android and/or web-based products and services, such as Google

[3] Non-limiting examples include Google Search, Maps, Translate, Chrome Browser, YouTube, YouTube TV, Google Play Music, Chromecast, Google Play Movies and TV, Android Phones, Android Gear, Chromebooks, Android Auto, Gmail, Google Allo, Google Duo, Google+, Google Photos, Google Contacts, Google Calendar, Google Keep, Google Docs, Google Sheets, Google Slides, Google Drive, Google Voice, Google Assistant, Android Operating System, Project Fi Wireless phone systems, Google Pixel, Google Home, Google WiFi, Daydream View, and Chromecast Ultra.
[4] https://assistant.google.com/platforms/speakers/.
[5] *See* https://www.theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-google-has-on-you-privacy.
[6] *See* https://support.google.com/google-ads/answer/6382835?hl=en.
[7] *See* "This Year's Founder's Letter" by Alphabet CEO, Sundar Pichai, https://blog.google/inside-google/alphabet/this-years-founders-letter/.
[8] https://panmore.com/google-visions-statement-mission-statement.
[9] *Id.*; *see also* "Introduction to GCC," https://support.google.com/interconnect/answer/9058809?hl=en.
[10] https://time.com/4311233/google-ceo-sundar-pichai-letter/.

Assistant, and Google Chrome, to users throughout the world, including in this District.[11] These products and services are in high demand. Google reports that the Android operating system has more than 2 billion monthly active devices.[12]

13. Google's Edge Network, itself, has three elements: Core Data Centers, Edge Points of Presence, and Edge Nodes.[13] The Core Data Centers (there are eight in the United States) are used for computation and backend storage. Edge Points of Presence are the middle tier of the Edge Network and connect the Data Centers to the Internet. Edge Nodes are the layer of the network closest to users. Popular content, including Google Maps, Google Messages, mobile apps, and other digital content from the Google Play store, is cached on the Edge Nodes, which Google refers to as Google Global Cache or "GGC."

14. Google Global Cache is recognized as one of the most important pieces of Google's infrastructure, and Google uses it to conduct the business of providing access to the world's information.[14] GGC servers in the Edge Nodes function as local data warehouses, much like a shoe manufacturer might have warehouses around the country. Instead of requiring people to obtain information from distant Core Data Centers, which would introduce delay, Google stores information in the local GGC servers to provide quick access to the data.

15. Caching and localization are vital for Google's optimization of network resources. Because hosting all content everywhere is inefficient, it makes sense to cache popular content and serve it locally. Doing so brings delivery costs down for Google, network operators, and Internet service providers. Storing content locally also allows it to be delivered more quickly, which

[11] https://support.google.com/assistant/?hl=en#topic=7546466.
[12] *See* https://www.theverge.com/2017/5/17/15654454/android-reaches-2-billion-monthly-active-useres.
[13] https://peering.google.com/#/infrastructure.
[14] https://www.blog.speedchecker.xyz/2015/11/30/demystifying-google-global-cache/.

provides user experience. Serving content from the edge of the network closer to the user improves performance and user happiness. To achieve these benefits, Google has placed Edge Nodes throughout the United States, including in this Judicial District. Google describes these Edge Nodes as the workhorses of video delivery.

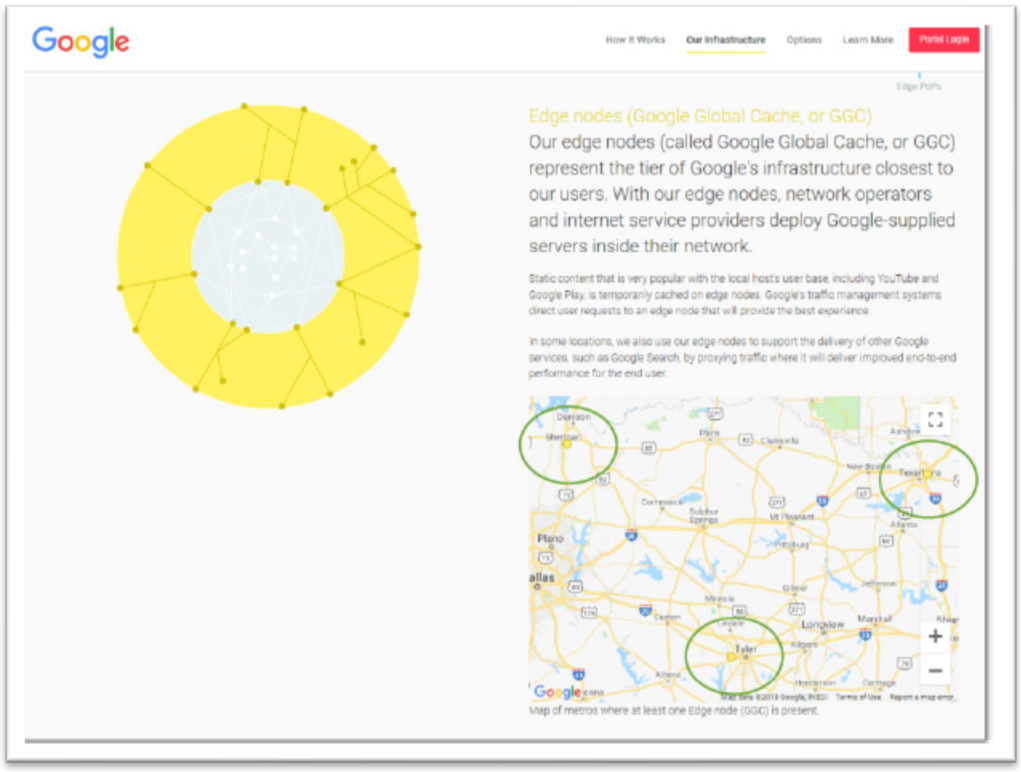
16. Google's GGC servers are housed in spaces in this Judicial District leased by Google. Google's GGC servers are housed in spaces leased by Google from Internet Service Providers (ISPs) whose networks have substantial traffic to Google and are interested in saving bandwidth. Hosting Google servers allows ISPs to save both bandwidth and costs, as they do not incur the expense of carrying traffic across their peering and/or transit links.

17. When an ISP agrees to host a GGC server, the parties enter into a Global Cache Service Agreement, under which Google provides:

- hardware and software—including GGC servers and software—to be housed in the host's facilities;
- technical support; service management of the hardware and software; and
- content distribution services, including content caching and video streaming.

In exchange, the host provides, among other things, a physical building, rack space where Google's computer hardware is mounted, power, and network interfaces. All ownership rights, title, and intellectual property rights in and to the equipment (i.e., the hardware and software provided by Google) remain with Google and/or its licensors.

18. Multiple-ISP-hosted GGC servers are in this Judicial District. Google provides the location of its GGC servers, namely, Sherman, Tyler, and Texarkana.



Source: *Uniloc 2017 LLC v. Google LLC*, Case No. 2:18-cv-00550, Dkt. 1 at 8 (E.D. Tex. 2018); https://peering.google.com/#/infrastructure.

19. Suddenlink Communications, for example, is an ISP that hosts six GGC servers in Tyler, Texas.

20. CableOne is an ISP that hosts three GGC servers in Sherman, Texas and three GGC servers in Texarkana, Texas.

21. Google caches content on these GGC servers located in this Judicial District.

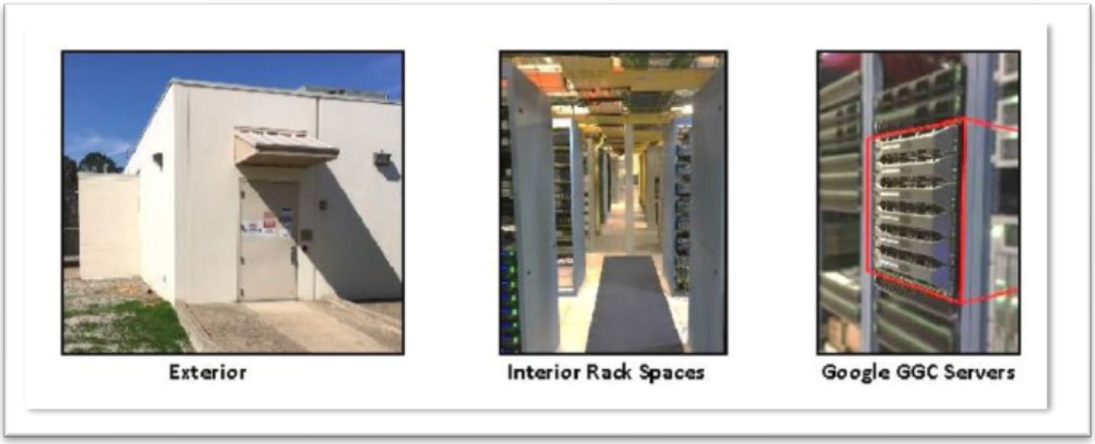
22. Google's GGC servers located in this Judicial District cache content that includes, among other things: (a) maps; (b) messages; and (c) digital content from Google Play store.

23. Google's GGC servers located in this Judicial District deliver cached content for the items in the preceding paragraph to residents in this District.

24. Google generates revenue (a) by delivering video advertising; (b) from apps; and (c) from digital content in the Google Play store.

25. Google treats its GGC servers in this Judicial District the same as it treats all its other GGC servers in the United States.

26. The photographs below show Google's GGC servers hosted by Suddenlink and the building where they are located at 322 North Glenwood Boulevard, Tyler, Texas 75702.



27. Google not only exercises exclusive control over the digital aspects of the GGC, but also exercises exclusive control over the physical server and the physical space within which the server is located and maintained.

28. This Judicial District has previously determined that the GGC server itself and the place of the GGC server, both independently and together, meet the statutory requirement of "physical place." *See Seven Networks, LLC v. Google LLC*, Case No. 2:17-cv-00442-JRG, Dkt. 235 at 24 (E.D. Tex. July 19, 2018).

29. Likewise, this Judicial District has determined that GGC servers and their several locations within this District constitute "regular and established place[s] of business" within the meaning of the special patent venue statute. *See Seven Networks, LLC v. Google LLC*, Case No. 2:17-cv-00442-JRG, Dkt. 235 at 38 (E.D. Tex. July 19, 2018).

30. Similarly, this Judicial District has determined that the GGC servers and their locations within the various ISPs within this District are "places of Google" sufficient to meet the

statutory requirement of § 1400(b). *See Seven Networks, LLC v. Google LLC*, Case No. 2:17-cv-00442-JRG, Dkt. 235 at 41 (E.D. Tex. July 19, 2018).

Google Makes Google Home and Google Assistant Available in This Judicial District

31. Google Assistant, which is available from a number of devices, including but not limited to, user's phone, car, TV, laptop, smart watch, and smart speakers and smart displays such as Google Home, allows users to "enjoy entertainment," "plan your day," "get answers," "manage tasks," and "control your home."[15] Google Assistant allows users in this Judicial District to:

- "Search hands-free using your voice;"
- "Get the latest news from sources you trust;"
- "Listen to your favorite radio stations;"
- "Open your favorite apps and websites by voice;"
- "Find places nearby;"
- "Navigate to places and get real time traffic updates;"
- "Make phone calls by voice;" and
- "Create and manage your events."[16]

32. Google Assistant has over a million actions which are accessible and available throughout this Judicial District.[17] Google also collects information from customers and end users throughout this Judicial District, through interaction with Google Assistant and stored on its servers.[18]

[15] *See* https://assistant.google.com/platforms/speakers/.
[16] *See* https://assistant.google.com/explore?hl=en_US.
[17] *See* https://assistant.google.com/learn/.
[18] *See* https://support.google.com/googlenest/answer/7072285?hl=en#zippy=%2Cwhat-information-does-google-collect-when-i-interact-with-the-google-assistant.

33. Google maintains regular and established places of business in this Judicial District where it promotes, sells, offers for sales, uses, provides technical support for, develops, and demonstrates products that infringe the Patents-in-Suit.

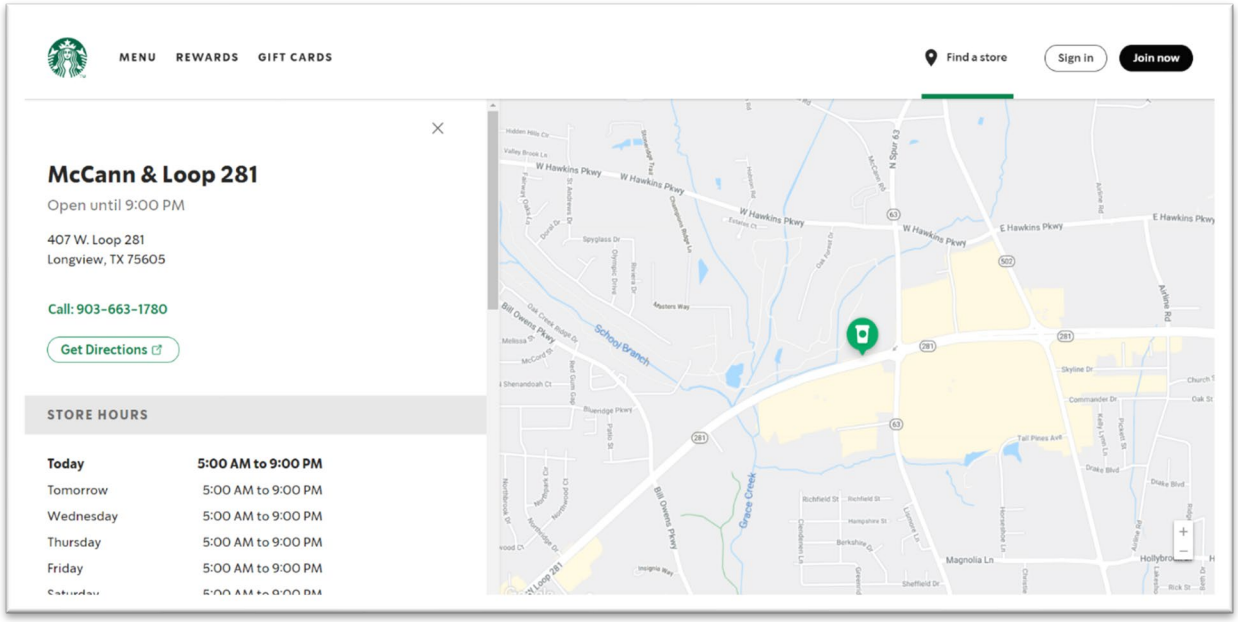
34. Google sells infringing devices and systems and provides customer service and technical support to retailers, customers, and other end users in this Judicial District.

Google Wi-Fi at Starbucks Locations in This Judicial District

35. Google provides Wi-Fi infrastructure and Wi-Fi service at Starbucks locations in this District.[19] Google and Starbucks entered in to an agreement in which Google provides its Google Wi-Fi or Google Fiber service at all Starbucks locations in this Judicial District, including at Starbucks stores and at Target stores.[20] First-time customers connect and use Google Wi-Fi on their devices in this District by selecting "Google Starbucks" from their respective device's list of available wireless networks and entering their respective name, email address, and postal code. Return customers are automatically connected to Google Wi-Fi on their respective devices at any Google Wi-Fi location. Upon connecting to the Google Wi-Fi locations in this District, Google provides connected customers with Internet access over Google's infrastructure and services.

[19] *Id.*

[20] *Id.*

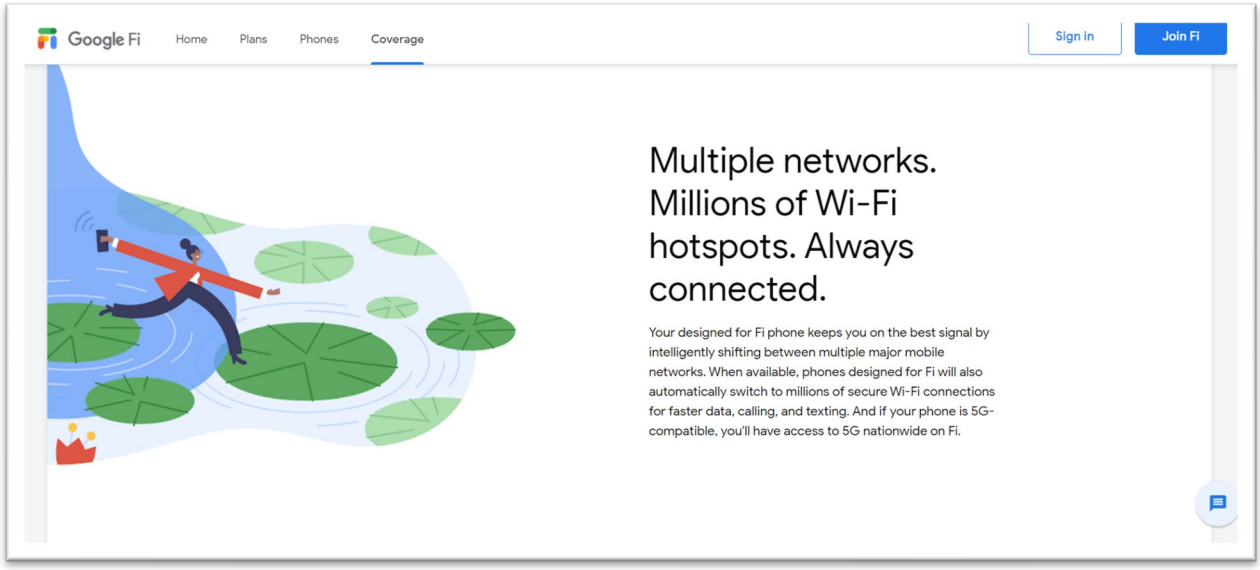


Source: https://www.starbucks.com/store-locator/store/15590/mc-cann-loop-281-407-w-loop-281-longview-tx-756054449-us.

