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

RFCyber CORP., Plaintiff,	§	Case No.
	§	**JURY TRIAL DEMANDED**
v.	§	
GOOGLE LLC and GOOGLE PAYMENT CORP.	§	
Defendants.	§	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, RFCyber Corp. ("RFCyber" or "Plaintiff"), files this original Complaint against Defendants Google LLC and Google Payment Corp. (collectively, "Google" or "Defendants") for patent infringement under 35 U.S.C. § 271 and alleges as follows:

THE PARTIES

1. RFCyber is a corporation organized and existing under the laws of the State of Texas, with its principal place of business located at 7300 Lone Star Drive, Suite c200, Plano, TX 75024. RFCyber 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. 8,118,218, 8,448,855, 9,189,787, 9,240,009, and 10,600,046.

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. Google Payment Corp. 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.

4. 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.

5. 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 2707 Cross Timbers, Suite 122, Flower Mound, TX 75028. Upon information and belief, Defendants employ individuals in this Judicial District involved in the sales and marketing of its products.

JURISDICTION

6. 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).

7. This Court has personal jurisdiction over Defendants. Defendants regularly conduct business and have committed acts of patent infringement within this Judicial District 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.

8. 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.

9. 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 Pay).[1] As another example, Google gathers data when a resident interacts with Google's plethora of services such as search, contactless payment, 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,"

[1] *See e.g.*, "AP Exclusive: Google tracks your movements, like it or not," https://apnews.com/828aefab64d4411bac257a07c1af0ecb/AP-Exclusive:-Google-tracks-yourmovements,-like-it-or-not; *see also* https://pay.google.com/about/learn/.

"information you deleted [on your computer]," "your workout routine," "years' worth of photos," and "every email you ever sent."[2]

10. In addition to extensive data gathering on residents of this Judicial District, Google 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, direct payments from residents of this District,[4] through sharing residents' data with third-parties,[5] and through serving advertisements to residents.[6]

11. 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]

12. 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

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[2] *See* https://www.theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-googlehas-on-you-privacy.
[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, Chromecast Ultra.
[4] https://support.google.com/pay/answer/7643997?hl=en&ref_topic=7644058
[5] *See* https://www.theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-googlehas-on-you-privacy.
[6] 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-vision-statement-mission-statement.
[9] *Id. See also* "Introduction to GCC," https://support.google.com/interconnect/answer/9058809?hl=en.

you."[10] To meet this goal, Google developed a content delivery network that it calls the Edge Network.

13. 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 Pay, 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]

14. 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."

15. 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

[10] https://time.com/4311233/google-ceo-sundar-pichai-letter/.
[11] https://support.google.com/pay/answer/9023773
[12] *See* https://www.theverge.com/2017/5/17/15654454/android-reaches-2-billion-monthly-activeusers.
[13] https://peering.google.com/#/infrastructure.
[14] https://www.blog.speedchecker.xyz/2015/11/30/demystifying-google-global-cache/.

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.

16. 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 improves 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.

17. 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.

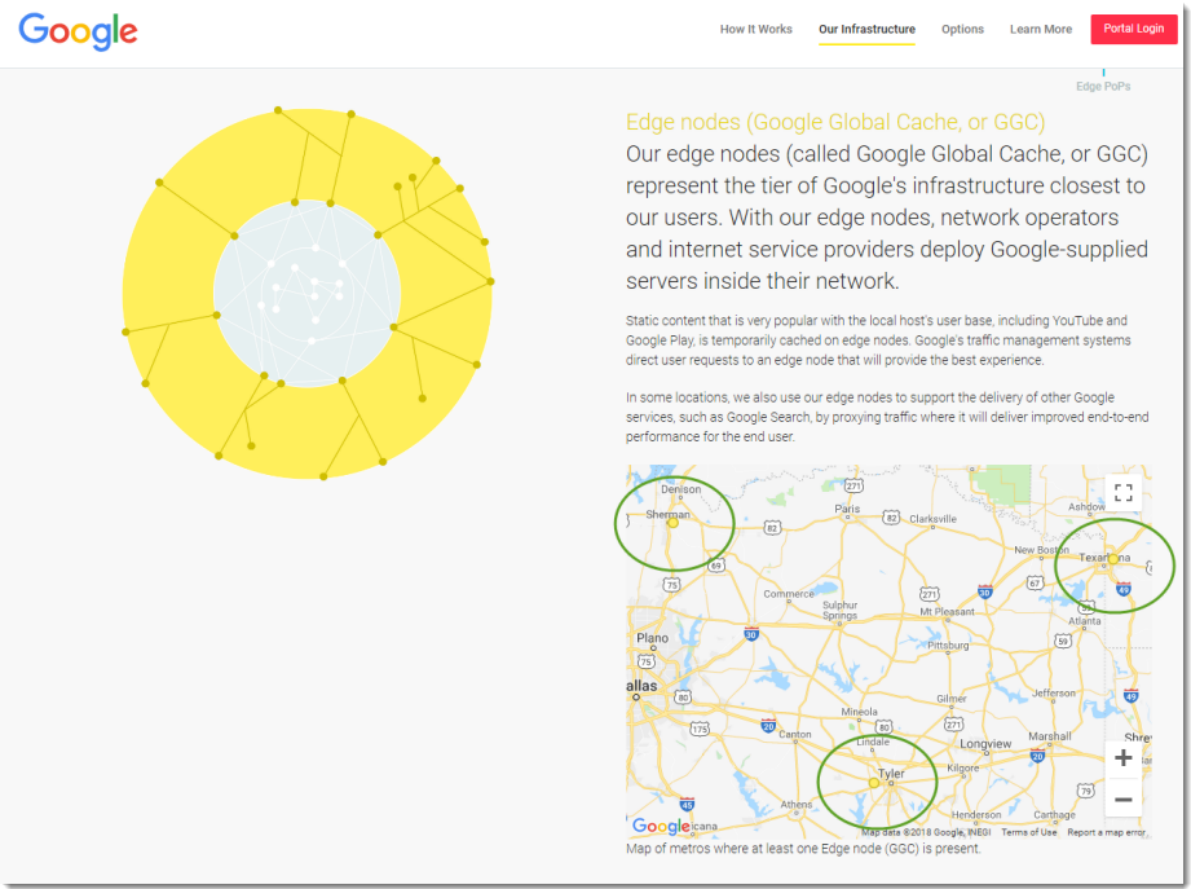
18. When an ISP agrees to host a GGC server, the parties enter into a Global Cache Service Agreement, under which Google provides:

- 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.

19. 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.

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

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

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

23. 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 the Google Play store.

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

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

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

27. 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.

28. 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.

29. 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 a

"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).

30. 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).

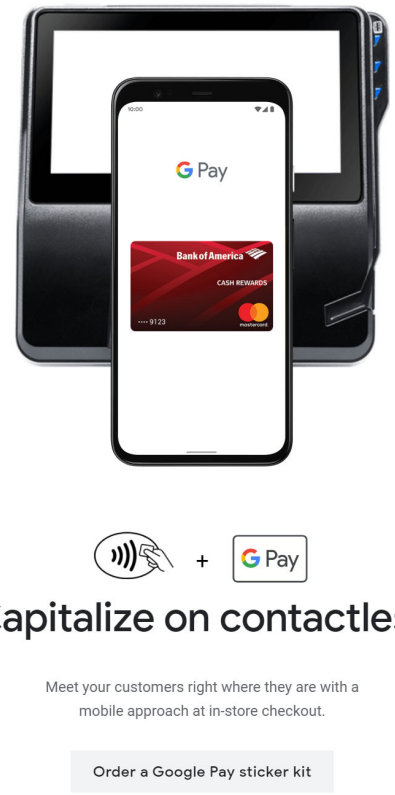
31. Similarly, this Judicial District has determined that the GGC servers and their locations within the various ISPs within this District are "places of Google" sufficient to meet the statutory requirement of § 1400(b). *See Seven Networks, LLC v. Google LLC*, Case No. 2:17-cv-00442-JRG, Dkt. 235 at 41 (E.D. Tex. July 19, 2018).

Google Makes Google Pay Available in This Judicial District

32. Google Pay, also known as "G Pay," "Pay with Google" and "Android Pay" is a "fast, simple way to pay online or make contactless payments with your phone."[15] Google Pay allows users in this Judicial District to:

- "Tap and pay to make purchases with your phone"
- "Buy items in apps and on websites";
- "Fill in forms automatically on Chrome";
- "Buy Google products";
- "Send money to friends and family"; and
- Use gift cards, loyalty cards, tickets, and coupons at participating retailers.[16]

[15] https://pay.google.com/about/.
[16] https://support.google.com/pay/answer/9026749?co=GENIE.Platform%3DAndroid&hl=en#.



Source: https://pay.google.com/about/business/checkout/

33. Google Pay is accepted at "millions" of locations, including throughout this Judicial District.[17] For example, Google Pay is accepted in stores including, among others, Dunkin Donuts, McDonalds, Nike, Target, Trader Joes, Ulta, Walgreens, Whole Foods, ACME, Aeropastale, American Eagle Outfitters, ARCO, Best Buy, Bloomingdales, Champs Sports, Chevron, Chick-Fil-A, Crate & Barrel, the Disney Store, Express, Foot Locker, GameStop, JetBlue, KFC, Kohls, LEGO, Macy's, Martin's, Office Depot, Panera Bread, Peet's Coffee, Petco, Sephora, Staples, Subway, and Stop & Shop.[18]

34. At least the Google Pay point of service locations ("POS") are regular and established places of business of Google. For example, Google establishes Merchant Hardware

[17] https://pay.google.com/about/where-to-use/
[18] *Id.*

Requirements, establishes data security requirements (*e.g.* complaint with the Payment Card Security Standards Council requirements),[19] and mandates that participating stores, referred to as "Sellers" comply with terms of service provided by Google Payment Corp ("GPC"), a subsidiary of Google LLC, to Google's users.[20] For example, the terms of service provide that:

- "Seller must comply with the Policies and any other limits concerning use of the Service as updated by GPC from time to time, including without limitation:(i) the Integration Guidelines; (ii) the Button and Acceptance Logo Guidelines and the Google Brand Feature Guidelines; (iii) GPC requirements for data security and privacy, including the Google Privacy Policy and Google Payments Privacy Notice; (iv) operating rules and/or policies of the card associations or networks that are used to process the Payment Transactions attached hereto as Exhibit A (as may be updated from time to time); or (v) Carrier requirements applicable to Carrier Billing."; and
- "Seller agrees not to use the Service through websites other than the Seller Websites. GPC at all times reserves approval authority as to the implementation of the Service on each Seller Website, and GPC may upon notice suspend Seller's use of the Service until Seller corrects implementation issues as reasonably specified by GPC."[21]