36. Google uses its Google Wi-Fi infrastructure and Google Wi-Fi services at Starbucks locations in this Judicial District to provide customers with telecommunications services through its own phone carrier network, Google Fi. Google Fi is owned and operated by Google. In order to use Google Fi phone service in this District, Google provides its customers with special SIM cards and software to connect to and automatically switch between four sources of network infrastructure and services: T-Mobile, Sprint, U.S. Cellular, and public Wi-Fi networks. As described below, Google has entered into agreements with T-Mobile, Sprint, and U.S. Cellular to lease the carriers' infrastructure and services to provide Google Fi customers with voice and data services. As a fourth source, Google Fi uses public Wi-Fi networks, including the Google Wi-Fi at Starbucks locations in this District, to provide its phone carrier service. The Google Wi-Fi at Starbucks locations in this District are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google has contractual and/or

property rights to use the Google Wi-Fi locations to operate its businesses, including the Google Fi phone carrier business.

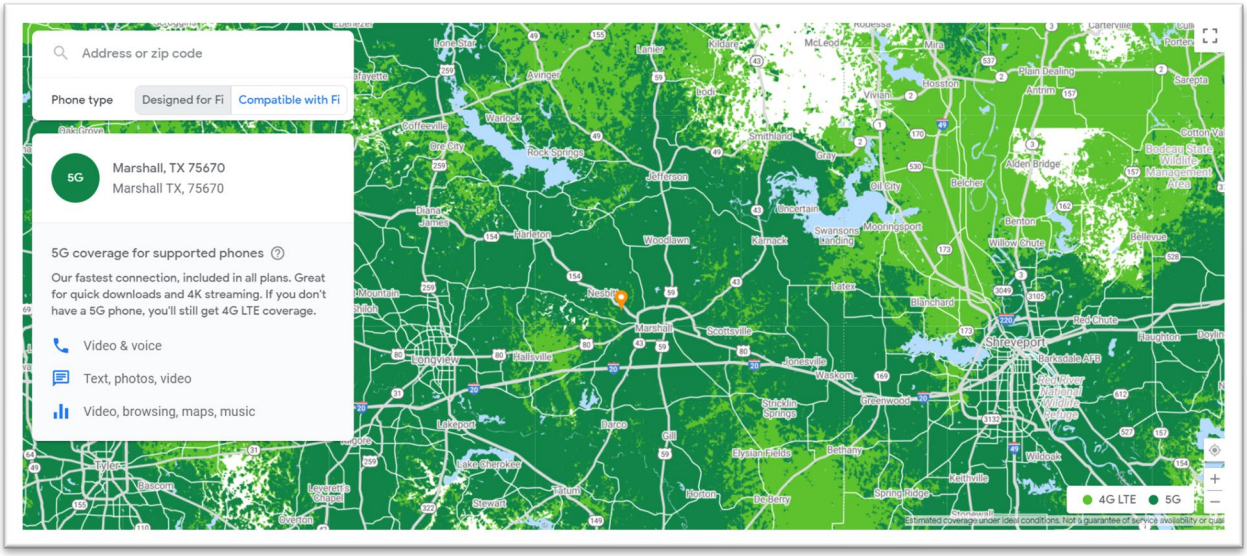
37. Google determines whether a Google Fi customer in this Judicial District uses a certain Wi-Fi network, including the Google Wi-Fi networks at a Starbucks location, using the Google-provided SIM card and software on the customer's phone.



Source: https://fi.google.com/about/coverage.

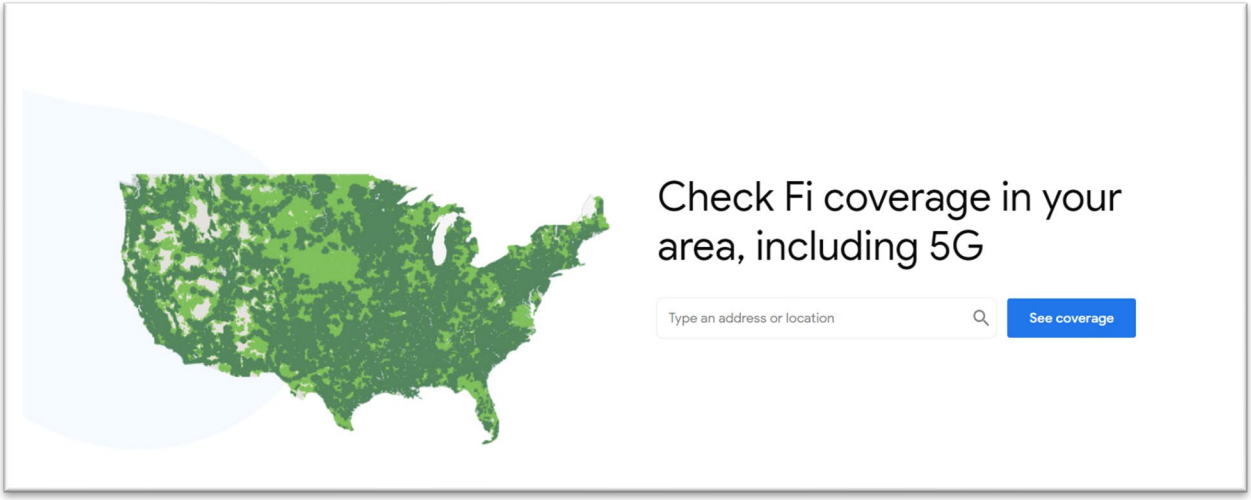
Google's "Google Fi"

38. As described above, Google owns, operates, and provides telecommunications infrastructure and service in this Judicial District through its own phone carrier network, Google Fi. Google provides cellular and Wi-Fi infrastructure and services for payment, phone, messaging, and data services in this District. Google provides its customers voice and high-speed data coverage (4G LTE or 5G) for cities such as Tyler, Longview, and Marshall, Texas.



Source: https://fi.google.com/coverage?q=Marshall%2C$20TX$2C%20USA.

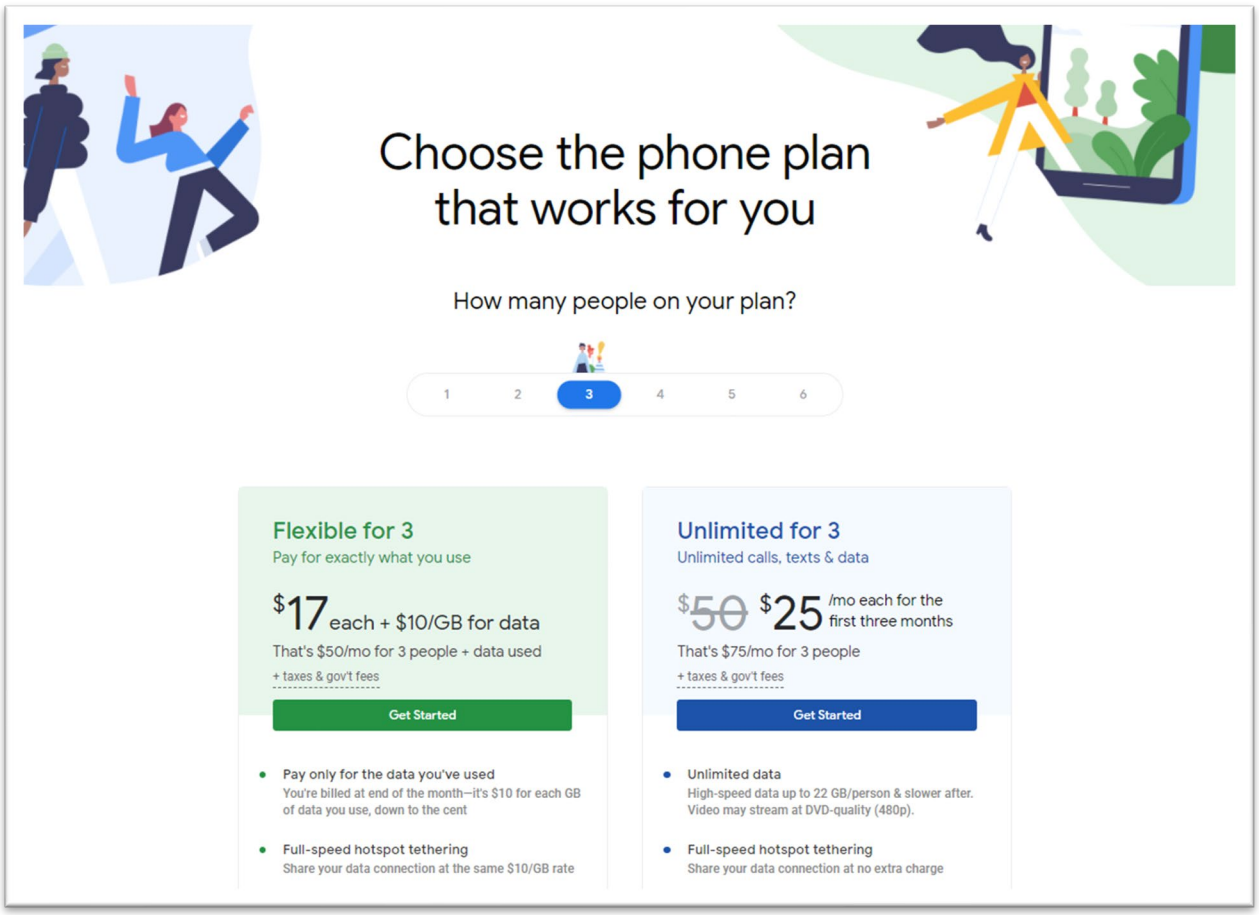
39. The cell towers used for Google's services are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google has contractual and/or property rights to use the cell towers to operate its business. Google also ratifies the service locations through its coverage lookup service.



Source: https://fi.google.com/about/coverage.

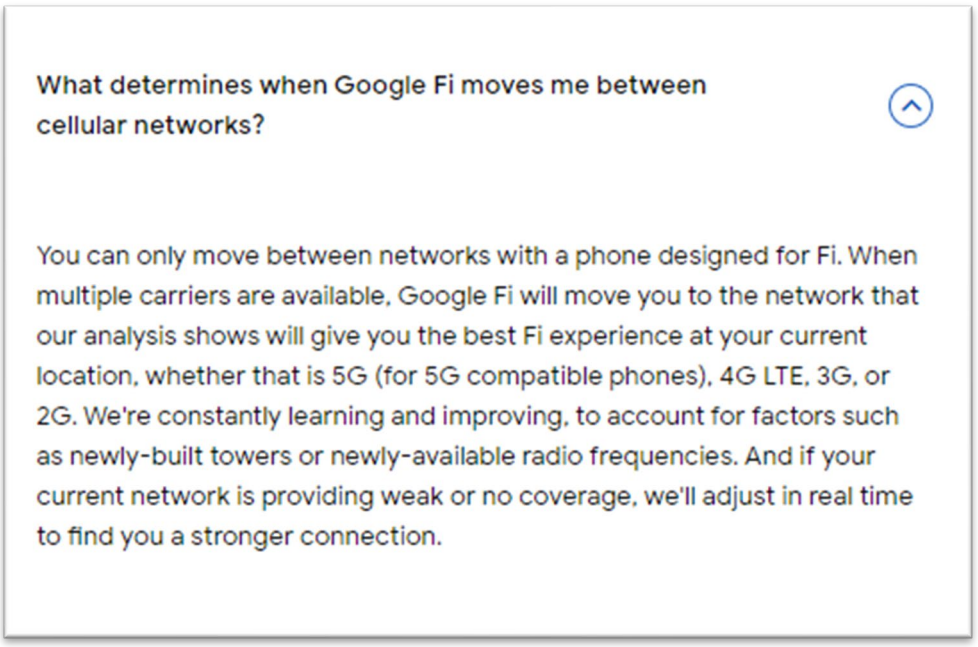
40. With this coverage lookup service, Google advertises its ability to provide cell coverage in this Judicial District and its selected cell towers in and near this District to provide the advertised coverage (e.g., 2G, 3G, 4G LTE, or 5G), depending on the location in this District. *See* https://fi.google.com/about/coverage. Google is not indifferent to the location of its cell towers. It "established" and "ratified" them where they are for a specific business purpose.

41. Residents of this Judicial District also directly contract with and are billed by Google for these services.



Source: https://fi.google.com/about/plans/.

42. Google also determines which cell tower a particular Google Fi customer will use while within this Judicial District.



Source: https://fi.google.com/about/faq/#coverage-3

Google Cloud Interconnect ("GCI") and Direct Peering

43. Google additionally services its customers in this Judicial District (and other districts) through yet other facilities it has in this District. More specifically, Google's equipment is located in this District in Denton County, Texas at two facilities referred to as "Megaport." At the Megaport facilities in this District, Google offers two services: Google Cloud Interconnect ("GCI") and Direct Peering.

44. Google's Cloud Interconnect (GCI) is a service from Google that allows customers to connect to Google's Cloud Platform directly, as opposed to, for example, over the public network.

Partner Interconnect overview

Send feedback

Partner Interconnect provides connectivity between your on-premises network and your Virtual Private Cloud (VPC) network through a supported service provider. A Partner Interconnect connection is useful if your data center is in a physical location that can't reach a Dedicated Interconnect colocation facility, or your data needs don't warrant an entire 10-Gbps connection.

Before you use Partner Interconnect

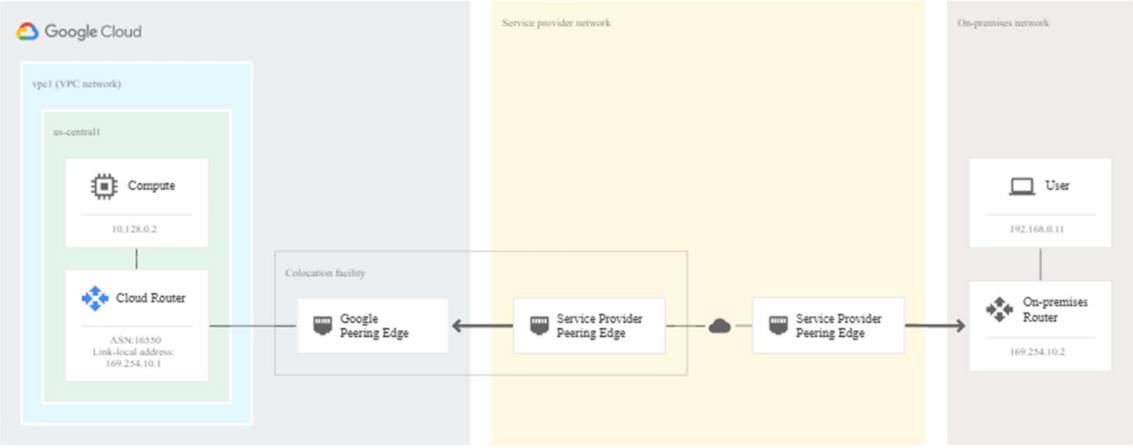
Ensure that you meet the following requirements:

- Be familiar with Cloud Interconnect terminology.
- Work with a supported service provider to establish connectivity between their network and your on-premises network. Supported service providers offer Layer 2 connectivity, Layer 3 connectivity, or both. Work with your service provider to understand their offerings and requirements.

Note: Partner Interconnect requires that you separately obtain services from a third-party network service provider. Google is not responsible for any aspects of Partner Interconnect provided by the third-party service provider nor any issues outside of Google's network.

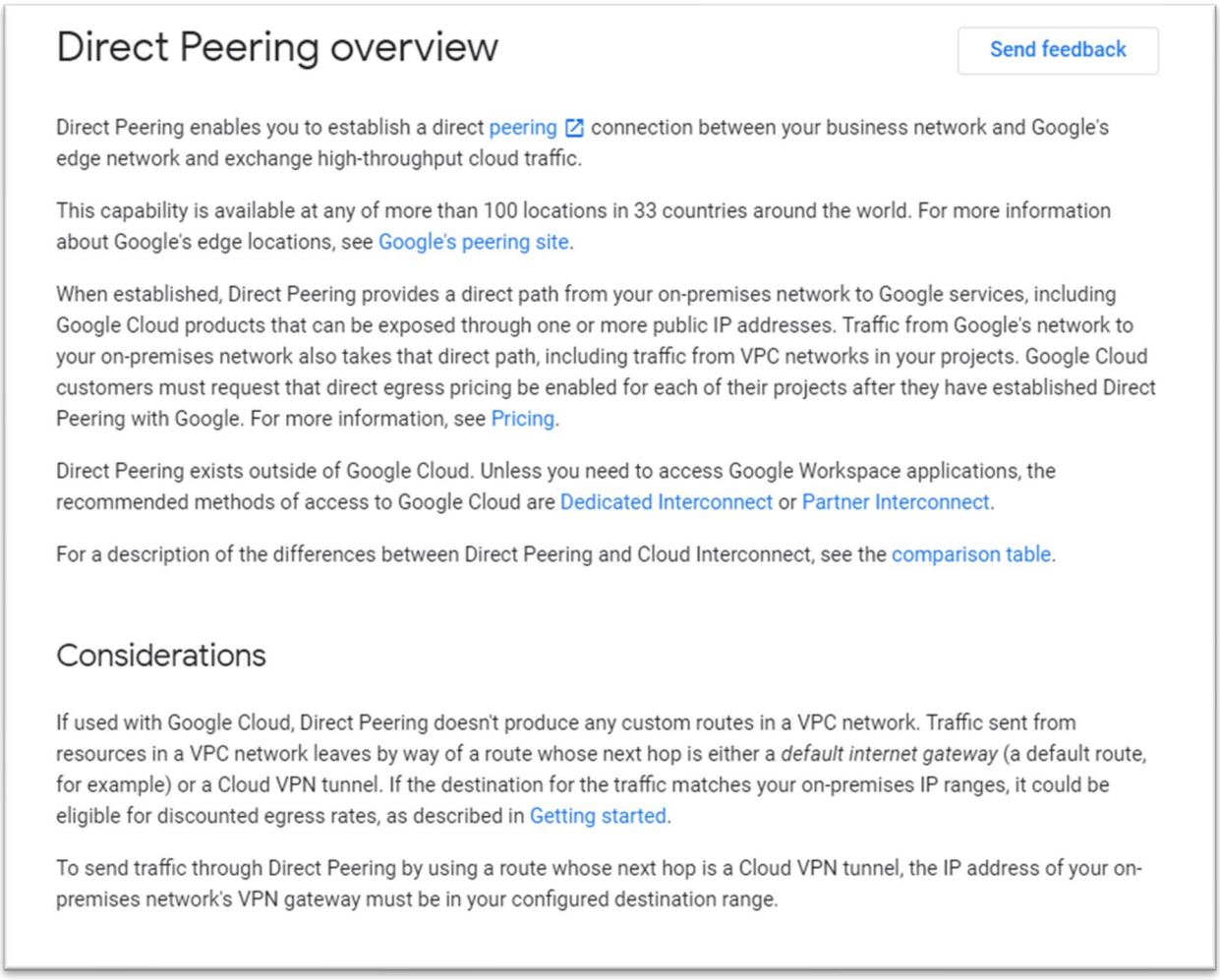
How does Partner Interconnect work?