35. Google further mandates that Sellers and their developers comply with Google Pay API terms of service ("Google Pay API ToS"), Google Pay API Acceptable Use Policy, and

[19] *Id.*
[20] *See* https://payments.google.com/payments/apis-secure/u/0/get_legal_document?ldo=0&ldt=sellertos.
[21] *Id.*

rules set forth in the Google Pay Policy Center.[22] For example, the Google Pay API ToS mandates that:

- "You must comply with the Terms, the Google Pay APIs Acceptable Use Guidelines, and the Google Pay API Brand Guidelines found at the Google Pay API developer site."
- "Unless Google provides otherwise, You may arrange for a platform provider to assist You in integrating Your payment transaction interfaces with the API. Such platform provider must act exclusively on Your behalf and in accordance with its own written agreement with Google. You agree that Google may require you to disengage from Your platform provider if, in Google's discretion, the platform provider contributed to a violation of these Terms or other harm to Google."; and
- "You may not: (a) establish a minimum or maximum purchase amount that is specific to an End User making a purchase through the API; (b) require an End User to provide you with the account numbers of any credit card, debit card, or other payment instrument in addition to information provided through the API; or (c) add any service use surcharge that is specific to an End User making a purchase through the API."[23]

36. Google further partners with banks and payment partners in this judicial District in Delivering Google Pay services to its users, including, among others, AMEX, BAC (Bank of America), Barclays US, Capital One, Chase, CITI, Synchrony, and Wells Fargo. On information and belief, Google further binds sellers to terms it negotiates with its payment partners, such as terms provided in its partners.

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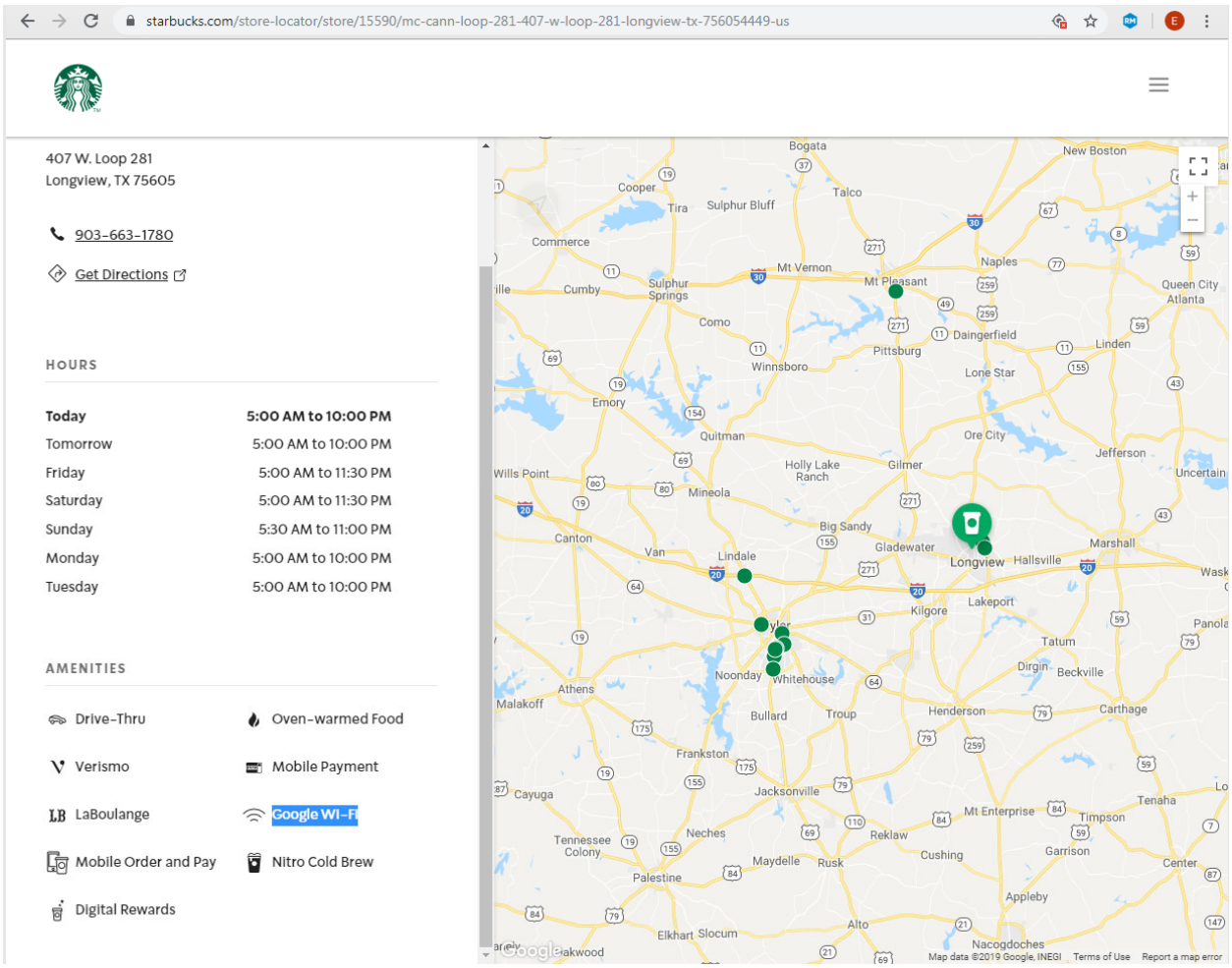
[22] *See* https://developers.google.com/pay/api/android/guides/setup; https://payments.developers.google.com/terms/sellertos; https://support.google.com/googleplay/android-developer/answer/9858738.
[23] https://payments.developers.google.com/terms/sellertos; *see also* https://developers.google.com/pay/api/android/guides/brand-guidelines.

Google Wi-Fi at Starbucks Locations in This Judicial District

37. Google provides Wi-Fi infrastructure and Wi-Fi service at Starbucks locations in this District.[24] Google and Starbucks entered into 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.[25] 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.

[24] *See* https://customerservice.starbucks.com/app/answers/detail/a_id/5796/~/how-can-i-access-wifi-in-starbucks-stores%3F; https://support.google.com/fiber/answer/3289712?visit_id=637050364069556126-264756134&hl=en&rd=1;

[25] https://www.starbucks.com/store-locator?map=32.467135,-95.387478,8z

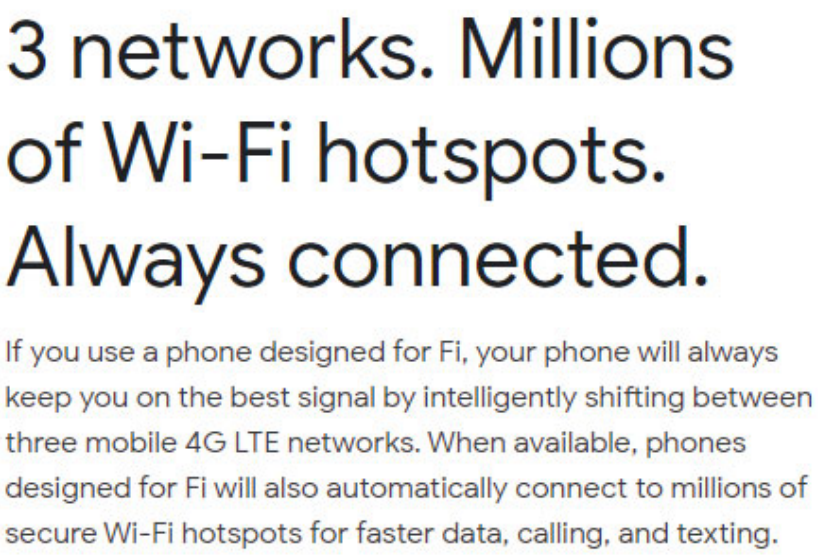


Source: https://www.starbucks.com/store-locator/store/15590/mc-cann-loop-281-407-w-loop-281-longview-tx-756054449-us.

38. 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, US Cellular, and public Wi-Fi networks. As described below, Google has entered into agreements with T-Mobile, Sprint, and US 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.

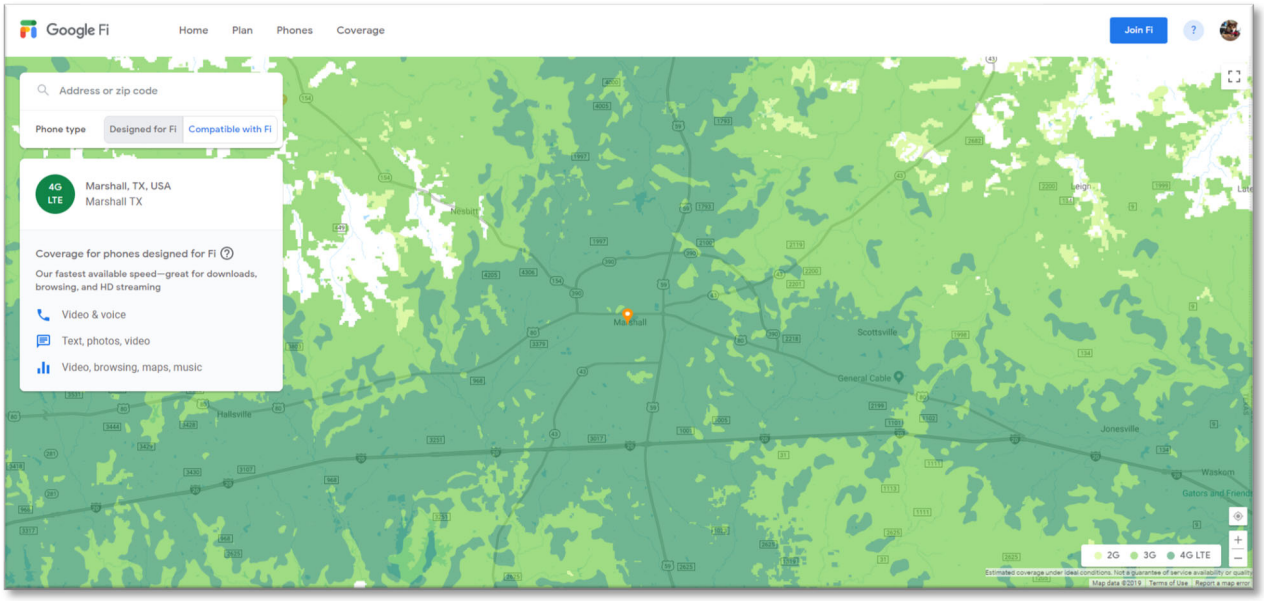
39. Google determines whether a Google Fi customer in this Judicial District uses a certain Wi-Fi network, including the Google Wi-Fi networks at Starbucks locations, using the Google-provided SIM card and software on the customer's phone.