Service providers have existing physical connections to Google's network that they make available for their customers to use. After you establish connectivity with a service provider, you can request a Partner Interconnect connection from your service provider. After the service provider provisions your connection, you can start passing traffic between your networks by using the service provider's network.



Source: https://cloud.google.com/network-connectivity/docs/interconnect/concepts/partner-overview#before-you-use-partner.

45. Google's Direct Peering services allows its customers to exchange Internet traffic between its customers' networks and Google's at one of its broad-reaching Edge network locations, such as the one at Megaport.



Direct Peering overview

Send feedback

Direct Peering enables you to establish a direct peering connection between your business network and Google's edge network and exchange high-throughput cloud traffic.

This capability is available at any of more than 100 locations in 33 countries around the world. For more information about Google's edge locations, see Google's peering site.

When established, Direct Peering provides a direct path from your on-premises network to Google services, including Google Cloud products that can be exposed through one or more public IP addresses. Traffic from Google's network to your on-premises network also takes that direct path, including traffic from VPC networks in your projects. Google Cloud customers must request that direct egress pricing be enabled for each of their projects after they have established Direct Peering with Google. For more information, see Pricing.

Direct Peering exists outside of Google Cloud. Unless you need to access Google Workspace applications, the recommended methods of access to Google Cloud are Dedicated Interconnect or Partner Interconnect.

For a description of the differences between Direct Peering and Cloud Interconnect, see the comparison table.

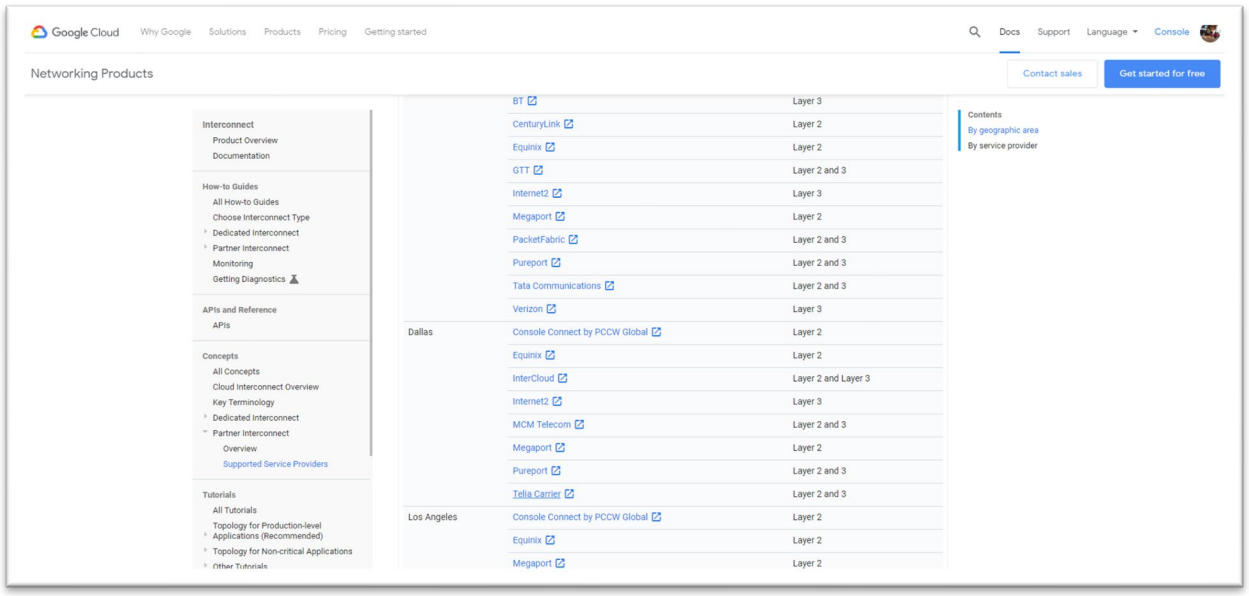
Considerations

If used with Google Cloud, Direct Peering doesn't produce any custom routes in a VPC network. Traffic sent from resources in a VPC network leaves by way of a route whose next hop is either a *default internet gateway* (a default route, for example) or a Cloud VPN tunnel. If the destination for the traffic matches your on-premises IP ranges, it could be eligible for discounted egress rates, as described in Getting started.

To send traffic through Direct Peering by using a route whose next hop is a Cloud VPN tunnel, the IP address of your on-premises network's VPN gateway must be in your configured destination range.

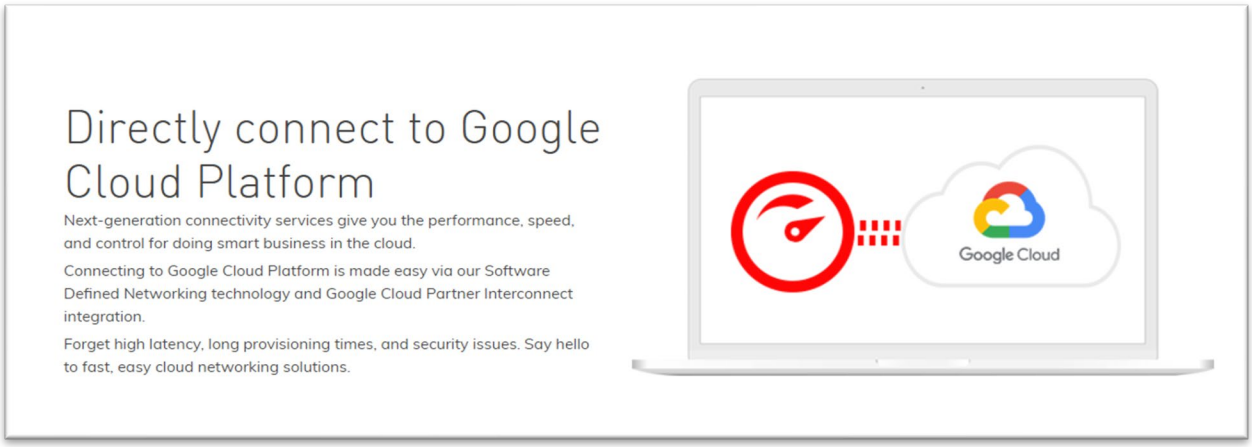
Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering.

46. In establishing such a direct connection, Google provides the necessary physical equipment at Megaport to enable GCI or Direct Peering connections. Google advertises only two GCI facilities in Texas—the Equinix facility and the Megaport facility (the latter one located in this Judicial District).



Source: https://www.cloud.google.com/interconnect/docs/concepts/service-providers#by-location

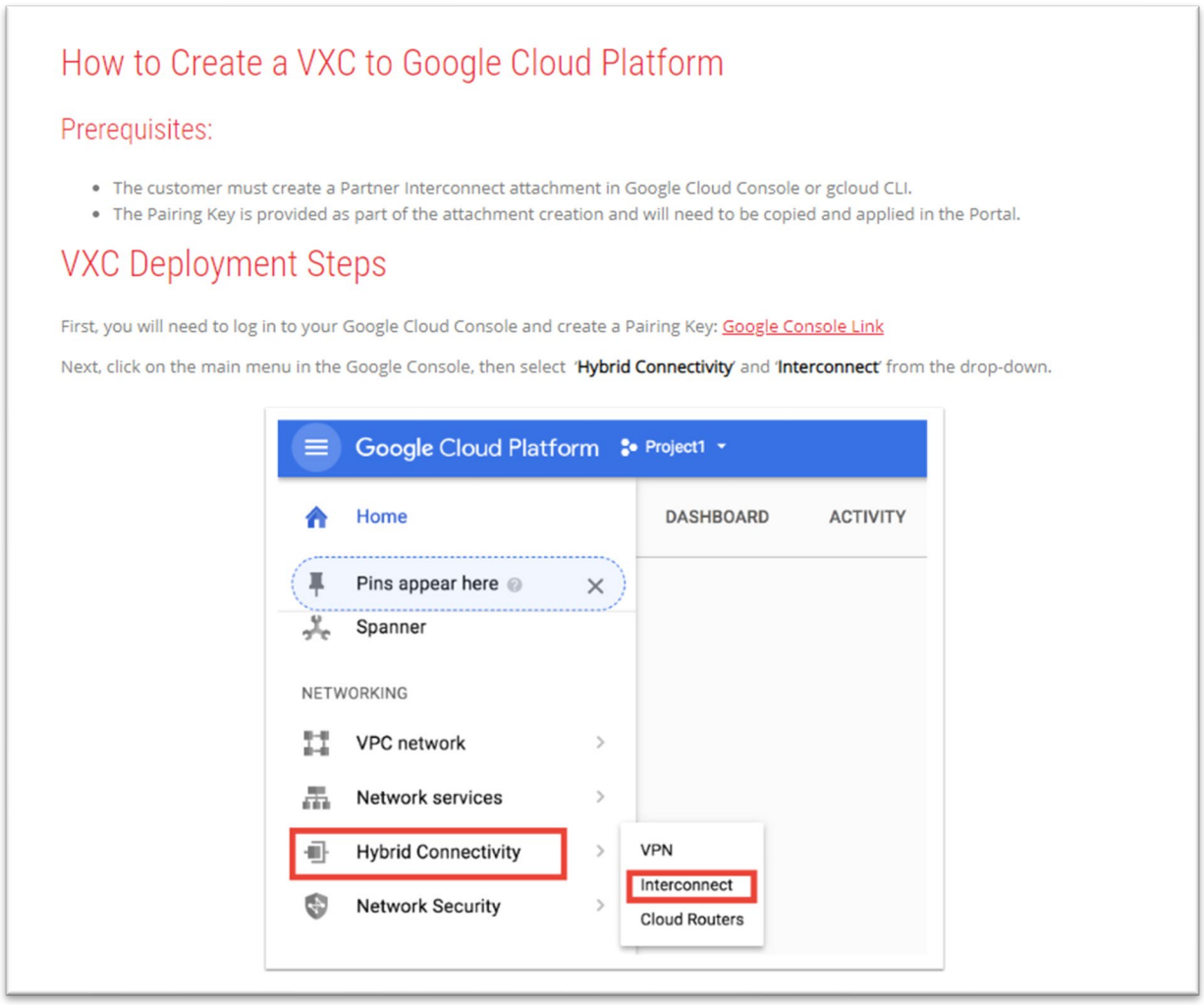
47. Clicking on the Megaport link from the screenshot of Google's website, in the preceding paragraph, directs a customer to the details of directly connecting to Google's equipment at the facility in this Judicial District to connect to Google's GCI service.



Source: https://www.megaport.com/services/google-cloud-partner-interconnect/

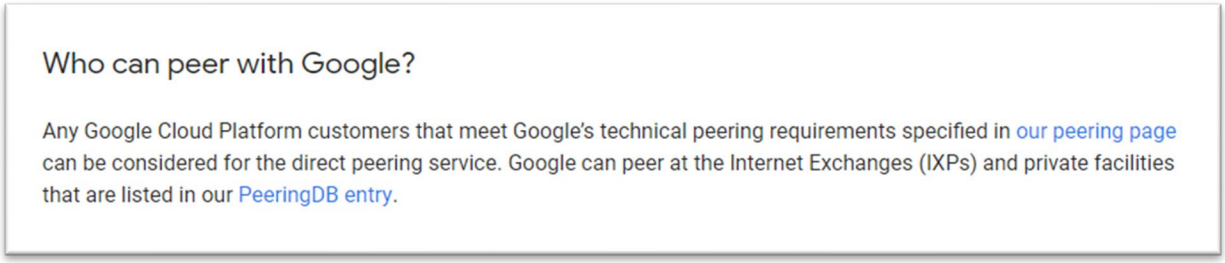
48. More particularly, the Google-linked Megaport site explains how a Google customer can use the Google Cloud Platform console to enable connection to the Google

equipment at the Megaport facility in this Judicial District.



Source: https://knowledgebase.megaport.com/cloud-connectivity/google-cloud/

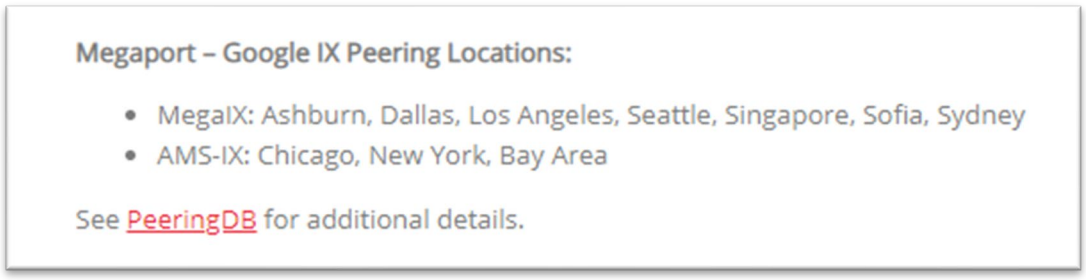
49. Both Google's website and Megaport's website advertise the peering service and point a consumer to the website, www.peeringdb.com, for details. The peering DB website lists Megaport Dallas as a Google peering facility.



Who can peer with Google?

Any Google Cloud Platform customers that meet Google's technical peering requirements specified in our peering page can be considered for the direct peering service. Google can peer at the Internet Exchanges (IXPs) and private facilities that are listed in our PeeringDB entry.

Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering; see also https://cloud.google.com/cdn/docs/locations.

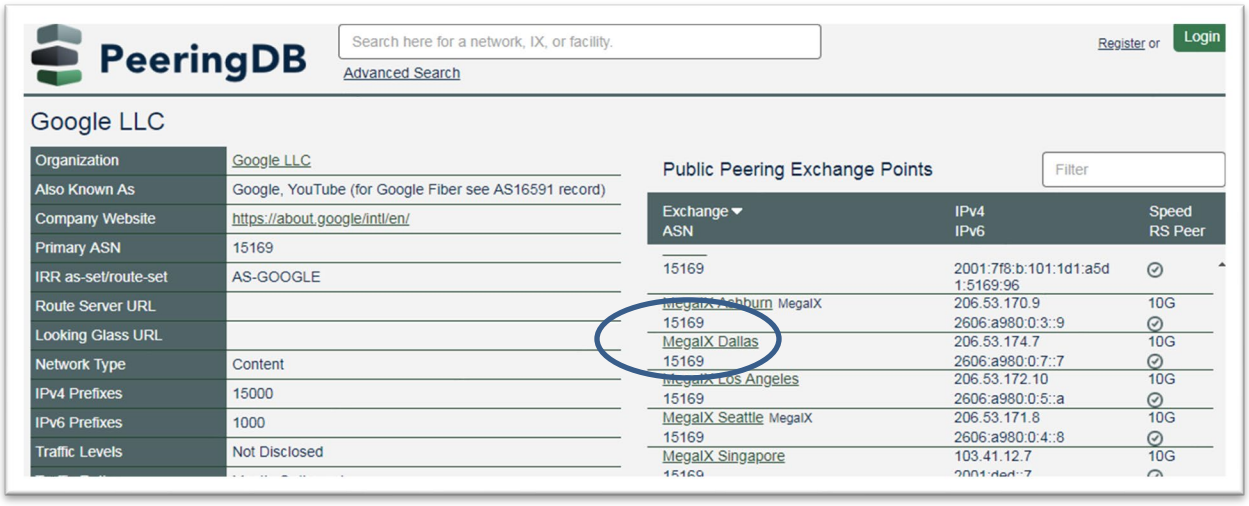


Megaport – Google IX Peering Locations:

- MegaIX: Ashburn, Dallas, Los Angeles, Seattle, Singapore, Sofia, Sydney
- AMS-IX: Chicago, New York, Bay Area

See PeeringDB for additional details.

Source: https://knowledgebase.megaport.com/cloud-connectivity/google-cloud-platform-direct-peering/



PeeringDB

Search here for a network, IX, or facility.

Advanced Search

Register or Login

Google LLC

Organization	Google LLC
Also Known As	Google, YouTube (for Google Fiber see AS16591 record)
Company Website	https://about.google/intl/en/
Primary ASN	15169
IRR as-set/route-set	AS-GOOGLE
Route Server URL	
Looking Glass URL	
Network Type	Content
IPv4 Prefixes	15000
IPv6 Prefixes	1000
Traffic Levels	Not Disclosed

Public Peering Exchange Points

Filter

Exchange / ASN	IPv4 / IPv6	Speed / RS Peer
15169	2001:7f8:b:101:1d1:a5d1:5169:96	
MegaIX Ashburn MegaIX 15169	206.53.170.9 2606:a980:0:3::9	10G
MegaIX Dallas 15169	206.53.174.7 2606:a980:0:7::7	10G
MegaIX Los Angeles 15169	206.53.172.10 2606:a980:0:5::a	10G
MegaIX Seattle MegaIX 15169	206.53.171.8 2606:a980:0:4::8	10G
MegaIX Singapore	103.41.12.7	10G

Source: https://www.peeringdb.com/net/433

50. Megaport's website also confirms, in its "Looking Glass" tool, the presence of Google at its facility—(AS No. 15169).

IP Address	AS	Status	Since (UTC)	Rcvd (Best)	Description	Last Error
206.53.174.1	64222	Established	2017-11-07 10:30:41	64202 (0)	dal eq1 rs1	
206.53.174.6	20940	Established	2018-07-19 19:32:50	32 (32)	Akamai International B.V.	
206.53.174.7	15169	Established	2019-08-07 21:01:15	162 (162)	Google Inc	
206.53.174.8	15133	Passive	2017-08-16 00:07:03	0 (0)	Verizon Digital Media Services Inc	BGP Error: Hold timer expired
206.53.174.9	14127	Established	2019-05-11 03:02:48	7 (7)	iland	
206.53.174.10	19682	Passive	2019-07-09 11:30:23	0 (0)	TeleFlex.io	Received: Peer de-configured
206.53.174.11	13335	Established	2019-05-08 07:30:34	7 (7)	CloudFlare	
206.53.174.12	8075	Established	2019-04-09 07:47:49	0 (0)	Microsoft	
206.53.174.13	10310	Established	2018-11-06 06:11:28	152 (152)	Yahoo	
206.53.174.14	6939	Established	2018-04-18 08:59:23	63804 (63769)	Hurricane Electric	
206.53.174.15	40731	Established	2019-07-25 06:42:55	10 (10)	Latin IP LLC	
206.53.174.16	16570	Established	2018-06-25 07:00:19	12 (12)	TELoIP Inc.	
206.53.174.17	6507	Established	2017-11-07 10:30:44	14 (14)	Riot Games	
206.53.174.18	49362	Established	2019-08-04 02:04:42	3 (3)	DSV AS	
206.53.174.19	19682	Established	2019-07-30 08:21:54	1 (1)	TeleFlex.io	
206.53.174.20	13414	Passive	2017-08-18 03:53:24	0 (0)	Twitter	
206.53.174.21	14127	Established	2019-05-11 03:02:41	32 (32)	iland	
206.53.174.22	15164	Established	2018-05-02 21:48:40	31 (31)	Unite Private Networks	
206.53.174.23	16524	Established	2018-06-26 15:09:49	2 (2)	MetTel	
206.53.174.24	14127	Established	2019-05-11 03:03:19	32 (0)	iland	
2606:a980:0:7::1	64222	Established	2017-11-07 10:30:52	27315 (0)	dal eq1 rs1	
2606:a980:0:7::6	20940	Established	2018-07-19 19:33:01	1 (1)	Akamai International B.V.	
2606:a980:0:7::7	15169	Established	2019-08-07 21:01:59	30 (30)	Google Inc	
2606:a980:0:7::8	15133	Passive	2017-08-04 06:25:46	0 (0)	Verizon Digital Media Services Inc	BGP Error: Hold timer expired
2606:a980:0:7::9	14127	Passive	2018-11-28 22:48:40	0 (0)	iland	
2606:a980:0:7::a	19682	Passive	2019-01-25 16:52:06	0 (0)	TeleFlex.io	
2606:a980:0:7::b	13335	Established	2019-05-08 07:31:05	2 (2)	CloudFlare	
2606:a980:0:7::c	8075	Established	2019-04-09 07:48:21	0 (0)	Microsoft	
2606:a980:0:7::d	10310	Established	2018-11-06 06:11:44	44 (5)	Yahoo	
2606:a980:0:7::e	6939	Established	2018-04-18 08:59:25	27280 (27276)	Hurricane Electric	
2606:a980:0:7::f	40731	Passive	2016-08-12 19:10:25	0 (0)	Latin IP LLC	
2606:a980:0:7::10	16570	Passive	2017-09-22 19:05:13	0 (0)	TELoIP Inc.	
2606:a980:0:7::11	6507	Passive	2016-10-19 01:33:18	0 (0)	Riot Games	
2606:a980:0:7::12	49362	Passive	2018-06-14 07:37:26	0 (0)	DSV AS	
2606:a980:0:7::13	19682	Passive	2019-07-25 11:22:59	0 (0)	TeleFlex.io	
2606:a980:0:7::14	13414	Passive	2017-08-18 03:53:37	0 (0)	Twitter	
2606:a980:0:7::15	14127	Passive	2017-10-10 20:00:59	0 (0)	iland	
2606:a980:0:7::16	15164	Established	2018-10-25 02:06:14	2 (2)	Unite Private Networks	
2606:a980:0:7::17	16524	Passive	2018-05-04 19:21:22	0 (0)	MetTel	
2606:a980:0:7::18	14127	Passive	2019-03-06 01:48:07	0 (0)	iland	

Source: https://lg.megaport.com/

51. Both of Megaport's "Dallas" locations are in the Eastern District of Texas in Denton County.[21] The larger Megaport facility, the Carrollton facility, is located at 1649 West Frankford Road, and is the largest of its kind in the State of Texas.[22] The smaller Megaport facility, the Lewisville facility, is located at 2501 South State Highway 121.[23]

52. The Google equipment at Megaport's facilities which provides the GCI and Direct Peering services for Google customers are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google holds contractual and/or property rights to use this space and to maintain this equipment. Google also ratifies the equipment

[21] https://www.megaport.com/blog/cyrusone-brings-dallas-closer-cloud/.
[22] *Id.*
[23] *Id.*

through advertising of the Megaport location as authorized to provide these Google services.

Google Repair Centers and Warehouses in this Judicial District

53. In addition to the Google presence described above, Google has multiple authorized repair centers in the Eastern District of Texas. These repair centers are regular and established places of business of Google.

54. For example, the Flower Mound Facility, located at 700 Lakeside Parkway, Flower Mound, Texas 75028, is a regular and established place of business of Google. The Flower Mound Facility is owned by Communications Test Design, Inc. ("CTDI") with whom Google has entered into an Inbound Services Agreement (the "ISA") on August 15, 2017. Personalized Media Commn's, LLC v. Google LLC, No. 2:19-cv-00090-JRG, Dkt. 291 at 3, (E.D. Tex. July 16, 2020). Further, on May 15, 2018, Google and CTDI entered into Statement of Work No. 463889 (the "SOW") regarding the Flower Mound Facility. Id. Pursuant to the SOW and in accordance with the ISA, "Google contracted with [CTDI] to refurbish, warehouse, and repair 'certain Google products such as . . . Pixel smartphones' at the Flower Mound Facility." *Id*. at 3-4.

55. Under the SOW, (1) "[CTDI] must repair, refurbish, and warehouse Google devices at the Flower Mound Facility;" (2) "[a]ny change from this location must be agreed to in writing by Google;" (3) "the [SOW] grants Google a specific and defined space within the Flower Mound Facility called the 'Google Secured Area' where all repair, refurbishment, and warehousing activities are to be conducted;" and (4) "Google further specifies that the Google Secured Area must 'have walls from floor to ceiling' and 'be fully separate from other operations.'" *Id.* at 4. Further, "Google has a dedicated, physical space for its operations within the Flower Mound Facility," "Google has control over the Google Secured Area and has dictated the specifications for the Google Secured Area," "[o]nly Google devices can be stored, repaired,

or refurbished in the Google Secured Area," and "the location of the Google Secured Area cannot be moved outside of the Flower Mound Facility without the express written consent of Google." Id.

56. CDTI acts as Google's agent, conducting Google's business at the Flower Mound Facility. Id. at 5. "Google controls and oversees virtually every aspect of how [CTDI] performs its services, including how it receives, diagnoses, repairs, warehouses, packages, and ships the Google devices." Id. For example, the SOW "requires [CTDI] to 'collect data and deliver reports to Google' for more than twenty different types of reports, some of which must be delivered to Google daily or multiple times a day." *Id.*[24] "The [SOW] is replete with provisions affording Google the right to give interim instructions to [CTDI] which further evidence [CTDI]'s agency relationship" including "Google may change the levels of refurbishment at any time . . .," "Google may, at its sole discretion, direct [CTDI] to purchase materials from a third party vendor," "Google may direct [CTDI] to warehouse Products at one of its Locations for a specified period of time," and "[CTDI] will also store and maintain all data wipe records . . . and produce such records for Google upon request." *Id.* at 6-7. The Court also notes that "under section 6.15 of the [SOW], [CTDI] is required to implement not only every reasonable interim instruction provided by Google, but every change that Google demands unless it affects [CTDI]'s profitability." *Id.*

57. Google also "authorizes [CTDI] to act on its behalf" including "tell[ing] its customers to send their devices to 'us'—*i.e.*, Google—at the Flower Mound Facility," and "Google system logic" which "directs customers to send their particular phones to the Flower Mound Facility for repairs." *Id.* at 8. Following repair or refurbishment of the Google devices by CTDI,

[24] The Court also noted that "[CTDI] must also 'appoint an account representative to work with Google on all Service-related issues[,]' 'conduct a bi-weekly call with Google' regarding 'trends in recurring failures[,]' and identify 'allocate[d] [human] resources' for Google." *Id.*

"Google requires [CTDI] to return the devices to its customers in Google branded packaging." *Id*.

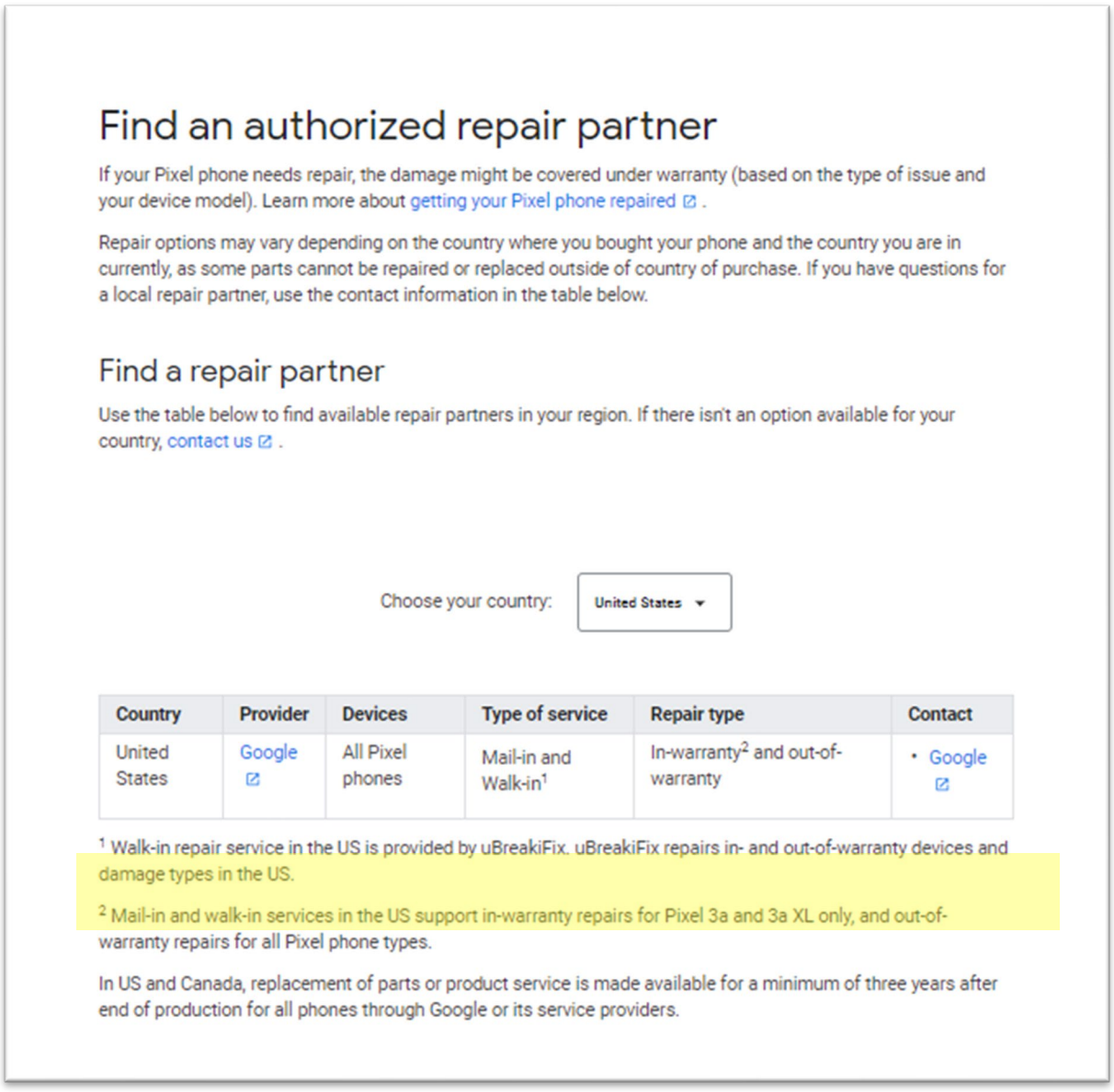
58. CTDI has consented to act on Google's behalf including agreeing "to provide Google the Services specified" including but not limited to "tak[ing] receipt of Returned Products . . ., Quarantine Services, Capture Services and Sorting Services," "Data Wipe Services," "Inventory Procurement and Management Services," and "Warehousing Services."[25] *Id*. at 8-9. Specifically, the Court noted CTDI consents to "'refurbish' and 'ship' Google devices on behalf of Google as delivered to it by Google's customers pursuant to Google instructions.'" *Id.* at 9.

59. CTDI "conducts Google's business at the Flower Mound Facility," including repairing, refurbishing, storing, and transporting Google hardware devices. *Id.* ("[CTDI] provides 'Warehousing Services' and 'Shipping Services' such that Google devices needing repair *and* Google inventory are stored in the Google Secured Area."); *Id.* ("[CTDI] also ships the repaired or refurbished devices back to Google's customers.").

60. Moreover, when Google's customers send their devices to the Flower Mound Facility for repair, they believe they are sending their devices to Google. *Id*. at 11. Google acts purposefully to achieve this result, and actively conceals CTDI from its customers. *Id.* at 8.

61. Google further publicly lists a number of repair centers in this Judicial District:

[25] *See Personalized Media*, Dkt. 291 at 8-9 for the full list of services noted by the Court.



Find an authorized repair partner

If your Pixel phone needs repair, the damage might be covered under warranty (based on the type of issue and your device model). Learn more about getting your Pixel phone repaired .

Repair options may vary depending on the country where you bought your phone and the country you are in currently, as some parts cannot be repaired or replaced outside of country of purchase. If you have questions for a local repair partner, use the contact information in the table below.

Find a repair partner

Use the table below to find available repair partners in your region. If there isn't an option available for your country, contact us .

Choose your country: United States

Country	Provider	Devices	Type of service	Repair type	Contact
United States	Google	All Pixel phones	Mail-in and Walk-in[1]	In-warranty[2] and out-of-warranty	• Google

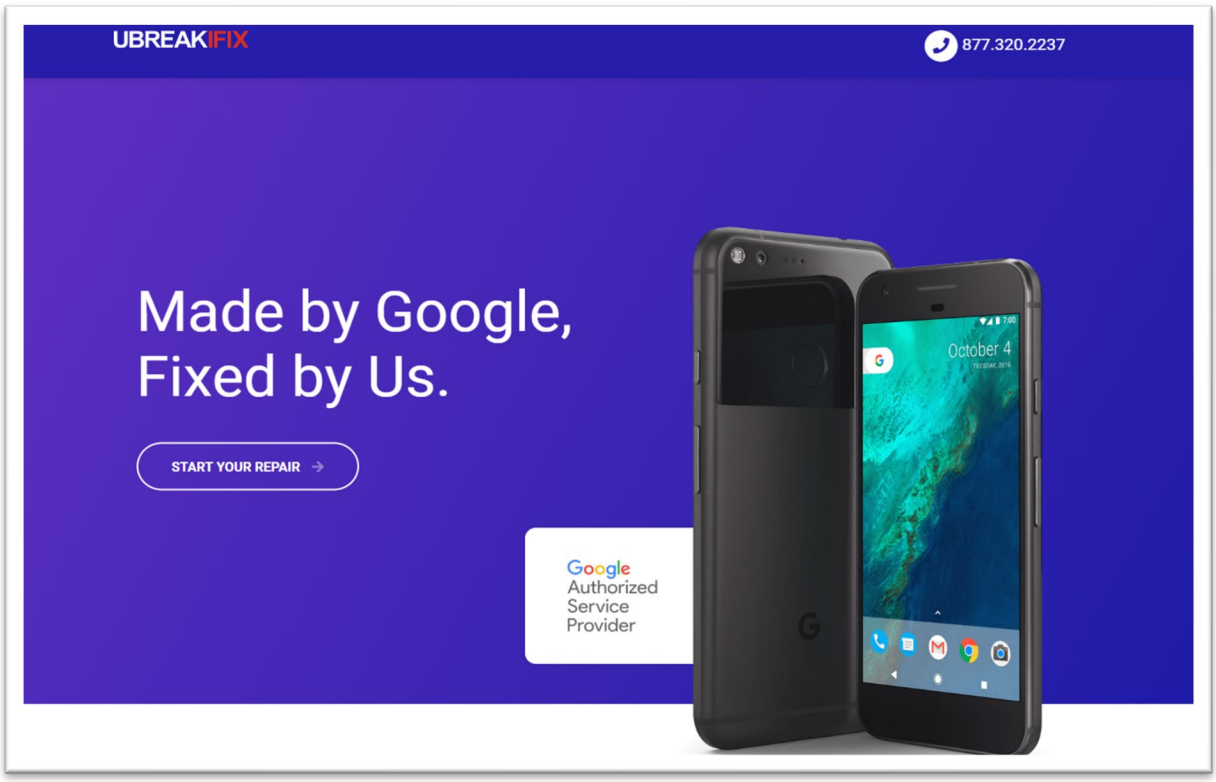
[1] Walk-in repair service in the US is provided by uBreakiFix. uBreakiFix repairs in- and out-of-warranty devices and damage types in the US.

[2] Mail-in and walk-in services in the US support in-warranty repairs for Pixel 3a and 3a XL only, and out-of-warranty repairs for all Pixel phone types.