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

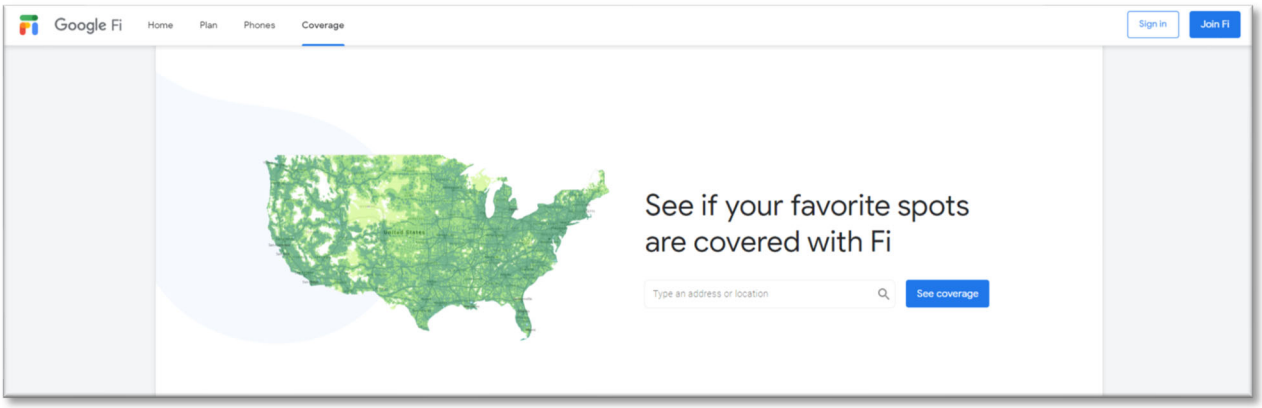
Google's "Google Fi"

40. 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) for cities such as Tyler, Longview, and Marshall, Texas.



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

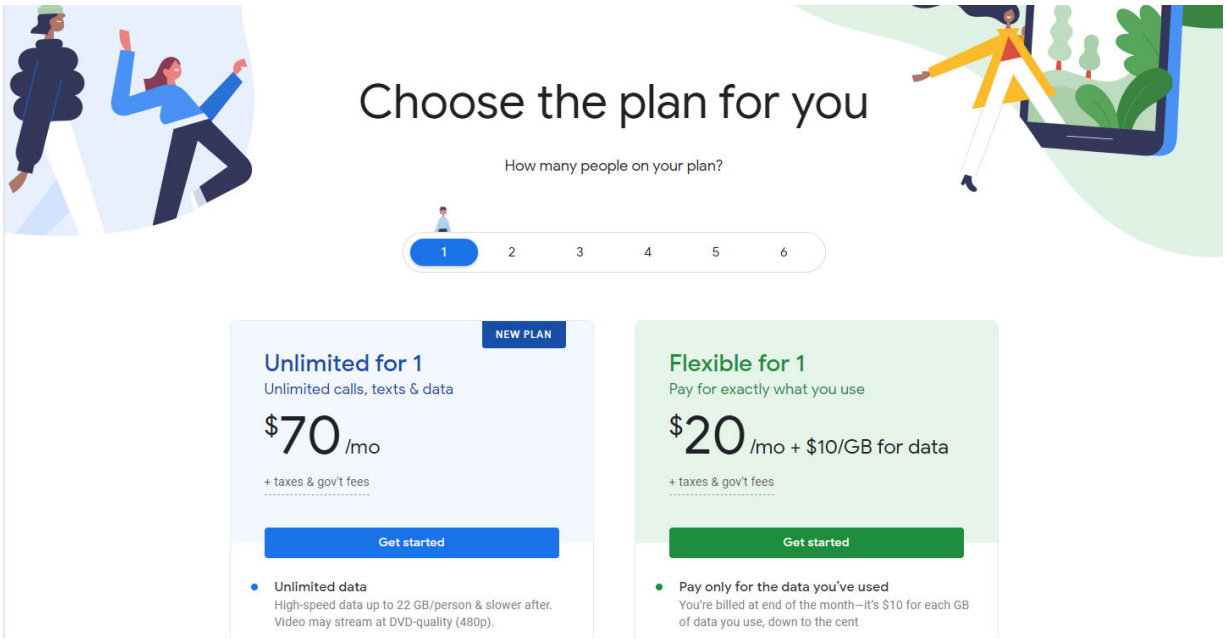
41. The cell towers used for Google's services are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google has contractual and/or property 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/

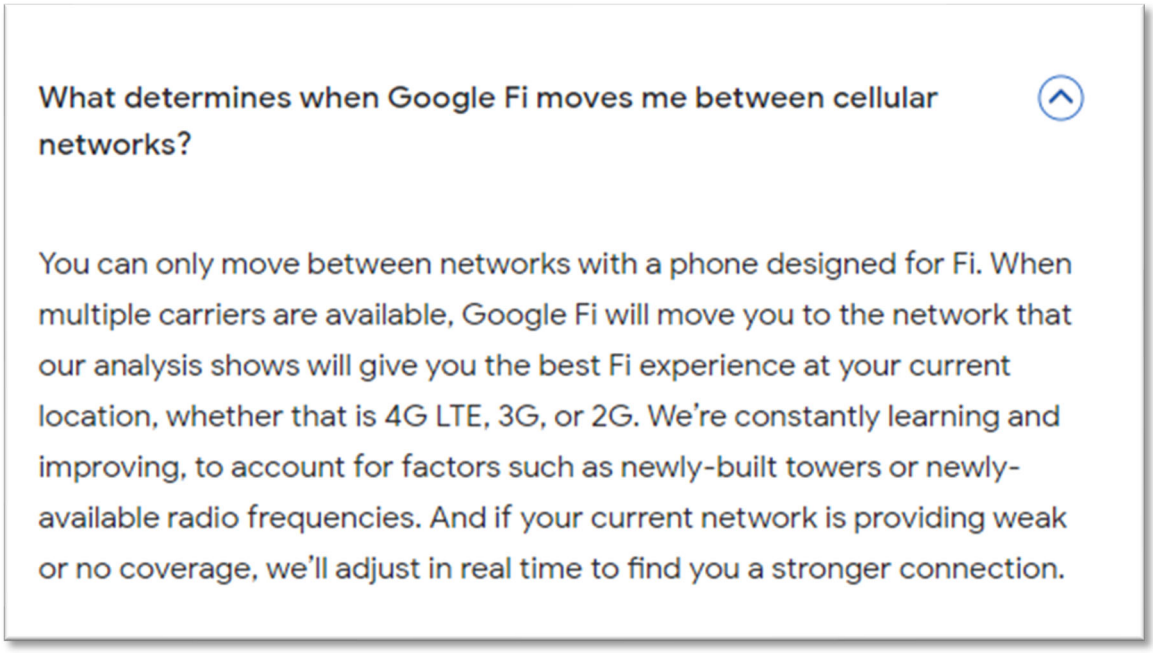
42. With this coverage lookup service, Google advertises its ability to provide cell coverage in this Judicial District and its selected cell towers in and near this District to provide the advertised coverage (e.g., 2G, 3G, or 4G LTE), depending on the location in the District. *See* https://fi.google.com/about/coverage/.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

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



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

44. 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

45. 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.

46. 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.

Interconnect > Documentation

Partner Interconnect Overview

SEND FEEDBACK

Google Cloud Interconnect - Partner (Partner Interconnect) provides connectivity between your on-premises network and your 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 if your data needs don't warrant an entire 10 Gbps connection.

Before you use Partner Interconnect

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.

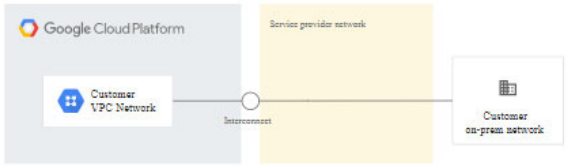
- You must be familiar with the Cloud Interconnect terminology described in Key Terminology.
- You must work with a supported service provider to establish connectivity between their network and your on-premises network.

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.

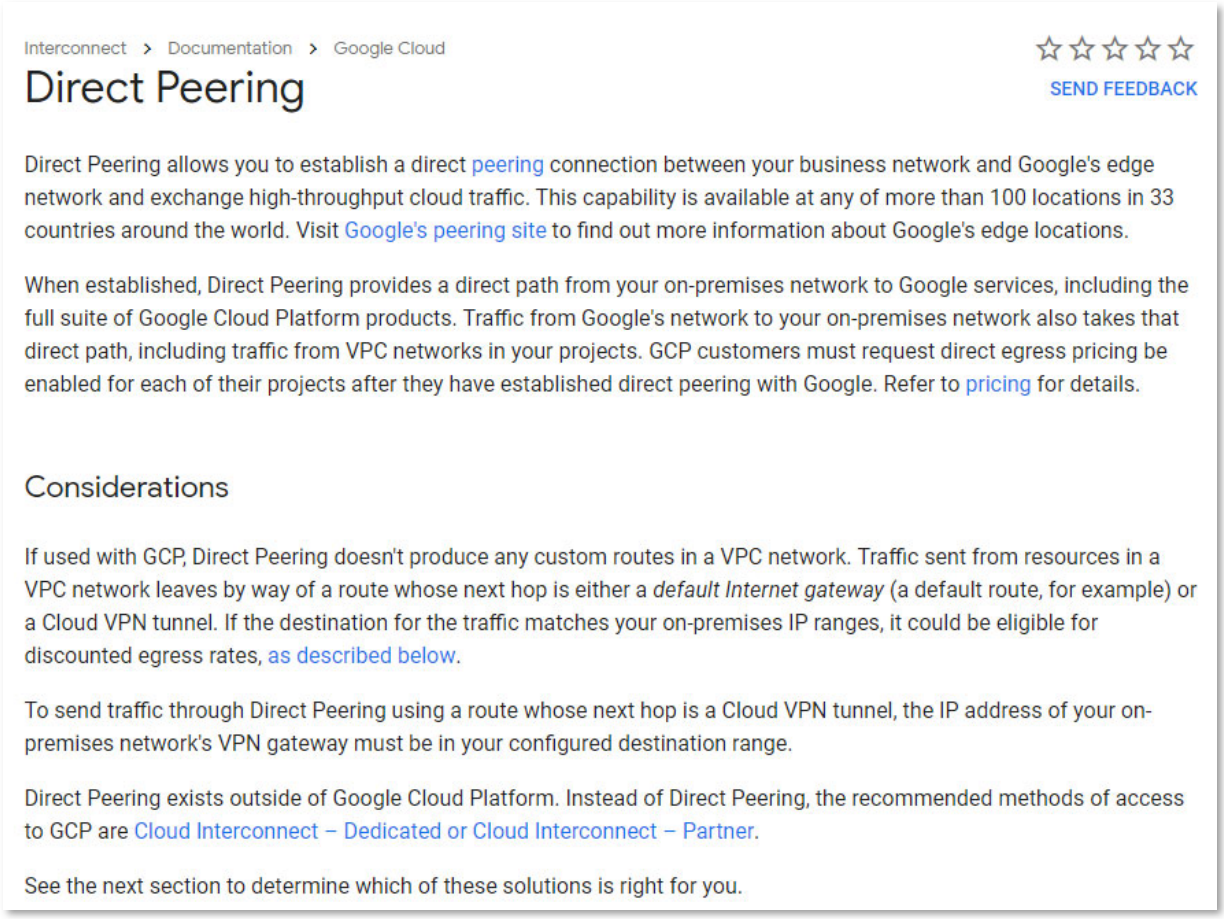
The following diagram provides a high-level overview of a customer using a service provider to connect to Google:



Basic Partner Interconnect topology (click to enlarge)

Source: https://cloud.google.com/interconnect/docs/concepts/partner-overview

47. 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.



Interconnect > Documentation > Google Cloud

Direct Peering

☆☆☆☆☆ SEND FEEDBACK

Direct Peering allows 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. Visit Google's peering site to find out more information about Google's edge locations.

When established, Direct Peering provides a direct path from your on-premises network to Google services, including the full suite of Google Cloud Platform products. Traffic from Google's network to your on-premises network also takes that direct path, including traffic from VPC networks in your projects. GCP customers must request direct egress pricing be enabled for each of their projects after they have established direct peering with Google. Refer to pricing for details.

Considerations

If used with GCP, 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 below.

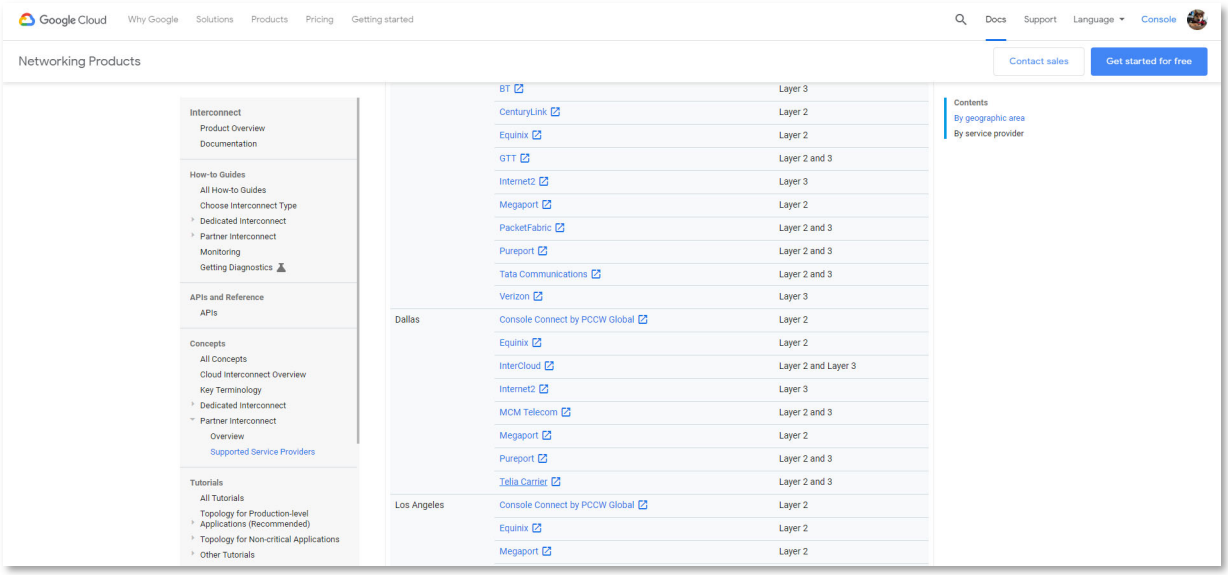
To send traffic through Direct Peering using a route whose next hop is a Cloud VPN tunnel, the IP address of your on-premises network's VPN gateway must be in your configured destination range.

Direct Peering exists outside of Google Cloud Platform. Instead of Direct Peering, the recommended methods of access to GCP are Cloud Interconnect – Dedicated or Cloud Interconnect – Partner.

See the next section to determine which of these solutions is right for you.

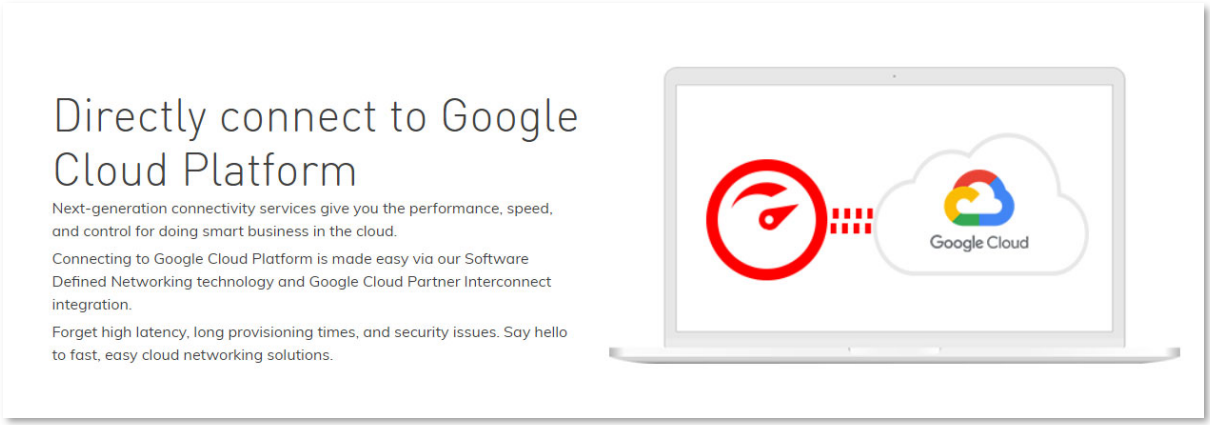
Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering

48. 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).



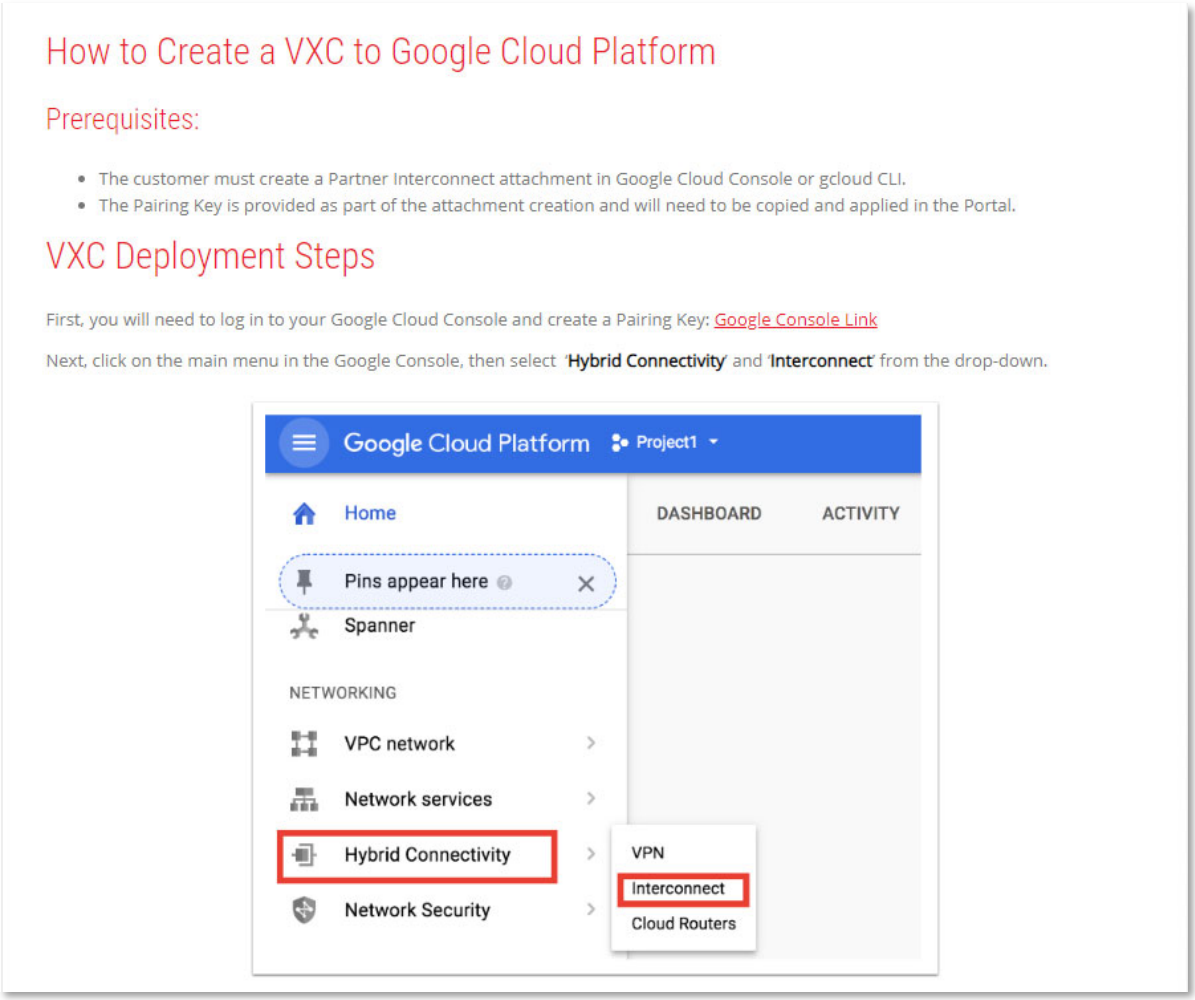
Source: https://www.cloud.google.com/interconnect/docs/concepts/service-providers#by-location

49. 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.