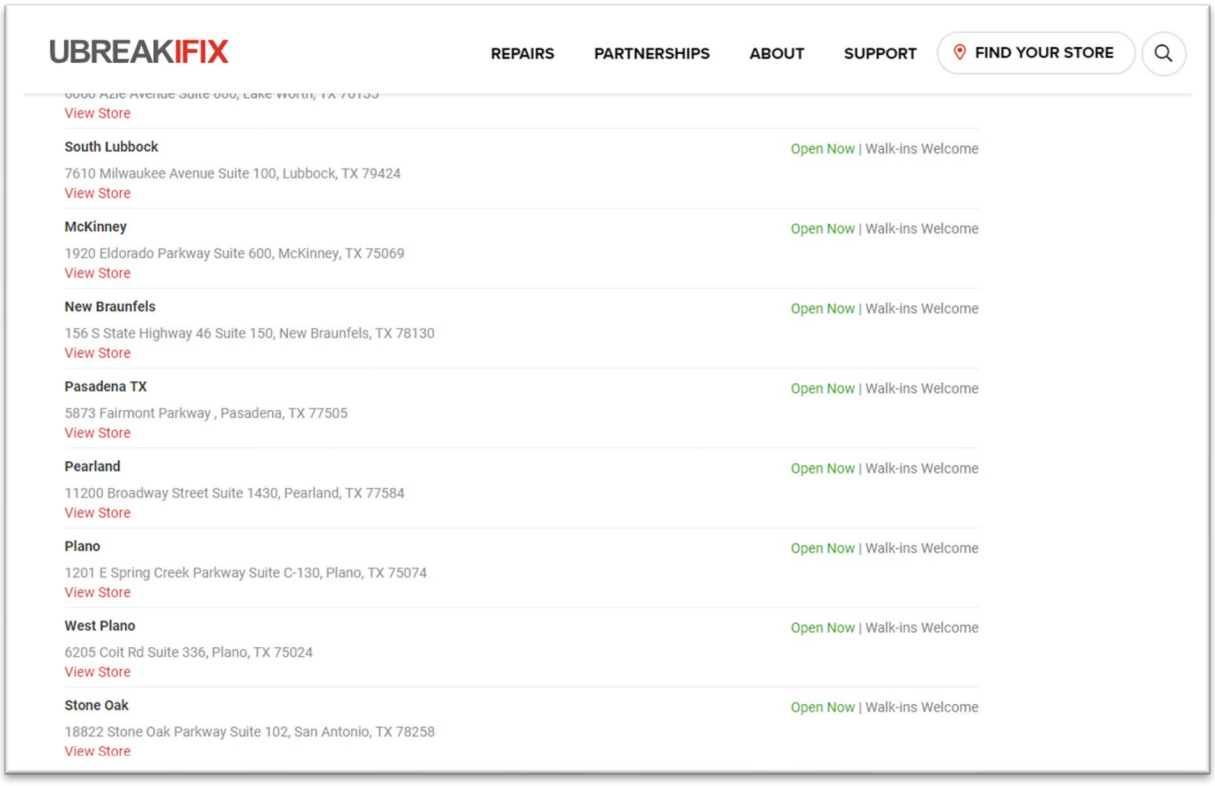
In US and Canada, replacement of parts or product service is made available for a minimum of three years after end of production for all phones through Google or its service providers.

Source: https://support.google.com/store/answer/7182296?hl=en

62. Google's only authorized walk-in repair center, uBreakiFix, further lists at least four facilities in this Judicial District:



Source: https://www.ubreakifix.com/google



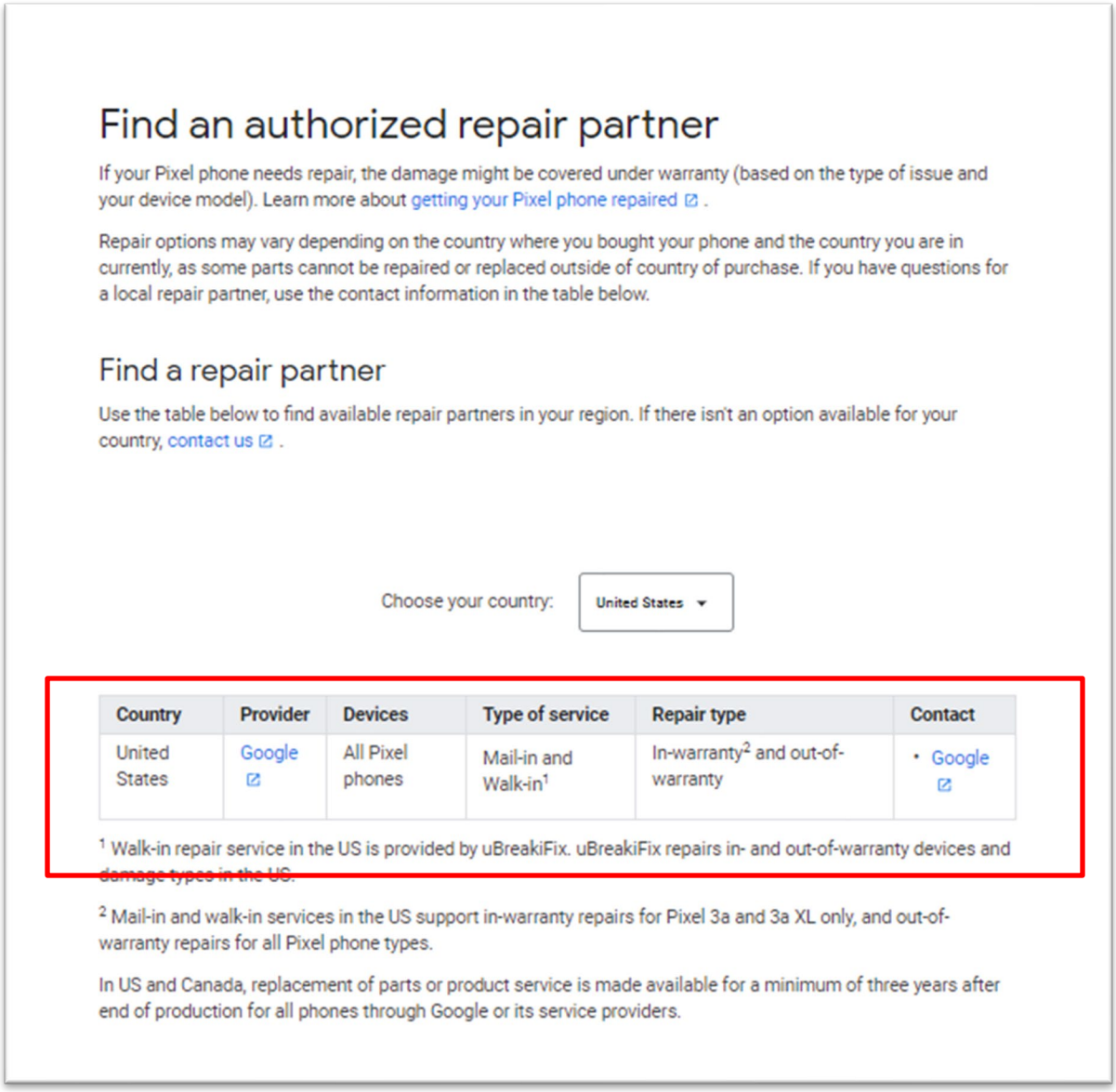
Source: https://www.ubreakifix.com/google

63. Google and uBreakiFix teamed up to offer free repairs to those impacted by Hurricane Florence.[26]

64. uBreakiFix has fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. These stores are "of the defendant" because Google has contractual rights with uBreakiFix—the only authorized walk-in repair centers in the United States. Google also ratifies these facilities through its advertising of them through its website.

65. Google also has branded, mail-in repair service that is contracted with a company called KMT Wireless, LLC, d/b/a Cynergy Hitech. Cynergy Hitech receives phones at its facility in Grapevine, Texas.

[26] *See* https://www.ubreakifix.com/blog/hurricane-florence



Find an authorized repair partner

If your Pixel phone needs repair, the damage might be covered under warranty (based on the type of issue and your device model). Learn more about getting your Pixel phone repaired .

Repair options may vary depending on the country where you bought your phone and the country you are in currently, as some parts cannot be repaired or replaced outside of country of purchase. If you have questions for a local repair partner, use the contact information in the table below.

Find a repair partner

Use the table below to find available repair partners in your region. If there isn't an option available for your country, contact us .

Choose your country: United States

Country	Provider	Devices	Type of service	Repair type	Contact
United States	Google	All Pixel phones	Mail-in and Walk-in[1]	In-warranty[2] and out-of-warranty	• Google

[1] Walk-in repair service in the US is provided by uBreakiFix. uBreakiFix repairs in- and out-of-warranty devices and damage types in the US.

[2] Mail-in and walk-in services in the US support in-warranty repairs for Pixel 3a and 3a XL only, and out-of-warranty repairs for all Pixel phone types.

In US and Canada, replacement of parts or product service is made available for a minimum of three years after end of production for all phones through Google or its service providers.

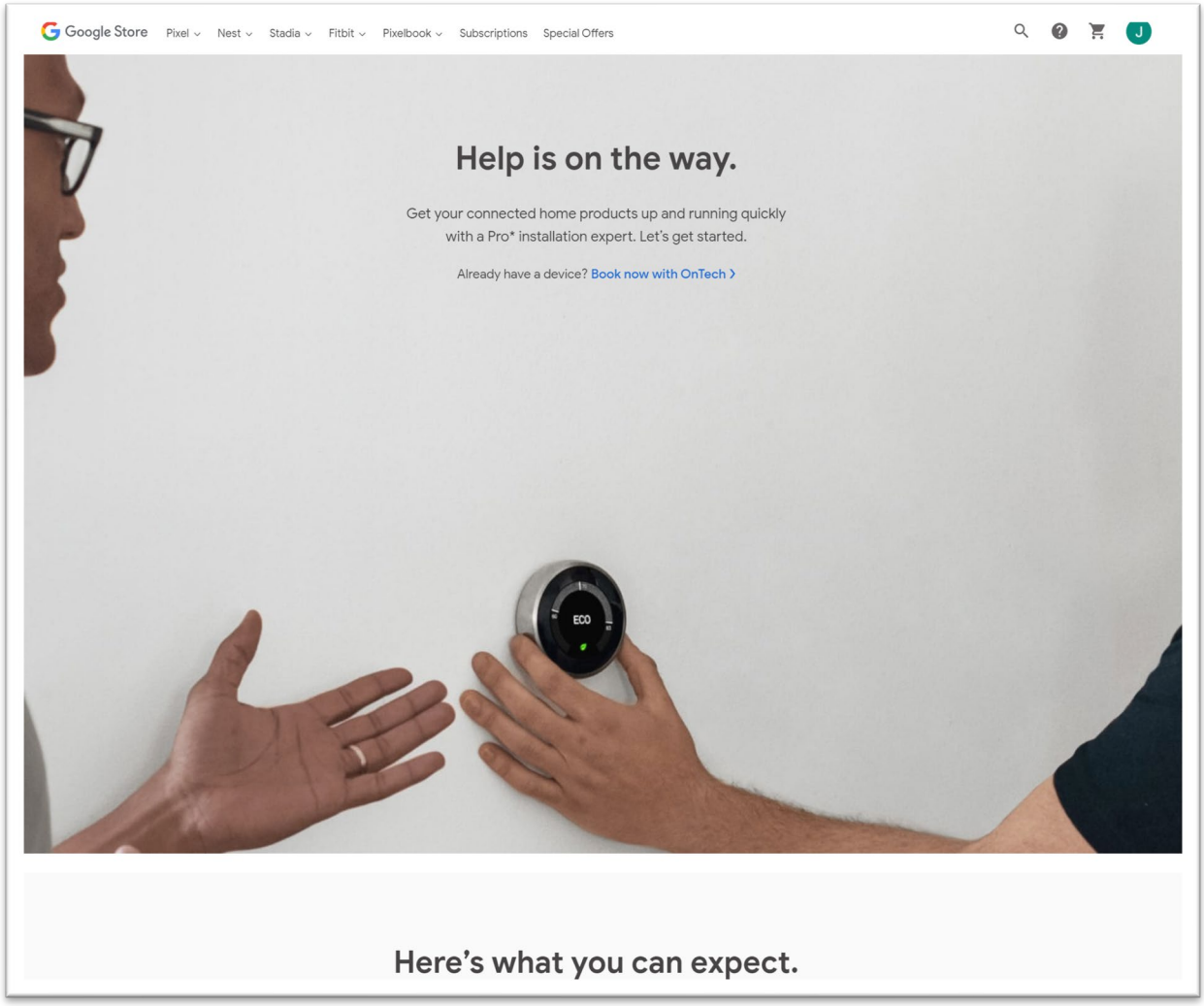
Source: https://support.google.com/store/answer/7182296?hl=en

Google Home Products Consultation and Installation

66. In addition to the Google presence described above, Google maintains places of business in this Judicial District in connection with the installation of accused Google Home and Nest products.

67. Google holds installation and consultation services out as performed by, and/or on behalf of, Google. For example, Google directs customers to pages within the Google store stating

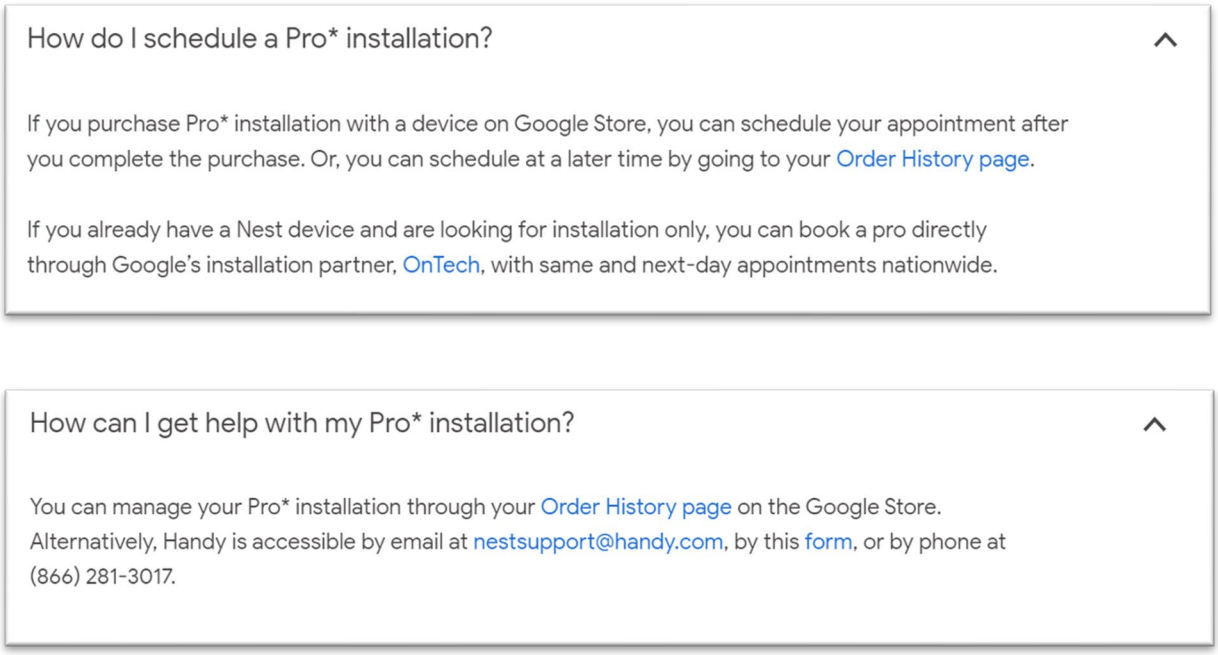
"[h]elp is on the way . . . [g]et your connected home products up and running quickly with a Pro* installation expert."[27] Google informs customers that they can expect "vetted professionals" to install their products, and informs customers that Google has "partnered with Handy and OnTech to deliver Pro* installation services."[28]



68. Google further holds installation services out by, and/or on behalf of, Google by allowing customers to purchase, schedule, and manage service installations directly through the

[27] https://store.google.com/us/magazine/installation.
[28] *Id.*

Google store.[29] Google also provides customers with terms and information regarding discounts, scheduling, and the scope of work to be performed during installations.