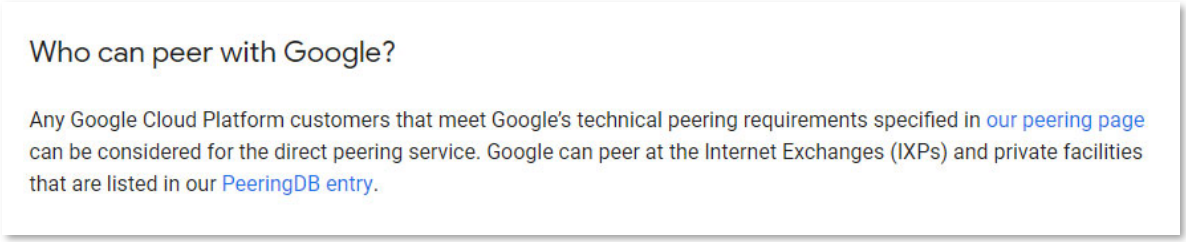
Source: https://www.megaport.com/services/google-cloud-partner-interconnect/

50. 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.



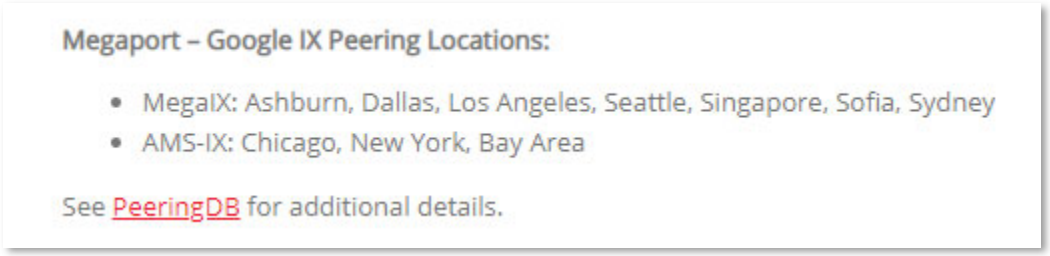
Source: https://knowledgebase.megaport.com/cloud-connectivity/google-cloud/

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

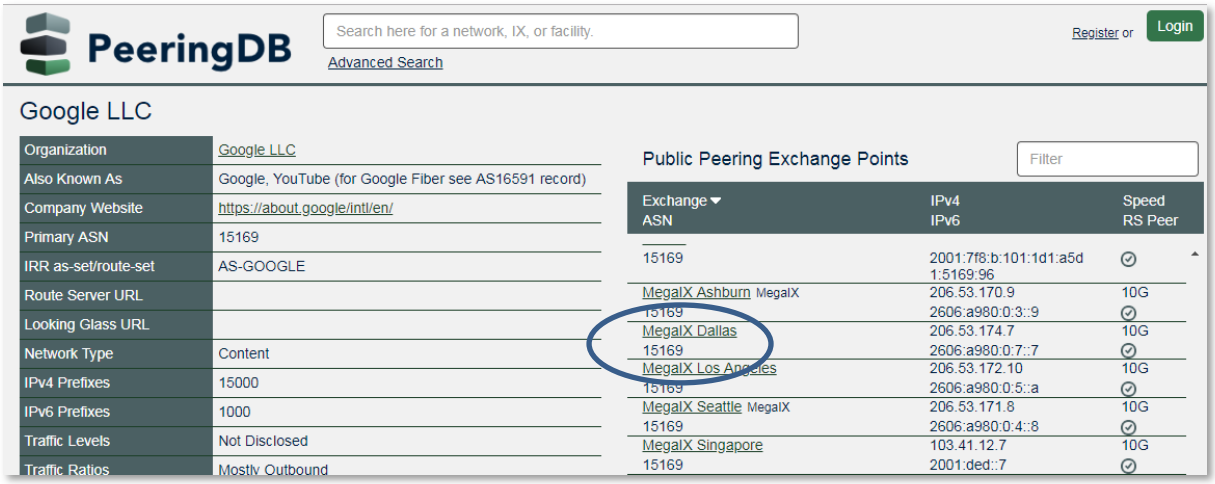


Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering; *see also*

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



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



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

52. 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/

53. Both of Megaport's "Dallas" locations are in the Eastern District of Texas in Denton County.[26] 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.[27] The smaller Megaport facility, the Lewisville facility, is located at 2501 S. State Highway 121.[28]

54. 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

[26] https://www.megaport.com/blog/cyrusone-brings-dallas-closer-cloud/.
[27] *Id.*
[28] *Id.*

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

Google Repair Centers and Warehouses in this Judicial District

55. 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.

56. 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.

57. 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 that 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.*

58. 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.*[29] "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.*

59. 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

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

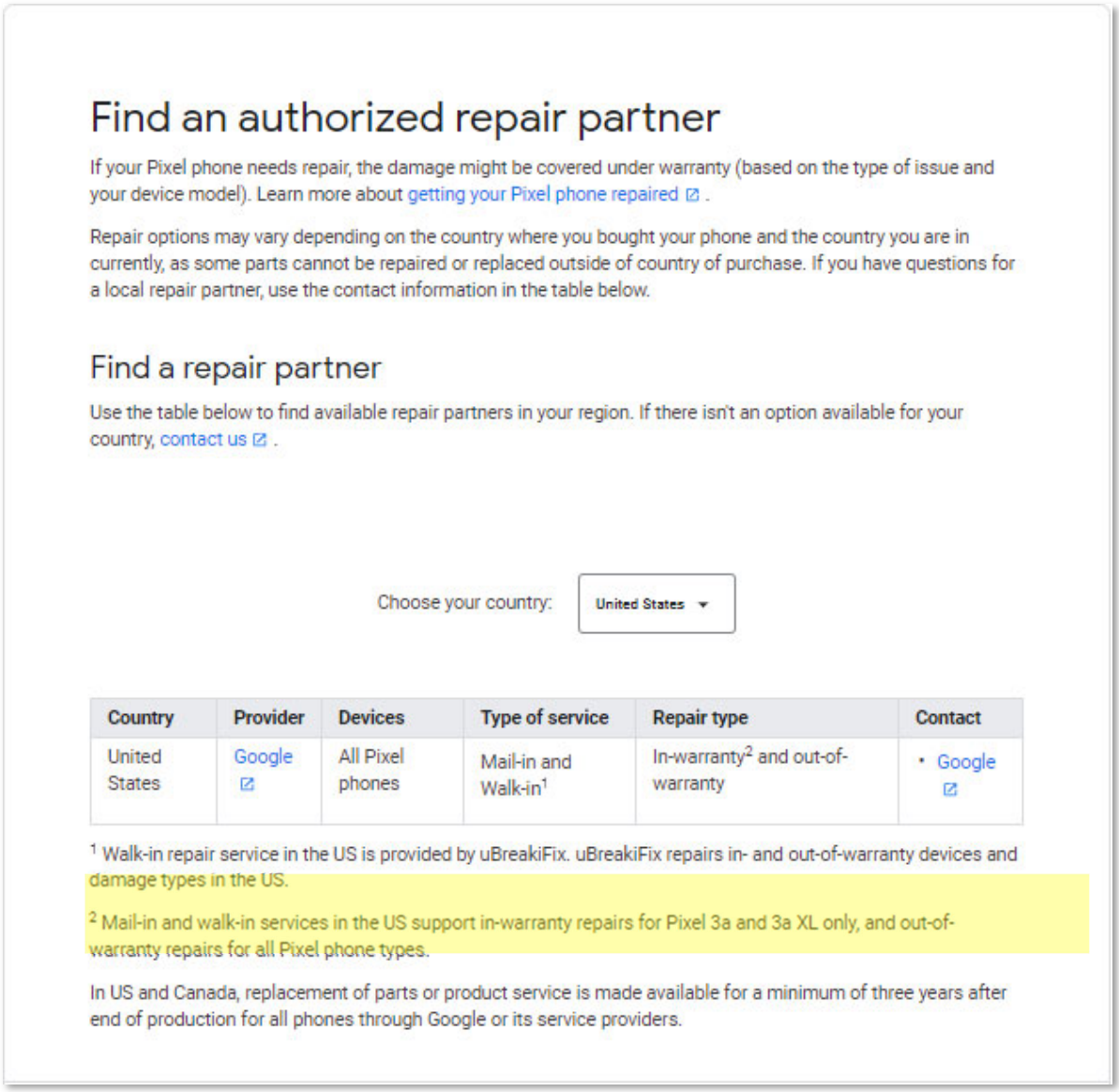
60. CTDI has consented to act on Google's behalf including agreeing "to provide Google the Services specified" including but not limited to "tak[ing] receipt of Returned Products . . ., Quarantine Services, Capture Services and Sorting Services," "Data Wipe Services," "Inventory Procurement and Management Services," and "Warehousing Services."[30] *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.

61. 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.").

62. 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.

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

[30] *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

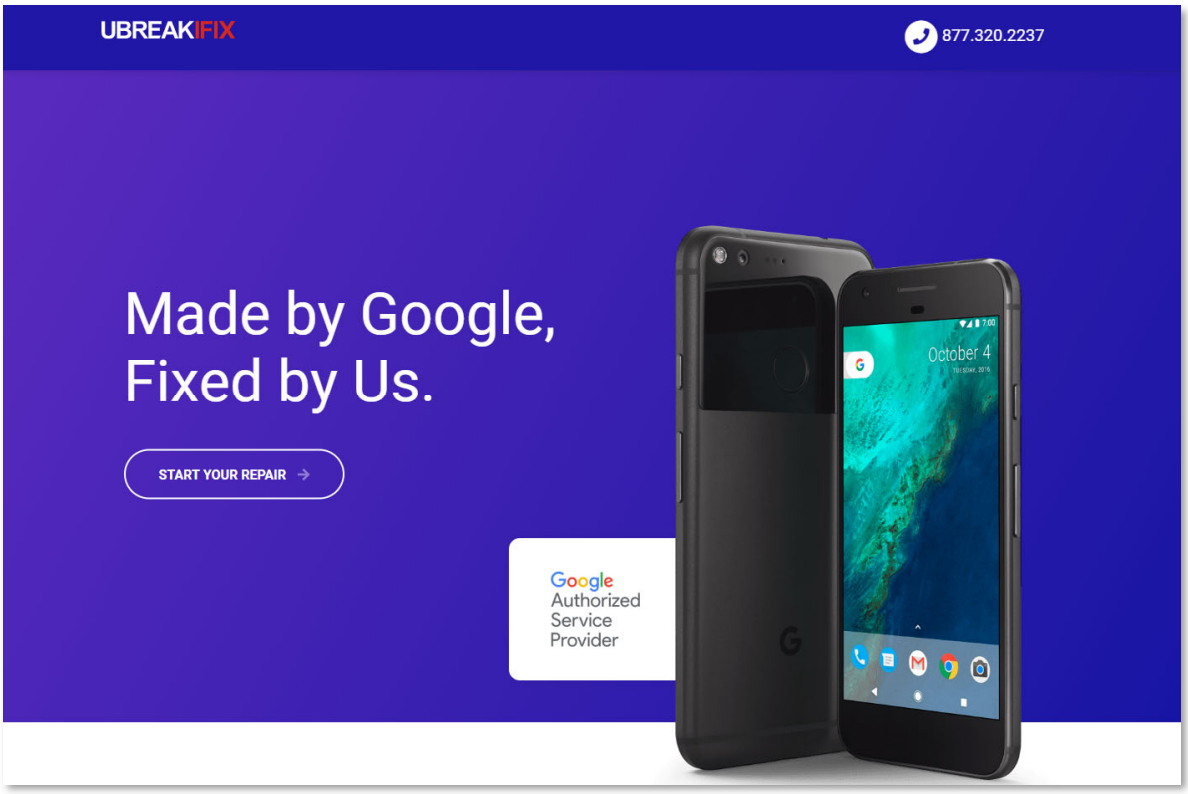
[1] Walk-in repair service in the US is provided by uBreakiFix. uBreakiFix repairs in- and out-of-warranty devices and damage types in the US.