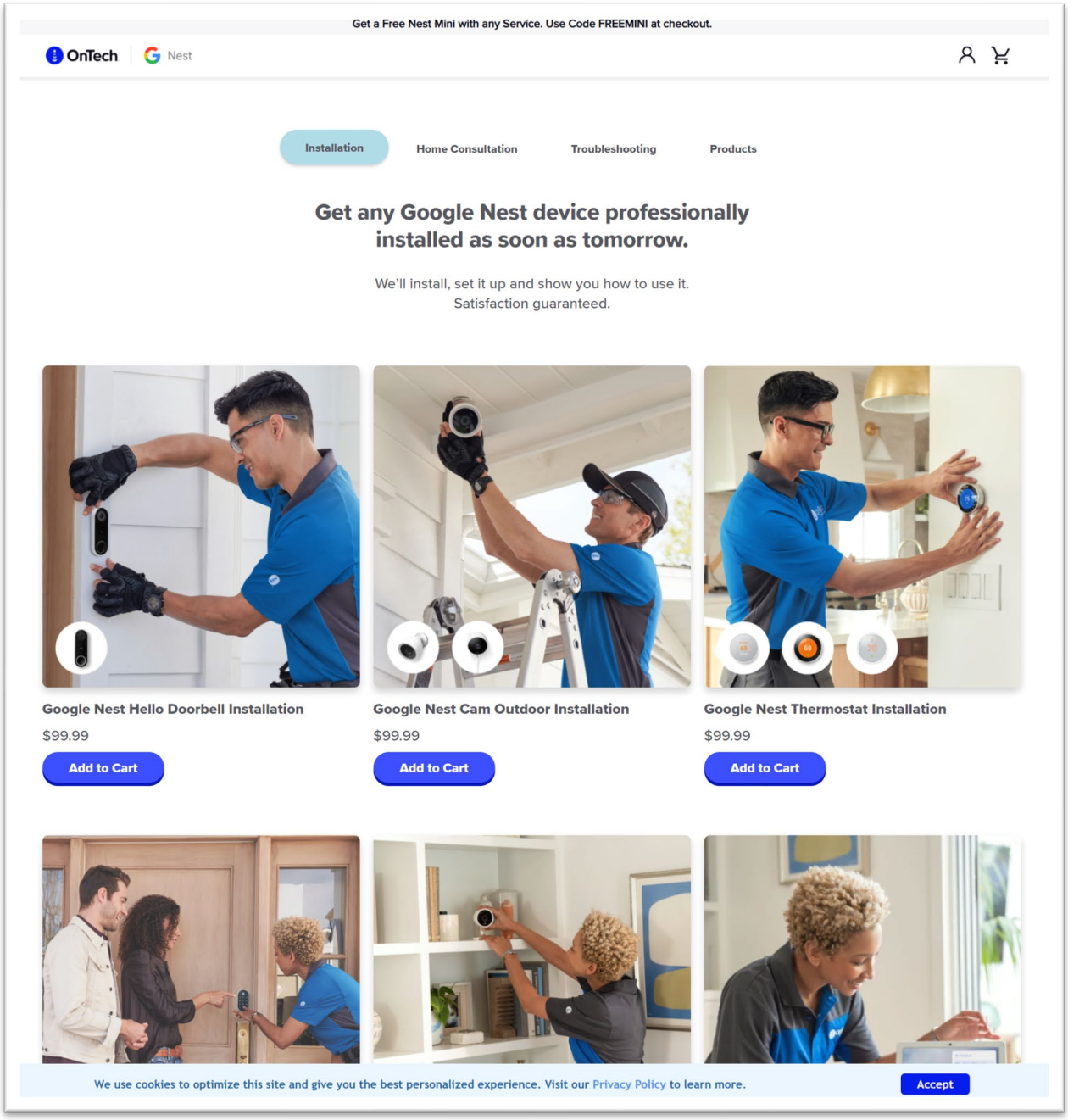


69. Google offers consultation and installation services through its partner, OnTech Smart Services ("OnTech"). Upon information and belief, Google contractually obligates OnTech to provide installation technicians trained to standards imposed by Google. Through OnTech, Google installs products including, but not limited to, Google Home and Nest smart displays and speakers, Nest Learning Thermostat, Google WiFi and Nest WiFi, Nest Temperature Sensor, Nest Hello Video Doorbell, and Nest Cams in this District.[30]

70. OnTech further holds itself out as Google, or an agent of Google, in performing Google installation services in this District. For example, the OnTech Nest installation page, linked from the Google store, includes the Google Logo and advertises free Google Nest

[29] *Id.*
[30] https://store.google.com/us/magazine/installation.

products.[31]



71. OnTech Smart Services is a brand of Dish Network L.L.C.[32] Dish Network L.L.C.

[31] https://www.ontechsmartservices.com/pages/nest.
[32] https://www.ontechsmartservices.com/pages/privacy; https://www.ontechsmartservices.com/pages/terms-conditions.

has regular and established places of business in this Judicial District, including at least at 6826 Industrial Road, #D, Beaumont, Texas 77705, and 2100 Couch Drive, McKinney, Texas 75069. Dish Network L.L.C. also has retail stores in this District, including a "Premier Local Retailer" at 801 K Avenue, Plano, Texas 75074.[33] Upon information and belief, OnTech technicians who perform Google installation and consultation services in this Judicial District have other principal places of employment in this District, including their homes. Upon information and belief, technicians employed at these locations, among others in this District, perform Google installation and consultation services in this District. At least these locations are places of Google in this District.

72. For example, Handy further holds itself out as Google, or an agent of Google, in performing Google installation services in this District. For example, Handy provides a "Google Nest" page informing customers that Handy provides Google installation services nationwide, and that the Handy Google Nest Maintenance and Installation Services includes a warranty.[34]

73. Customers and end-users in this Judicial District can book installation appointments when purchasing Google Nest products through the Google Store.[35] Appointments include installation, setup, and education for the Google smart home devices.[36]

74. OnTech and Handy are Google's agents in this District, at least because Google holds out Google Home installation services in this District as being performed by Google or its

[33] https://propaccess.trueautomation.com/clientdb/SearchResults.aspx?cid=91.
[34] *See* https://help.handy.com/hc/en-us/categories/360003026673-Google-Nest; https://help.handy.com/hc/en-us/articles/360047128013-Is-there-a-warranty-on-my-Google-Nest-Maintenance-or-Installation-Service-; https://help.handy.com/hc/en-us/articles/360042235874-Is-this-service-available-in-my-area-.
[35] https://www.prnewswire.com/news-releases/ontech-smart-services-expands-partnership-with-google-nest-installation-booking-capability-now-available-via-google-store-301085200.html.
[36] *Id.*

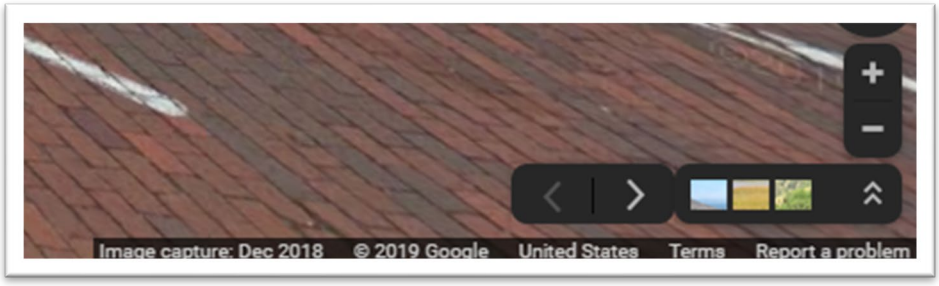
agents. Further, on information and belief, Google employees regularly conduct Google's business in connection with Google Home installation services, including by training OnTech and Handy personnel, delivering Google products to OnTech and/or Handy locations in this District, and otherwise meeting with OnTech and Handy personnel.

Google's Other Pervasive Contacts in this Judicial District

75. Google has operated and is currently operating its Google Maps Street View business and services in this Judicial District. For example, the image below shows the Google Maps Street View of the Eastern District of Texas courthouse in Marshall.

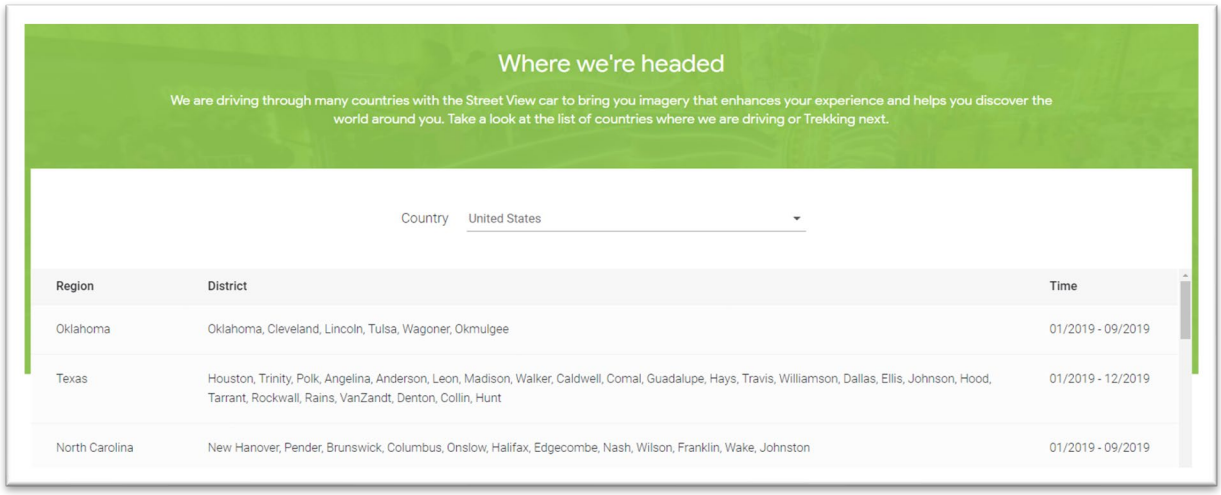
Source: https://www.google.com/maps/@32.5447301,-94.3670612,3a,75y,170.09h,88.95t/data=!3m6!1e1!3m4!1smECZXlUFylR2yu5E-6wj2g!2e0!7i13312!8i6656

76. Furthermore, in the lower right-hand corner of the Google Street View above, the image is credited to Google and states that it was captured in December 2018.



77. Google also operates a Street View car in and around this Judicial District in order to provide the Google Maps Street View service.[37]

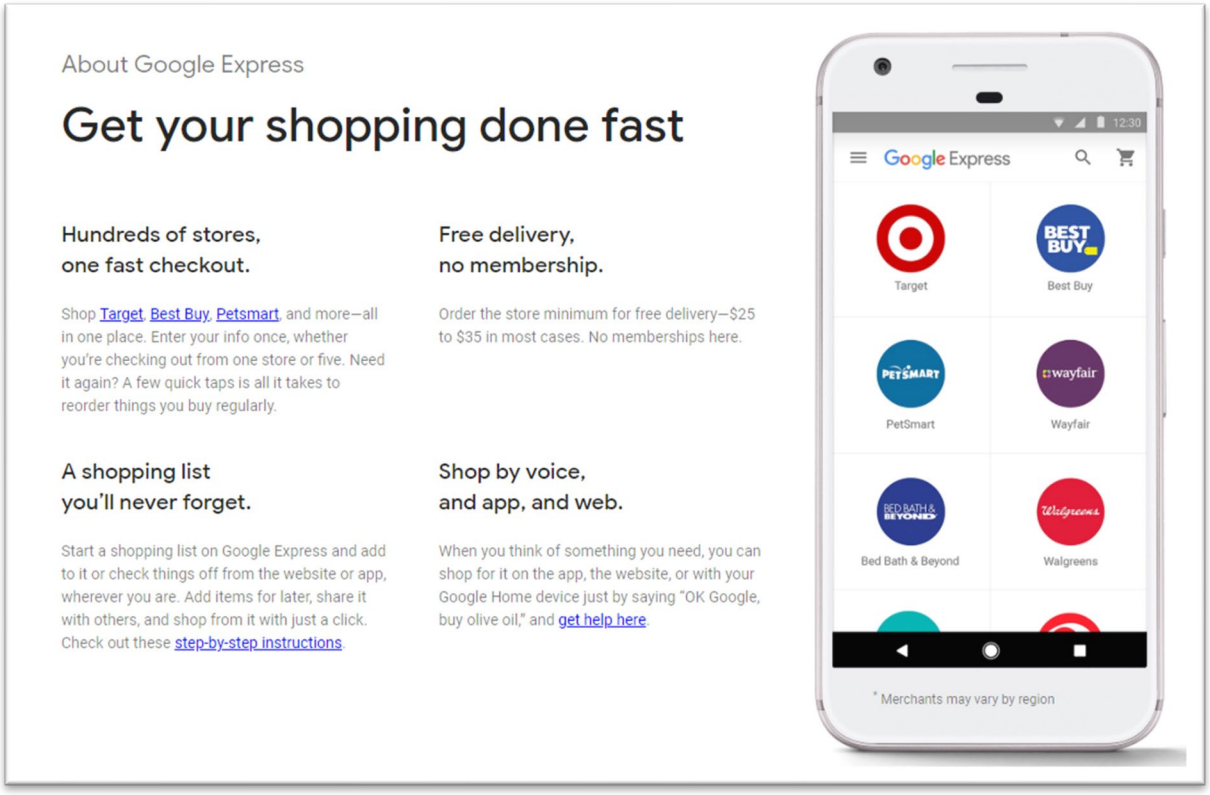
78. In addition to the above Google Street View image, Google operates and continues to operate a fleet of Google Street View vehicles in this Judicial District, including in the counties of Houston, Trinity, Polk, Angelina, Anderson, VanZandt, Denton, and Collin, as shown below.



Source: https://www.google.com/streetview/explore/

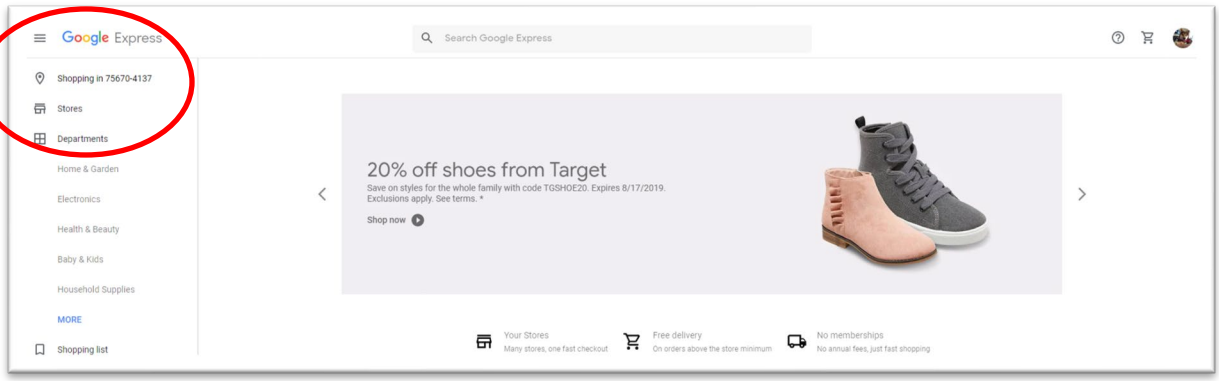
79. Google also has operated and currently operates its Google Express business and services in this Judicial District. Google Express allows residents of this District to shop—directly from Google's websites—for select products with companies that Google has contracted with.

[37] *See* https://www.google.com/streetview/explore/.



Source: https://express.google.com/u/0/about

80. To verify which stores a user may shop, a resident enters his or her zip code and begins shopping at the Google contracted stores. The image below shows the Google Express website showing that its business and services are available in this Judicial District.



Sources: https://www.google.com/express/

81. Google provides its Google Express business and services to the residents of this

Judicial District by advertising and inviting the residents of this District, then Defendant arranges for a delivery company to bring the goods and products purchased through the Google Express website to the residents of this District.[38] This service uses fixed geographical stores in this District. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google ratifies the stores (and selects products of the stores) through its website. Only information provided by Google through its service can be purchased, although the stores may have other items for sale.

82. Google previously leased office space in this Judicial District for about 50 people through its Frisco, Texas office.

83. Google also provides services to businesses and schools in this Judicial District, including email services, word processing software, electronic file storage services, and video conferencing services. Google brands such services as "G Suite" services. Non-limiting examples of such businesses and schools include the Frisco Independent School District, as shown below.[39]

[38] *See* https://support.google.com/express/answer/4561693?hl=en.
[39] http://schools.friscoisd.org/hs/lebanontrail/site/resources/google-apps-information.

GOOGLE APPS FOR EDUCATION

What is it?

Your FISD Google Account provides you with many helpful educational resources. It contains access to your Frisco ISD email account and a Google Drive account where you can create, store, and share documents. In Google Drive, you can create documents, spreadsheets, presentations, drawings, flowcharts, and forms. This account also contains a Google calendar and the ability to set up your own YouTube channel. Remember that these are school accounts and should be utilized as such.

Where is it?

There is a direct link to a login box for our student accounts on the parent and student section of the Frisco ISD web site. However, you do not need the official FISD Google Login box to access your child's account.

How do I login?

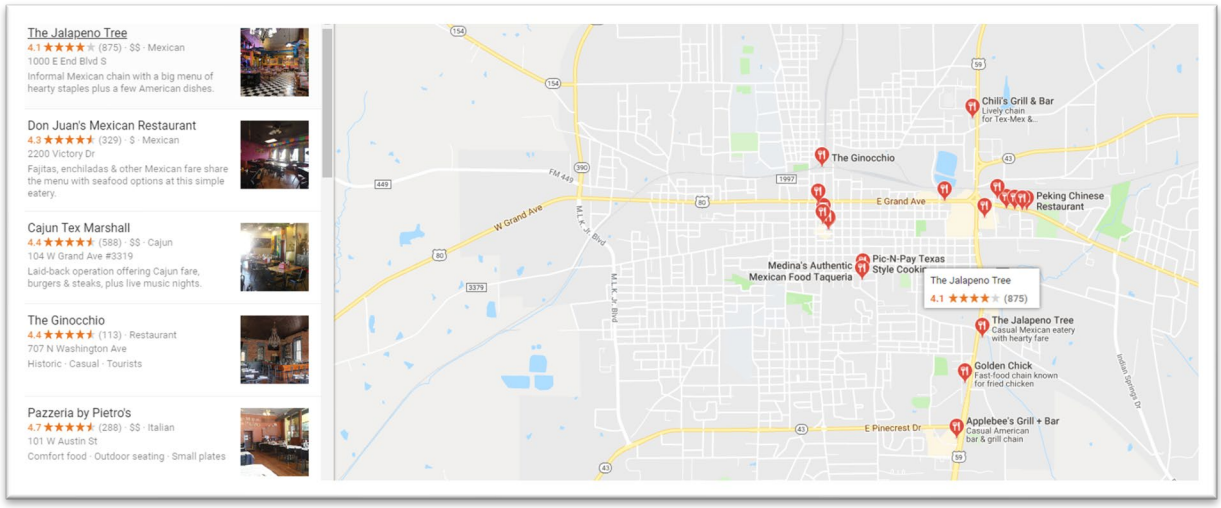
Each student in FISD has a Google login. The username is your Frisco ISD email address, which is firstname.lastname.###@k12.friscoisd.org

where the ### is the last three digits of your student id#. This address uses the full legal first name and full legal last name of the student, and does not recognize nicknames. All teachers have access to student gmail addresses and can help if you aren't sure what your username is.

The password will most likely be the student birth date in 8 digits MMDDYYYY.

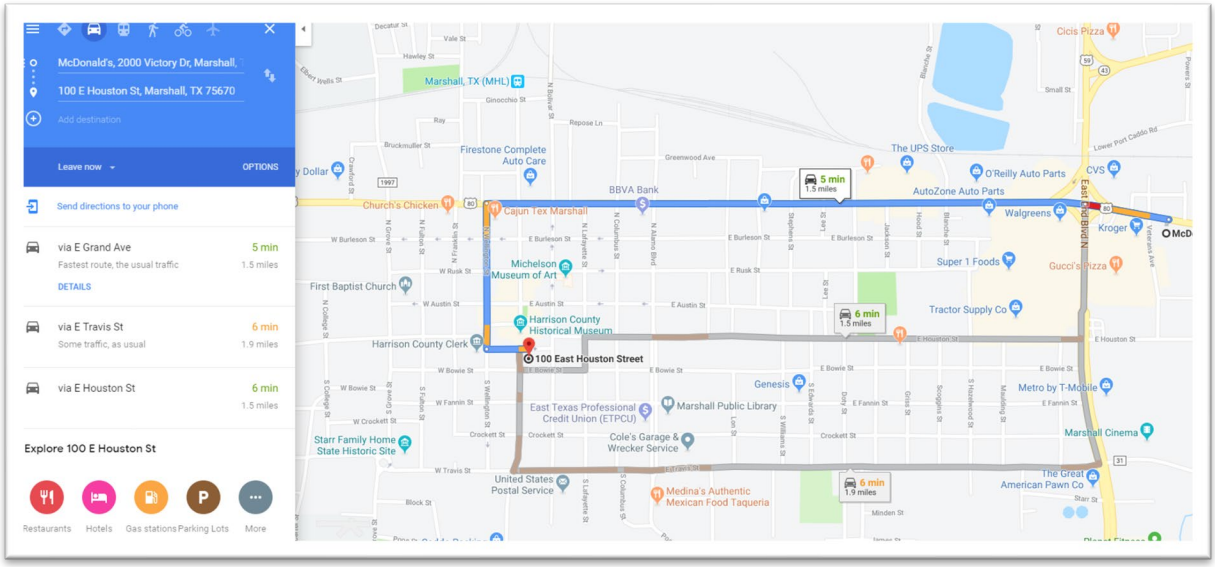
Source: http://schools.friscoisd.org/hs/lebanontrail/site/resources/google-apps-information

84. Google also provides advertising services to businesses in this Judicial District, including soliciting reviews of patrons that have visited a business in the Eastern District of Texas, as shown below.



Source: Product Testing at https://www.google.com/maps

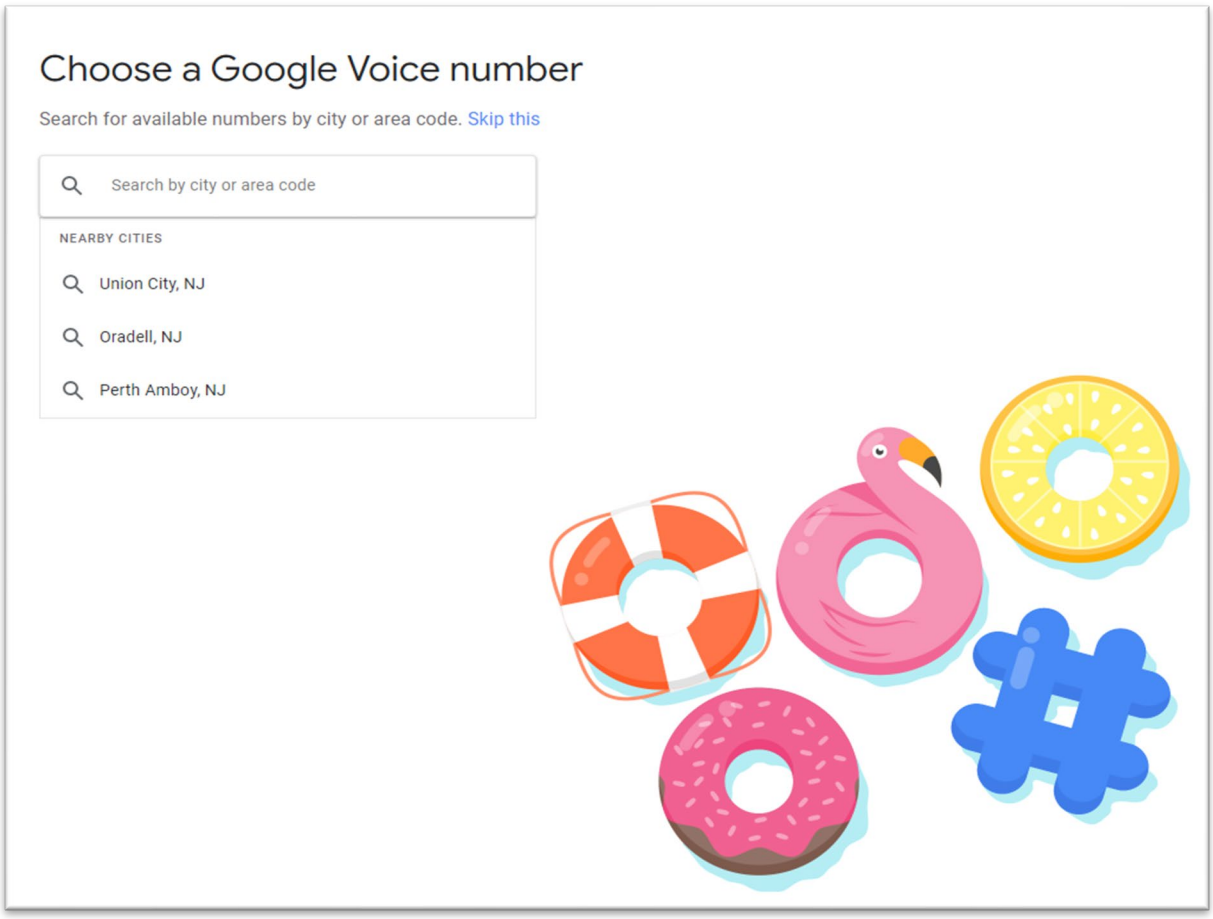
85. Google also monitors traffic conditions in this Judicial District. For example, traffic conditions between a McDonalds and the Federal Courthouse in Marshall are shown below.



Source: Product Testing at https://www.google.com/maps

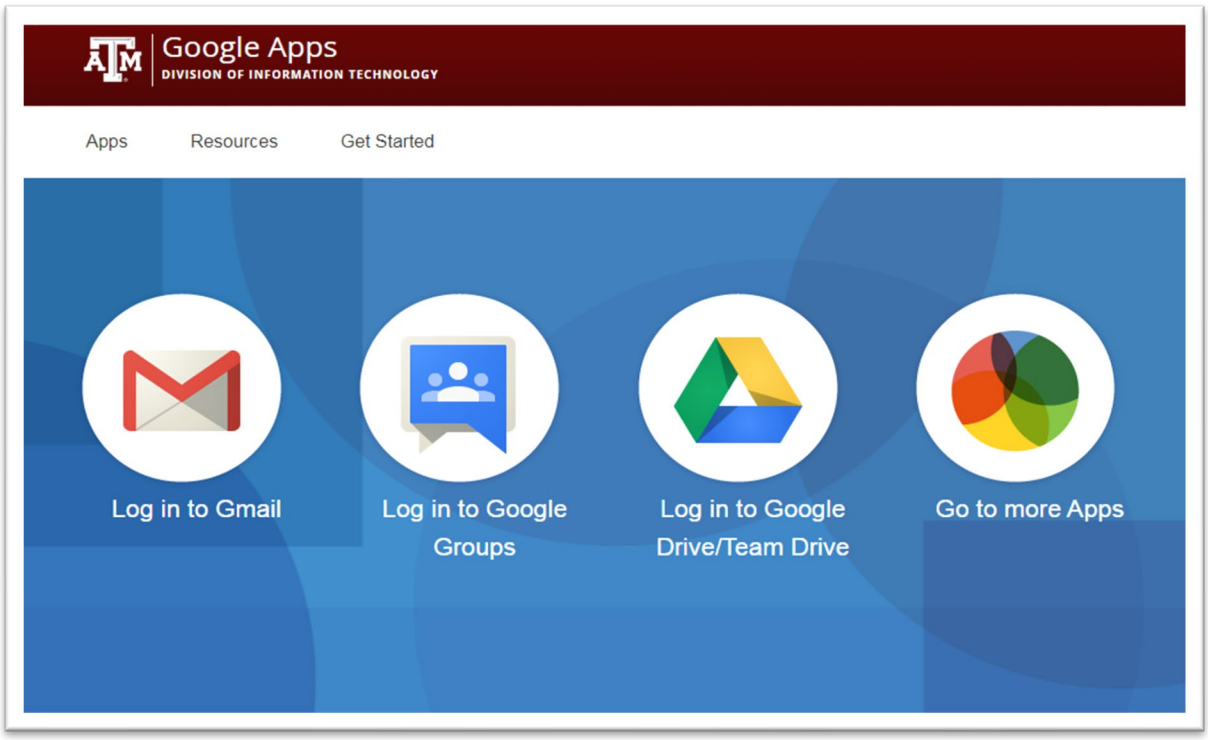
86. Separate and apart from its Google Fi mobile service, Google also provides telephone services to residents in this Judicial District through a product it calls Google Voice.[40]

[40] https://voice.google.com/u/0/signup.



Source: https://voice.google.com/u/0/signup

87. Google provides Software-as-a-Service applications, including email and server space, to Texas public universities. Non-limiting examples of such universities are Texas A&M University (which has facilities in this Judicial District) and Texas A&M Commerce (located in this District), as show below.



Source: http://google.tamu.edu/

Welcome Lions to your new LeoMail 2.0 found in your myLEO homepage located at myLEO.tamu-commerce.edu.
We hope you take some time to look through your new student email. As a reminder the new email is a gmail platform and share many features that a regular gmail account has.

In addition to email, you will have the ability to build your own contacts list and use the built in calendar for planning and organizing.
The most asked question has revolved around the ability to sync this email account with your mobile or smart phone device. The answer is ³yes². The Portal Implementation Team is working on getting both the email and your NEW myLEO account connected in an application that will be available in June.

Source: http://mailman.tamuc.edu/pipermail/students/2012-May/004325.html

Other Google Presence in the State

88. Google also has a pervasive connection to the State of Texas through multiple commercial activities.

89. Google has purchased land in Midlothian, Texas where it is currently constructing

a $600 million data center.[41]

90. Since 2007, Google has employed "hundreds" of employees in Texas, including in Austin, Texas.[42]

91. Google has at least one current office located in Austin, on North MoPac Expressway,[43] and additional office locations at University Park and Austin Children's Museum.[44]

92. Google has leased over 200,000 square feet of office space in Austin, Texas at 500 West 2nd Street.[45]

93. Google has, as of August 2020, job postings for employment in Texas, including for Addison, Texas; Dallas, Texas; Midlothian, Texas; Athens, Texas; Bellville, Texas; Houston, Texas; and Austin, Texas.[46]

94. Upon information and belief, Defendants have at least eleven (11) entities registered in Texas, including:

- GOOGLE LLC

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[41] *See* https://www.dallasnews.com/business/real-estate/2019/06/14/google-s-massive-600m-data-center-takes-shape-in-ellis-county-as-tech-giant-ups-texas-presence/.
[42] According to Gerardo Interiano, Google's public affairs and government relations manager, in a statement. *See* http://www.statesman.com/business/google-lease-200-000-square-feet-newdowntown-austin-tower/SANZSa3du8QQ4k8ytOC2rJ/.
[43] *See* https://www.google.com/intl/en/about/locations/?region=north-america.
[44] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtownaustin-tower/SANZSa3du8QQ4k8ytOC2rJ/.
[45] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtownaustin-tower/SANZSa3du8QQ4k8ytOC2rJ/.
[46] Ex. A. *See also*, https://www.google.com/search?q=google+texas+jobs&oq=google+texas+jobs&aqs=chrome..69i57j0l4j69i64.2223j0j7&sourceid=chrome&ie=UTF-8&ibp=htl;jobs&sa=X&ved=2ahUKEwjKoebb-YHrAhURgnIEHREGBIQQiYsCKAJ6BAgCEBM&sxsrf=ALeKk03MKRizdsXsSMV3oGrvGsHqzps3ug:1596557916483#htivrt=jobs&fpstate=tldetail&htichips=organization_mid:/m/045c7b&htischips=organization_mid;/m/045c7b:Google&htidocid=4-7gWqxYDLYZtTikAAAAAA%3D%3D, retrieved August 4, 2020.

- GOOGLE ACQUISITION HOLDING, INC.
- GOOGLE COMPARE AUTO INSURANCE SERVICES INC.
- GOOGLE COMPARE CREDIT CARDS INC.
- GOOGLE COMPARE MORTGAGES INC.
- GOOGLE FIBER INC.
- GOOGLE FIBER NORTH AMERICA INC.
- GOOGLE FIBER TEXAS, LLC
- GOOGLE INC.
- GOOGLE NORTH AMERICA INC.
- GOOGLE PAYMENT CORP.

95. Google has provided, currently provides, and is currently offering to provide its Google Fiber services to the residents of Austin, Texas and San Antonio, Texas.[47]

96. Google has invested $200,000,000 in the Spinning Spur Wind Farm Project in Oldham County, Texas.[48]

97. Google provides the State of Texas with aerial imagery.[49]

98. Google acquired Waze in 2013,[50] and Google's Waze traffic app partners with cities and businesses in Texas, non-limiting examples include the Waze partnership with the City of Fort Worth to provide constant traffic data to the city.[51] Another non-limiting example includes

[47] *See* https://fiber.google.com/cities/austin/ and https://fiber.google.com/cities/sanantonio/.
[48] *See* https://www.chooseenergy.com/blog/energy-news/google-invests-200m-in-west-texas-windfarm/.
[49] *See* http://www.bisconsultants.com/affordable-imagery-for-texas-government-entities-fromgoogle/.
[50] *See* https://techcrunch.com/2013/06/11/its-official-google-buys-waze-giving-a-social-databoost-to-its-location-and-mapping-business/.
[51] *See* http://dfw.cbslocal.com/2016/12/14/forth-worth-partners-with-waze-traffic-app/.

the Waze partnership with the Genesis Group in Tyler to decrease emergency response times.[52]

99. Defendants are subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to their substantial business in this State and Judicial District, including (a) at least part of their past infringing activities, (b) regularly doing or soliciting business in Texas, and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas.

PATENTS-IN-SUIT

100. On October 14, 2014, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,861,756 (the "'756 Patent") entitled "Microphone Array System." A true and correct copy of the '756 Patent is attached hereto as Exhibit A.

101. On October 14, 2016, a reissue application was filed for the '756 Patent. As a result, on September 18, 2018, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. RE47,049 (the "'049 Patent") entitled "Microphone Array System." A true and correct copy of the '049 Patent is attached hereto as Exhibit B.

102. On August 2, 2018, a reissue application was filed for the '756 Patent. As a result, on December 29, 2020, the United States Patent and Trademark office duly and legally issued U.S. Patent No. RE48,371 (the "'371 Patent") entitled "Microphone Array System." A true and correct copy of the '371 Patent is attached hereto as Exhibit C.

103. Vocalife is the sole and exclusive owner of all right, title, and interest to and in the '049 and '371 Patent (collectively, the "Patents-in-Suit"), and holds the exclusive right to take

[52] *See* https://genesispulse.com/2015/10/06/the-genesis-group-joins-waze-connected-citizensprogram/.

all actions necessary to enforce its rights to the Patents-in-Suit, including the filing of this patent infringement lawsuit. Vocalife also has the right to recover all damages for past, present, and future infringement of the Patents-in-Suit and to seek injunctive relief as appropriate under the law.

104. Vocalife has at all times complied with the marking provisions of 35 U.S.C. § 287 with respect to the Patents-in-Suit. On information and belief, prior assignees and licensees have also complied with the marking provisions of 35 U.S.C. § 287.

FACTUAL ALLEGATIONS

105. The Patents-in-Suit were developed at Li Creative Technologies, Inc. by Dr. Manli Zhu and Dr. Qi ("Peter") Li who have been at the forefront of audio processing technology for over two decades. In the late 2000's Dr. Li and Dr. Zhu worked to develop novel audio, speech, and image processing technology, including circular microphone arrays. Their work resulted in the issuance of the Patents-in-Suit.

106. In 2011, Dr. Li participated in the Consumer Electronics Show ("CES") where they were awarded the CES Innovations Design and Engineering Award in the Audio Accessories Category.

107. On May 20, 2015, Dr. Li submitted the '756 Patent to Google's Patent Purchase Promotion Program. Dr. Li's submission of the '756 Patent was declined.

108. The Patents-in-Suit generally cover systems and methods for use in a microphone array system. The invention described in the Patents-in-Suit was developed by Dr. Manli Zhu and Dr. Qi Li. For example, the invention is implemented by infringing virtual assistant smart speakers. Upon information and belief, Google makes, uses, sells, and/or imports infringing virtual assistant smart speakers, such as the Google Home products.

109. Google has also infringed and is continuing to infringe the Patents-in-Suit by

making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or importing, products including microphone array systems technology and associated software that infringe the Patents-in-Suit. Such products include at least the Google Assistant-enabled products including, but not limited to, the Google Home products. Vocalife manufactures and sells the CrispMic II, a smart microphone as a module for voice interactive products. The CrispMic II is a multiple-microphone array module for smart speakers, robotic devices, smart appliances, and other IoT platforms that require far-field voice capture, speech recognition, and voice control. The CrispMic II is powered by Vocalife's advanced DSP algorithms developed over the past decade to suppress background noise, enhance speech intelligibility, and improve automatic speech recognition accuracy.[53]

110. Vocalife marks the CrispMic II product with the Patents-in-Suit and has complied with 35 U.S.C. § 287.[54]

111. Google's infringement of Patents-in-Suit is willful. Google continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Google knew or should have known that its actions constituted an unjustifiably high risk of infringement.

COUNT I
(Infringement of the '049 Patent)

112. Paragraphs 1 through 111 are incorporated by reference as if fully set forth herein.

113. Vocalife has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the '049 Patent.

114. Google has directly infringed and continues to directly infringe the '049 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C.