[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.

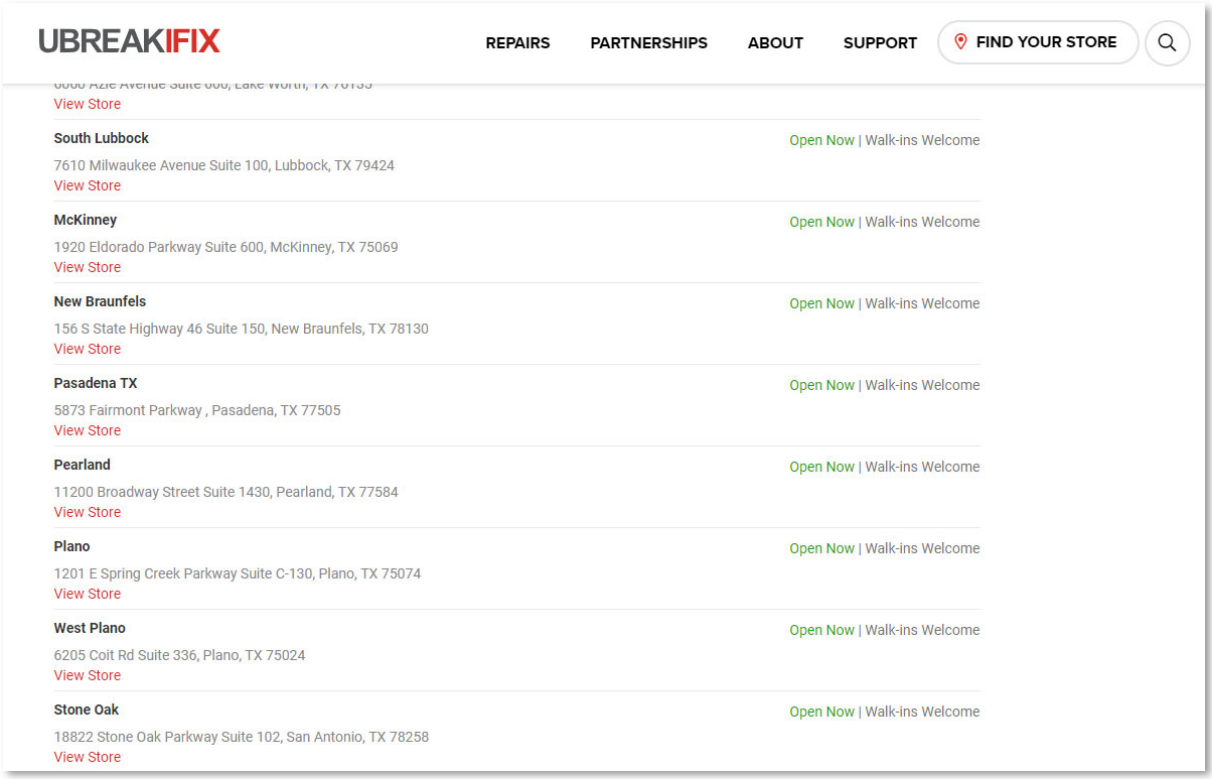
In US and Canada, replacement of parts or product service is made available for a minimum of three years after end of production for all phones through Google or its service providers.

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

64. 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



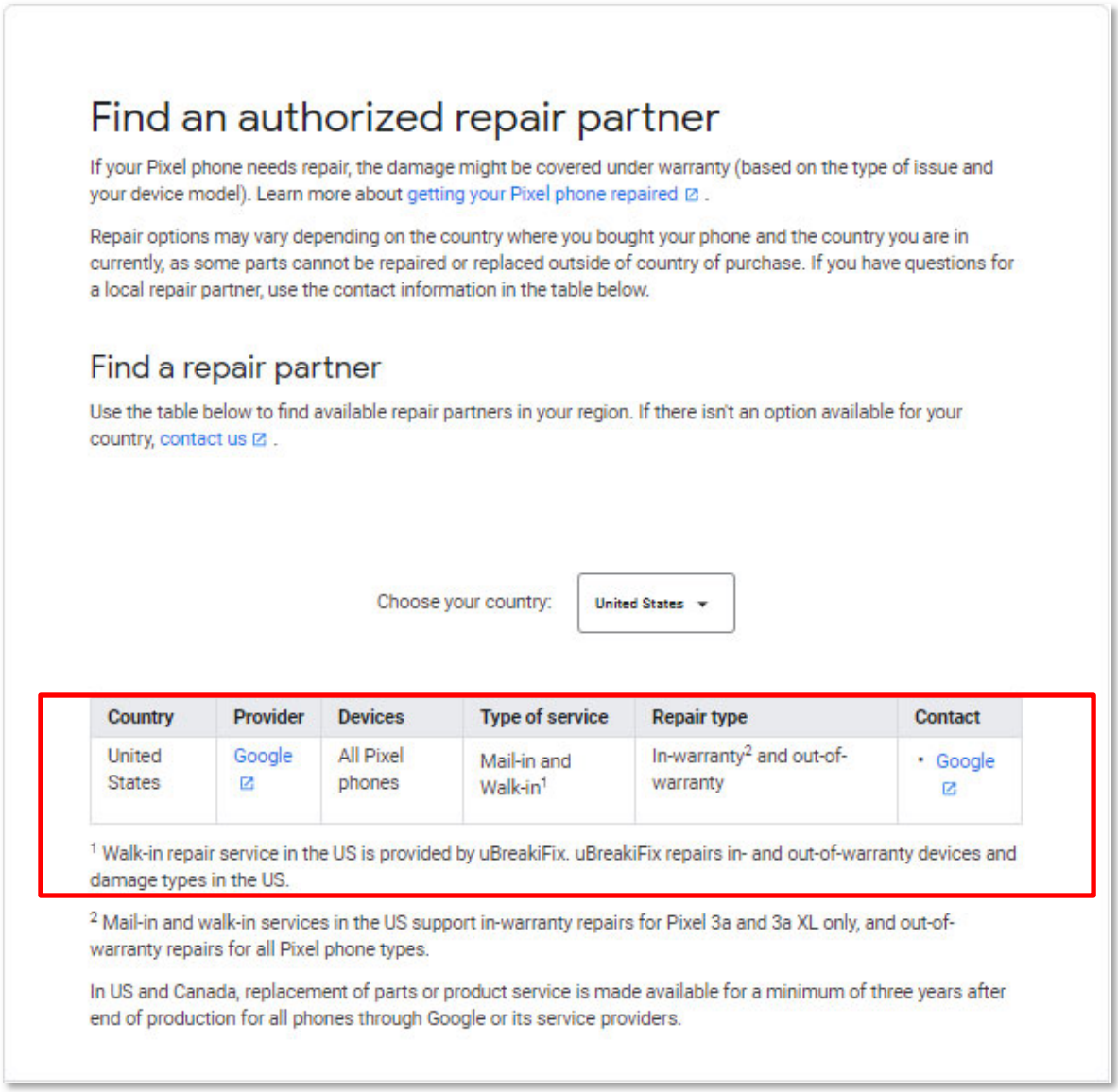
Source: https://www.ubreakifix.com/google

65. Google and uBreakiFix teamed up to offer free repairs to those impacted by Hurricane Florence.[31]

66. 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.

67. 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.

[31] *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.

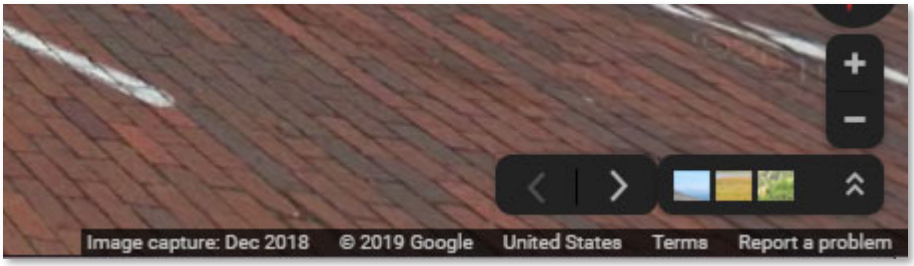
Source: https://support.google.com/store/answer/7182296?hl=en

Google's Other Pervasive Contracts in this Judicial District

68. 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

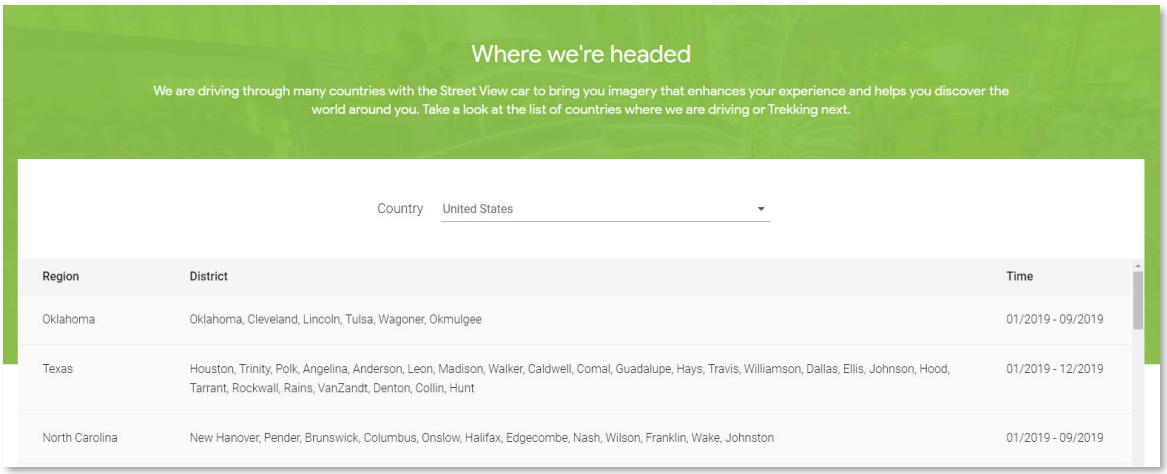
Furthermore, in the lower right-hand corner of the Google Street View above, the image is credited to Google and states that it was captured in December 2018.



69. Google also operates a Street View car in and around this Judicial District in order to provide the Google Maps Street View service.[32]

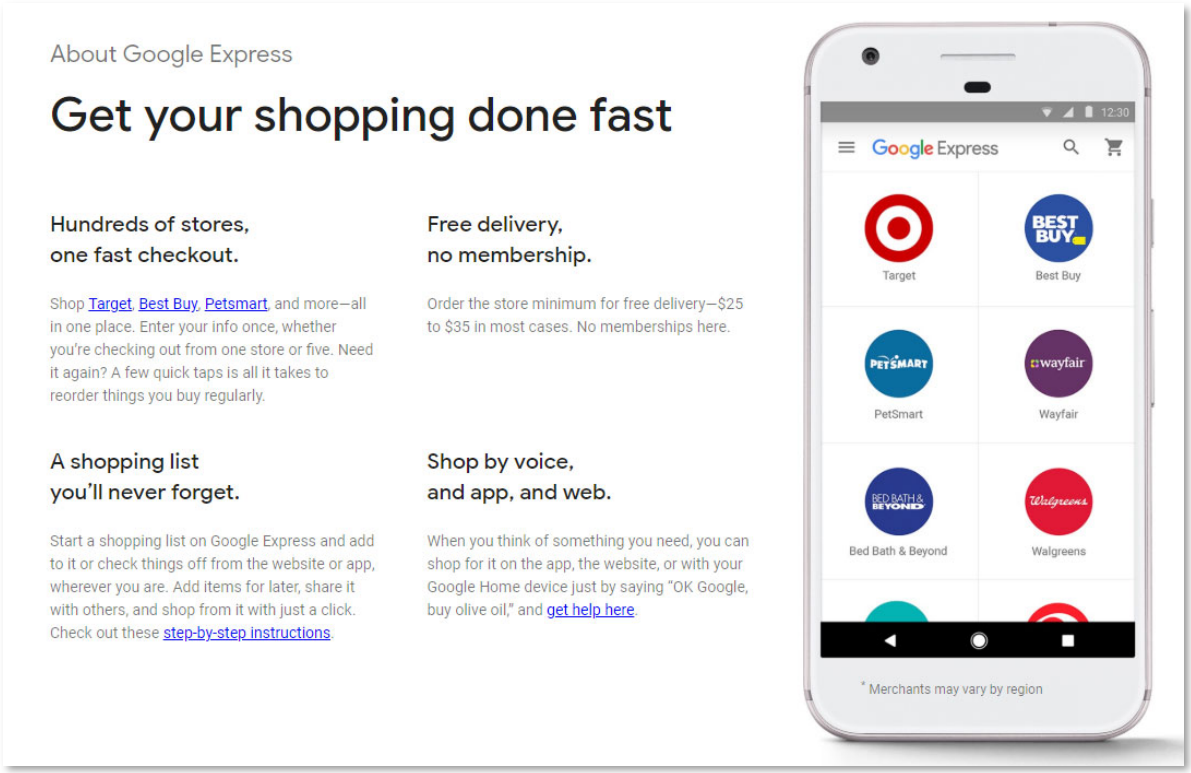
[32] *See* https://www.google.com/streetview/explore/.

70. 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.



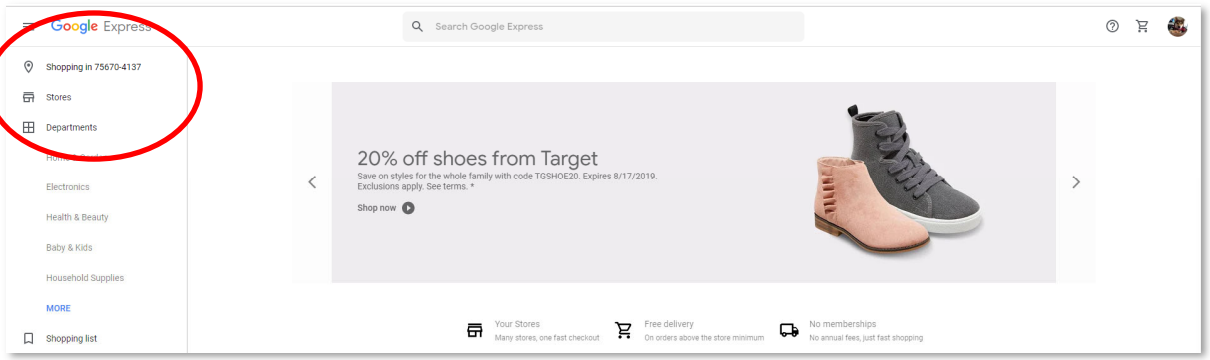
Source: https://www.google.com/streetview/explore/

71. 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.



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

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/

72. 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.[33] 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 store may have other items for sale.

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

74. 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.[34]

[33] *See* https://support.google.com/express/answer/4561693?hl=en.
[34] 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?

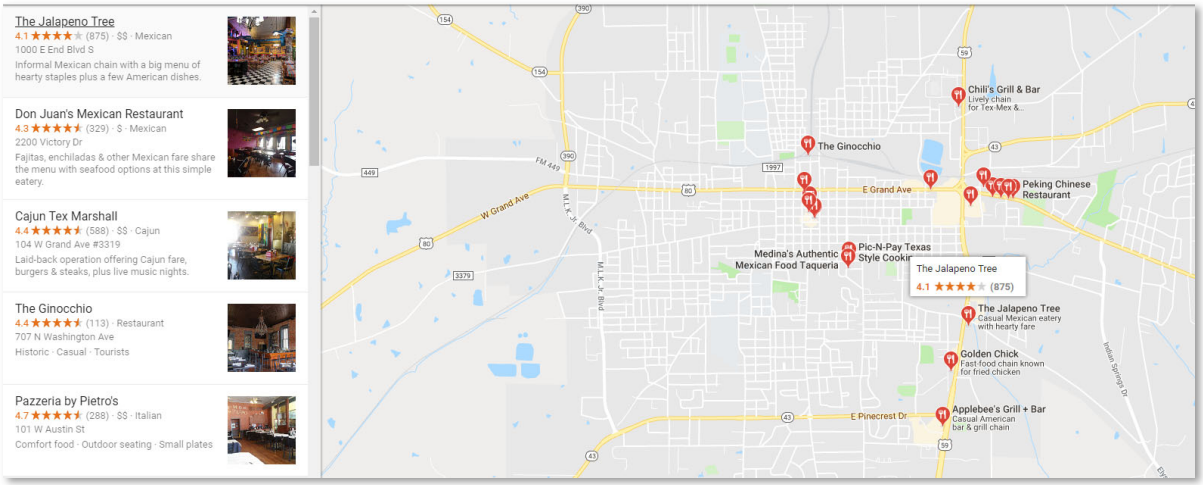
Each student in FISD has a Google login. The username is your Frisco ISD email address, which is firstname.lastname.###@k12.friscoisd.org

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.

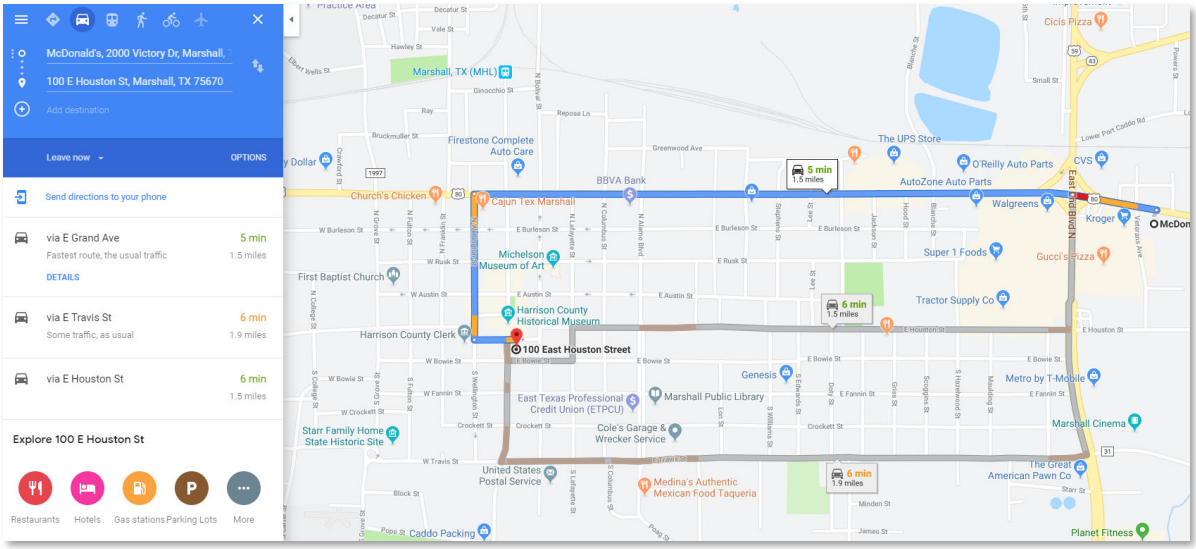
Source: http://schools.friscoisd.org/hs/lebanontrail/site/resources/google-apps-information