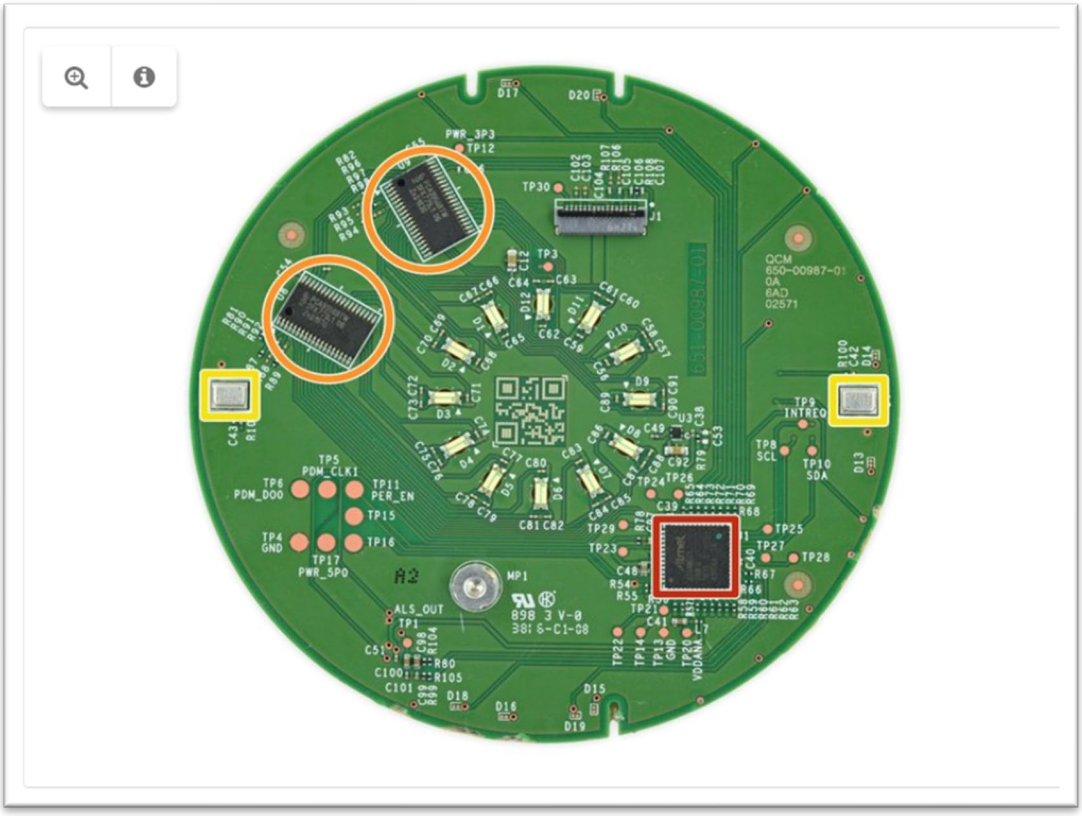
[53] https://vocalife.com/wp-content/uploads/2019/02/Farfield_Mic_Developer_Module_Vocalife_Datasheet_4Feb2019.pdf.
[54] *Id.*

§ 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '049 Patent. Such products include virtual assistant smart speakers and other hardware and software implementing a microphone array system. On information and belief, infringing products include at least the Google Assistant-enabled products, such as the Google Home products.

115. For example, Google has and continues to directly infringe at least claim 1 of the '049 Patent by making, using, offering to sell, selling, and/or importing into the United States virtual assistant smart speakers that utilize a microphone array system.

116. Upon information and belief, the Google Home products include a microphone array which is an array of sound sensors positioned in a linear, circular, or other configuration, wherein said sound sensors receive said sound signals from a plurality of disparate sound sources, wherein received sound signals comprise said target sound signal from a target sound source among said disparate sound sources, and ambient noise signals. An image of Google's Home product is shown below.[55]

[55] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684.



117. Upon information and belief, the Google Home products include a digital signal processor, such as digital signal processors ("DSP"), manufactured by third parties including Marvell.

118. Upon information and belief, the DSPs included in the Google Home products implement a sound source localization unit that estimates a spatial location of said target sound signal from said received sound signals, by determining a delay between each of said sound sensors and an origin of said array of said sound sensors as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal, when said target sound source that emits said target sound signal is in a two-dimensional plane, wherein said delay is represented in terms of number of samples, and wherein said determination of said delay enables beamforming for arbitrary numbers of said array of sound sensors and in a

plurality of arbitrary configurations of said array of said sound sensors.[56]

119. Upon information and belief, the DSPs included in the Google Home products implement an adaptive beamforming unit that steers directivity pattern of said array of said sound sensors in a direction of said spatial location of said target sound signal, wherein said adaptive beamforming unit enhances said target sound signal and partially suppresses said ambient noise signals.[57]

120. Upon information and belief, the DSPs included in the Google Home products implement a noise reduction unit that suppresses said ambient noise signals for further enhancing said target sound signal.[58]

121. For example, Google has and continues to directly infringe at least claim 9 of the '049 Patent by making, using, offering to sell, selling, and/or importing into the United States virtual assistant smart speaks that utilize a microphone array system.

122. Upon information and belief, the Google Home products include a microphone array, which is an array of sound sensors positioned in an arbitrary, linear, circular, or other configuration, wherein said sound sensors receive said sound signals from a plurality of disparate sound sources, wherein said received sound signals comprise said target sound signal from a target sound source among said disparate sound sources, and ambient noise signals.

[56] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684; https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/45399.pdf.
[57] *Id.*
[58] *Id.*

123. Upon information and belief, the Google Home products include a digital signal processor, such as digital signal processors ("DSP"), manufactured by third parties including Marvell.

124. Upon information and belief, the DSPs included in the Google Home products implement a sound source localization unit that estimates a spatial location of said target sound signal from said received sound signals, by determining a delay between each of said sound sensors and an origin of said array of said sound sensors as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal, when said target sound source that emits said target sound signal is in a two-dimensional plane, wherein said delay is represented in terms of number of samples, and wherein said determination of said delay enables beamforming for arbitrary numbers of said array of sound sensors and in a plurality of arbitrary configurations of said array of said sound sensors.[59]

125. Upon information and belief, the DSPs included in the Google Home products implement an adaptive beamforming unit that steers directivity pattern of said array of said sound

[59] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684; https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/45399.pdf.

sensors in a direction of said spatial location of said target sound signal, wherein said adaptive beamforming unit enhances said target sound signal and partially suppresses said ambient noise signals.[60]

126. Upon information and belief, the DSPs included in the Google Home products implement a noise reduction unit that suppresses said ambient noise signals for further enhancing said target sound signal.[61]

127. Google has had knowledge and notice of the '049 Patent at least as of the filing date of this Complaint.

128. Google has indirectly infringed and continues to indirectly infringe one or more claims of the '049 Patent, as provided by 35 U.S.C. § 271(b), by inducing infringement by others, such as Google's customers and end-users, in this District and elsewhere in the United States. For example, Google's customers and end-users directly infringe, either literally or under the doctrine of equivalents, through their use of the inventions claimed in the '049 Patent. Google induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting that they use the Accused Products in an infringing manner, including technical support, marketing, product manuals, advertisements, and online documentation. Because of Google's inducement, Google's customers and end-users use Accused Products in a way Google intends and directly infringe the '049 Patent. Google performs these affirmative acts with knowledge of the '049 Patent and with the intent, or willful blindness, that the induced acts directly infringe the '049 Patent.

[60] *Id.*
[61] *Id.*

129. Google has indirectly infringed and continues to indirectly infringe one or more claims of the ’049 Patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement by others, such as customers and end-users, in this District and elsewhere in the United States. Google’s affirmative acts of selling and offering to sell the Accused Products in this District and elsewhere in the United States and causing the Accused Products to be manufactured, used, sold, and offered for sale, contributes to others’ use and manufacture of the Accused Products such that the ’049 Patent is directly infringed by others. The accused components within the Accused Products are material to the invention of the ’049 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Google to be especially made or adapted for use in the infringement of the ’049 Patent. Google performs these affirmative acts with knowledge of the ’049 Patent and with intent, or willful blindness, that they cause the direct infringement of the ’049 Patent.

130. Because of Google’s direct and indirect infringement of the ’049 Patent, Vocalife has suffered damages, and will continue to suffer, damages in an amount to be proved at trial.

131. Because of Google’s direct and indirect infringement of the ’049 Patent, Vocalife has suffered, and will continue to suffer, irreparable harm for which there is no adequate remedy at law, unless Google’s infringement is enjoined by this Court.

132. Google has committed and continues to commit acts of infringement that Google actually knew or should have known constituted an unjustifiably high risk of infringement of at least one valid and enforceable claim of the ’049 Patent. Google’s direct and indirect infringement of the ’049 Patent has been and continues to be willful, intentional, deliberate, and/or in conscious disregard of Vocalife’s rights under the patent. Vocalife is entitled to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

COUNT II
(Infringement of the '371 Patent)

133. Paragraphs 1 through 111 are incorporated by reference as if fully set forth herein.

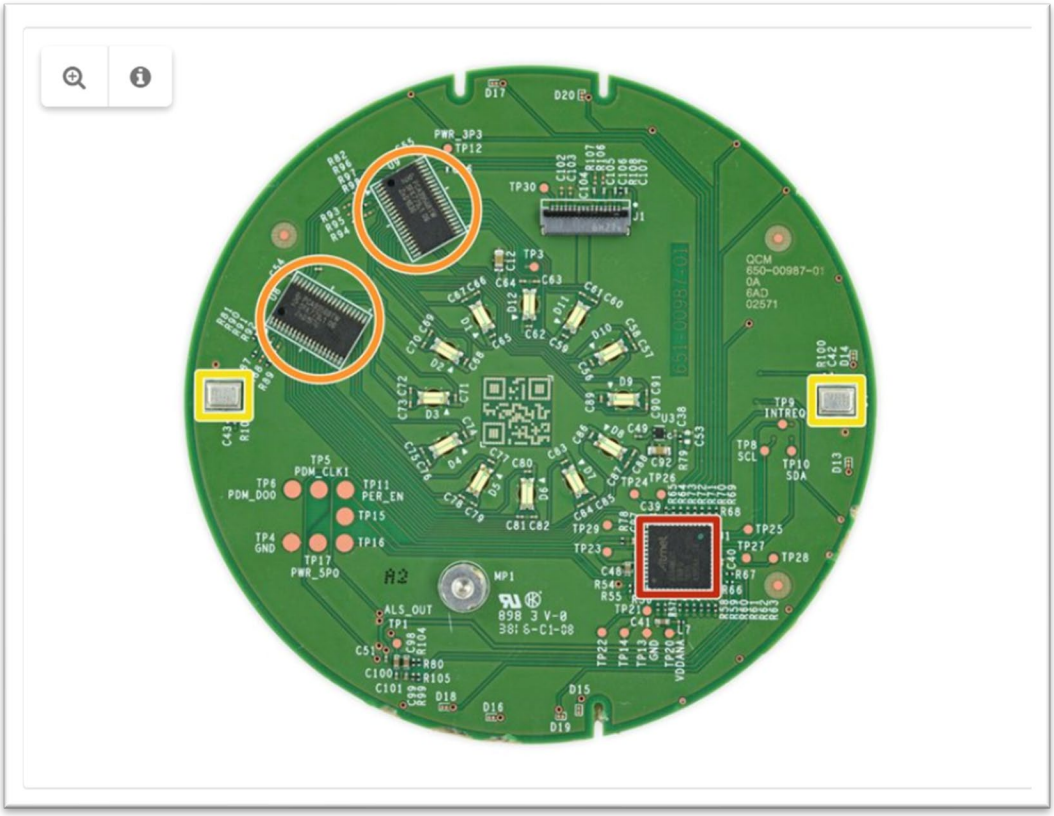
134. Vocalife has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the '371 Patent.

135. Google has directly infringed and continues to directly infringe the '371 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '371 Patent. Such products include virtual assistant smart speakers and other hardware and software implementing a microphone array system. On information and belief, infringing products include at least the Google Assistant-enabled products, such as the Google Home products.

136. For example, Google has and continues to directly infringe at least claim 26 of the '371 Patent by making, using, offering to sell, selling, and/or importing into the United States virtual assistant smart speakers that utilize a microphone array system.

137. Upon information and belief, the Google Home products include a microphone array which is an array of sound sensors positioned in a linear, circular, or other configuration, wherein said sound sensors receive said sound signals from a plurality of disparate sound sources, wherein received sound signals comprise said target sound signal from a target sound source among said disparate sound sources, and ambient noise signals. An image of Google's Home product is shown below.[62]

[62] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684.



138. Upon information and belief, the Google Home products include a digital signal processor, such as digital signal processors ("DSP"), manufactured by third parties including Marvell.

139. Upon information and belief, the DSPs included in the Google Home products implement a sound source localization unit that estimates a spatial location of said target sound signal from said received sound signals, by determining a delay between each of said sound sensors and an origin of said array of said sound sensors as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal, when said target sound source that emits said target sound signal is in a two-dimensional plane, wherein said delay is represented in terms of number of samples, and wherein said determination of said delay enables beamforming for arbitrary numbers of said array of sound sensors and in a

plurality of arbitrary configurations of said array of said sound sensors.[63]

140. Upon information and belief, the DSPs included in the Google Home products implement an adaptive beamforming unit that steers directivity pattern of said array of said sound sensors in a direction of said spatial location of said target sound signal, wherein said adaptive beamforming unit enhances said target sound signal and partially suppresses said ambient noise signals.[64]

141. Upon information and belief, the DSPs included in the Google Home products implement a noise reduction unit that suppresses said ambient noise signals for further enhancing said target sound signal.[65]

142. Upon information and belief, the DSPs included in the Google Home products implement an echo cancellation unit for performing echo cancellation for further enhancing said target sound signal.[66]

143. For example, Google has and continues to directly infringe at least claim 34 of the '371 Patent by making, using, offering to sell, selling, and/or importing into the United States virtual assistant smart speakers that utilize a microphone array system.

144. Upon information and belief, the Google Home products include a microphone array, which is an array of sound sensors positioned in a linear, circular, or other configuration, wherein said sound sensors receive said sound signals from a plurality of disparate sound sources, wherein said received sound signals comprise said target sound signal from a target sound source among said disparate sound sources, and ambient noise signals. An image of Google's One product

[63] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684; https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/45399.pdf.
[64] *Id.*
[65] *Id.*
[66] *Id.*

is shown below:[67]

145. Upon information and belief, the Google Home products include a digital signal processor, such as digital signal processors ("DSP"), manufactured by third parties including Marvell.

146. Upon information and belief, the DSPs included in the Google Home products comprise a sound source localization unit that estimates a spatial location of said target sound signal from said received sound signals, by determining a delay between each of said sound sensors and an origin of said array of said sound sensors as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal, when said target sound source that emits said target sound signal is in a two-dimensional plane, wherein said delay is represented in terms of number of samples, and wherein said determination of said delay enables beamforming for arbitrary numbers of said array of sound sensors and in a plurality of arbitrary configurations of said array of said sound sensors.[68]

[67] https://www.techradar.com/news/buying-a-google-home-here-are-the-best-smart-home-products-to-go-along-with-it.
[68] https://www.ifixit.com/Teardown/Google+Home+Teardown/72684; https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/45399.pdf.

147. Upon information and belief, the DSPs included in the Google Home products comprise an adaptive beamforming unit that steers directivity pattern of said array of said sound sensors in a direction of said spatial location of said target sound signal, wherein said adaptive beamforming unit enhances said target sound signal and partially suppresses said ambient noise signals.[69]

148. Upon information and belief, the DSPs included in the Google Home products comprise a noise reduction unit that suppresses said ambient noise signals for further enhancing said target sound signal.[70]

149. Upon information and belief, the DSPs included in the Google Home products comprise an echo cancellation unit that performs echo cancellation for further enhancing said target sound signal.[71]

150. Google has had knowledge and notice of the '371 Patent at least as of the filing date of this Complaint.

151. Google has indirectly infringed and continues to indirectly infringe one or more claims of the '371 Patent, as provided by 35 U.S.C. § 271(b), by inducing infringement by others, such as Google's customers and end-users, in this District and elsewhere in the United States. For example, Google's customers and end-users directly infringe, either literally or under the doctrine of equivalents, through their use of the inventions claimed in the '371 Patent. Google induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting that they use the Accused Products in an

[69] *Id.*
[70] *Id.*
[71] *Id.*

infringing manner, including technical support, marketing, product manuals, advertisements, and online documentation. Because of Google's inducement, Google's customers and end-users use Accused Products in a way Google intends and directly infringe the '371 Patent. Google performs these affirmative acts with knowledge of the '371 Patent and with the intent, or willful blindness, that the induced acts directly infringe the '371 Patent.

152. Google has indirectly infringed and continues to indirectly infringe one or more claims of the '371 Patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement by others, such as customers and end-users, in this District and elsewhere in the United States. Google's affirmative acts of selling and offering to sell the Accused Products in this District and elsewhere in the United States and causing the Accused Products to be manufactured, used, sold, and offered for sale, contributes to others' use and manufacture of the Accused Products such that the '371 Patent is directly infringed by others. The accused components within the Accused Products are material to the invention of the '371 Patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Google to be especially made or adapted for use in the infringement of the '371 Patent. Google performs these affirmative acts with knowledge of the '371 Patent and with intent, or willful blindness, that they cause the direct infringement of the '371 Patent.

153. Because of Google's direct and indirect infringement of the '371 Patent, Vocalife has suffered damages, and will continue to suffer, damages in an amount to be proved at trial.

154. Because of Google's direct and indirect infringement of the '371 Patent, Vocalife has suffered, and will continue to suffer, irreparable harm for which there is no adequate remedy at law, unless Google's infringement is enjoined by this Court.

155. Google has committed and continues to commit acts of infringement that Google

actually knew or should have known constituted an unjustifiably high risk of infringement of at least one valid and enforceable claim of the '371 Patent. Google's direct and indirect infringement of the '371 Patent has been and continues to be willful, intentional, deliberate, and/or in conscious disregard of Vocalife's rights under the patent. Vocalife is entitled to an award of treble damages, reasonable attorney fees, and costs in bringing this action.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Vocalife prays for relief against Google as follows:

a. Entry of judgment declaring that Google infringes one or more claims of each of the Patents-in-Suit;

b. Entry of judgment declaring that Google's infringement of the Patents-in-Suit is willful;

c. An order awarding damages sufficient to compensate Vocalife for Google's infringement of the Patents-in-Suit, but in no event less than a reasonably royalty, including supplemental damages post-verdict, together with pre-judgment and post-judgment interest and costs;

d. Enhanced damages pursuant to 35 U.S.C. § 284;

e. Entry of judgment declaring that this case is exceptional and awarding Vocalife its costs and reasonable attorney fees under 35 U.S.C. § 285;

f. An accounting for acts of infringement;

g. Such other equitable relief which may be requested and to which the Plaintiff is entitled; and

h. Such other and further relief as the Court deems just and proper.

Dated: April 2, 2020

Respectfully submitted,

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