75. 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

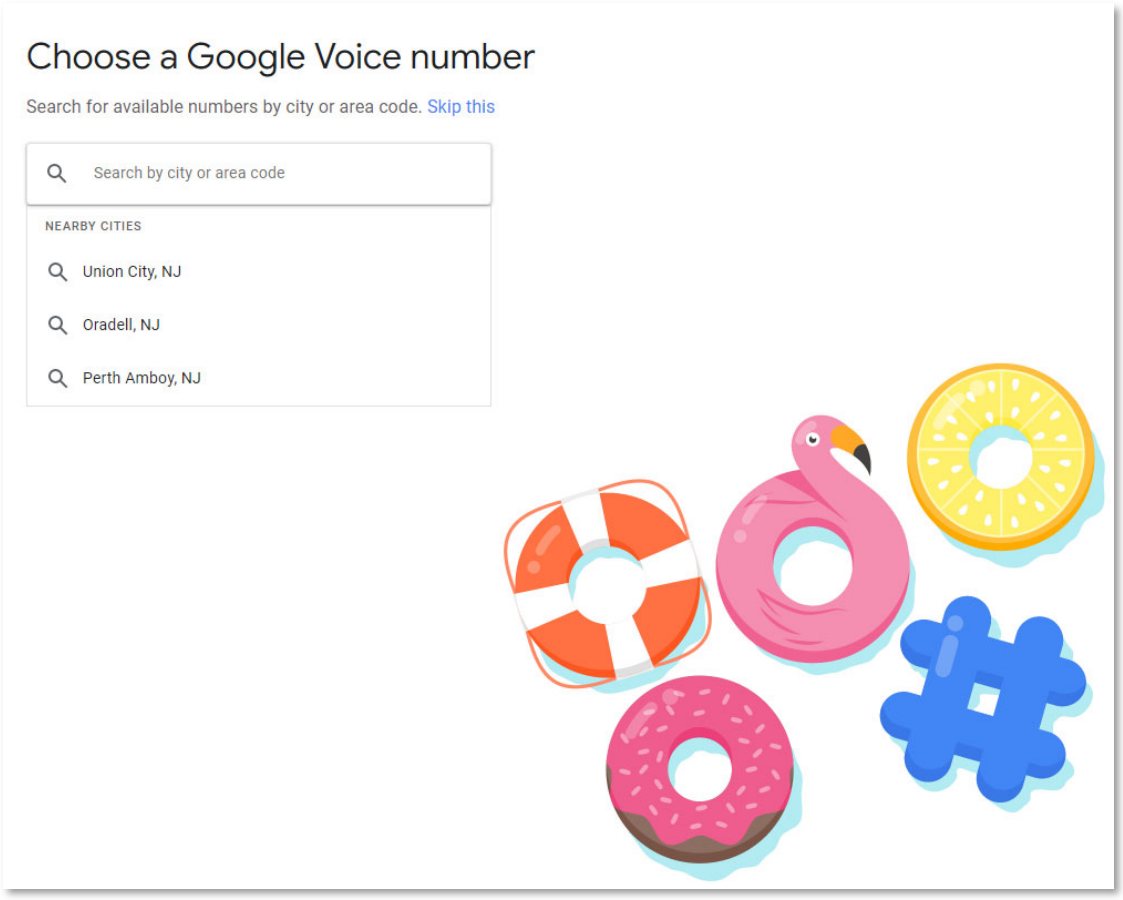
76. Google also monitors traffic conditions in this Judicial District. For example, traffic conditions between a McDonalds and the Federal Courthouse in Marshall, as shown below.



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

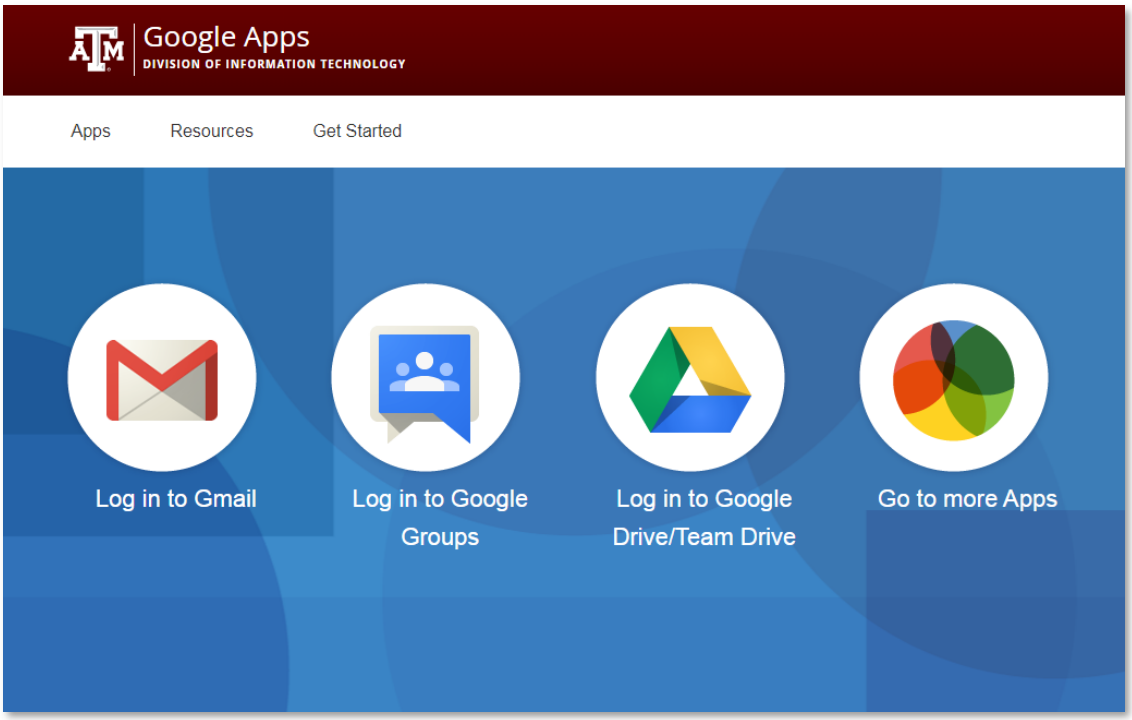
77. Separate and apart from its Google Fi mobile service, Google also provides telephone services to residents in this Judicial District through a product it calls Google Voice.[35]

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



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

78. 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

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

80. Google has purchased land in Midlothian, Texas where it is currently constructing a $600 million data center.[36]

81. Since 2007, Google has employed "hundreds" of employees in Texas, including in Austin, Texas.[37]

82. Google has at least one current office located in Austin, on North MoPac Expressway,[38] and additional office locations at University Park and Austin Children's Museum.[39]

83. Google has leased over 200,000 square feet of office space in Austin, Texas at 500 West 2nd Street.[40]

84. Google has, as of August 2020, job postings employment in Texas, including for Addison, Texas; Dallas, Texas; Midlothian, Texas; Athens, Texas; Bellville, Texas; Houston, Texas; and Austin, Texas.[41]

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[36] *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/.

[37] 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/.

[38] *See* https://www.google.com/intl/en/about/locations/?region=north-america.

[39] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtownaustin-tower/SANZSa3du8QQ4k8ytOC2rJ/.

[40] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtownaustin-tower/SANZSa3du8QQ4k8ytOC2rJ/.

[41] 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.

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

- GOOGLE LLC
- 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.

86. 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.[42]

87. Google has invested $200,000,000 in the Spinning Spur Wind Farm Project in Oldham County, Texas.[43]

88. Google provides the State of Texas with aerial imagery.[44]

[42] *See* https://fiber.google.com/cities/austin/ and https://fiber.google.com/cities/sanantonio/.
[43] *See* https://www.chooseenergy.com/blog/energy-news/google-invests-200m-in-west-texas-windfarm/.
[44] See http://www.bisconsultants.com/affordable-imagery-for-texas-government-entities-fromgoogle/.

89. Google acquired Waze in 2013,[45] 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.[46] Another non-limiting example includes the Waze partnership with the Genesis Group in Tyler to decrease emergency response times.[47]

90. 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

91. On February 21, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,118,218 (the "'218 Patent") entitled "Method and Apparatus for Providing Electronic Purse." A true and correct copy of the '218 Patent is attached as Exhibit A.

92. On November 17, 2015, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 9,189,787 (the "'787 Patent") entitled "Method and Apparatus for Conducting E-Commerce and M-Commerce." A true and correct copy of the '787 Patent is attached as Exhibit B.

93. On May 28, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,448,855 (the "'855 Patent") entitled "Method and Apparatus for Funding

[45] See https://techcrunch.com/2013/06/11/its-official-google-buys-waze-giving-a-social-databoost-to-its-location-and-mapping-business/.
[46] *See* http://dfw.cbslocal.com/2016/12/14/forth-worth-partners-with-waze-traffic-app/.
[47] *See* https://genesispulse.com/2015/10/06/the-genesis-group-joins-waze-connected-citizensprogram/.

an Electronic Purse." A true and correct copy of the '855 Patent is attached as attached as Exhibit C.

94. On January 19, 2016, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 9,240,009 (the "'009 Patent") entitled "Mobile Devices for Commerce Over Unsecured Networks." A true and correct copy of the '009 Patent is attached as Exhibit D.

95. On January March 24, 2020, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,600,046 (the "'046 Patent") entitled "Method and Apparatus for Mobile Payments." A true and correct copy of the '046 Patent is attached as Exhibit E.

96. RFCyber is the sole and exclusive owner of all right, title and interest to, or is the exclusive licensee with the right to sue for the '218, '787, '855, '009, and '046 Patents (together, the "Patents-in-Suit"), and holds the exclusive right to take all actions necessary to enforce its rights to the Patents-in-Suit, including the filing of this patent infringement lawsuit. RFCyber 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.

FACTUAL ALLEGATIONS

97. The technologies of the Patents-In-Suit were variously invented by Liang Seng Koh, Hsin Pan, Ziangzhen Zie, and Fuliang Cho. The Patents-in-Suit generally cover apparatus and methods for enabling secure contactless payment with a portable device. In one exemplary embodiment, a smart card module including a secure element may emulate a payment card over near field communications ("NFC"). For example, users may select one of a plurality of payment cards stored in a memory of the secure element and carry out a transaction via NFC at a point of service ("POS"). In another embodiment, the device may securely conduct transactions over an

open network with a payment server. By facilitating the settlement of charges using an NFC mobile device to read off data pertaining to an electronic invoice, the inventions of the Patents-in-Suit provide significant time-savings, particularly in situations where a payment process would otherwise involve more than one contact between a merchant and consumer.

98. On information and belief, Google has distributed variants of Google Pay that have included functionality to emulate a payment card and settle a transaction via NFC at least since August 2014.[48] On information and belief, Google Pay is operable on a range of mobile devices, including at least all Android and Android Wear devices running Android Lollipop 5.0 and higher.[49] The current and previous versions of Google Pay and Android Devices running Google Pay, alone and together, are non-limiting instances of the Accused Products. The Accused Products include, for example, the Google Pixel 3 XL running Google Pay. The Accused Products practice the claims of the Patents-in-Suit to improve the shopping experience of their users, and to improve Google's position in the market.

99. RFCyber 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, any prior assignees and licensees have also complied with the marking provisions of 35 U.S.C. § 287.

[48] *See* https://www.theverge.com/2015/9/10/9298795/android-pay-available-today; https://www.theverge.com/2014/10/25/7069863/retailers-are-disabling-nfc-readers-to-shut-out-apple-pay.
[49] https://support.google.com/pay/answer/7625055?co=GENIE.Platform%3DAndroid&hl=en.

COUNT I
(Infringement of the ’218 Patent)

100. Paragraphs 1 through 99 are incorporated herein by reference as if fully set forth in their entireties.

101. RFCyber has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the ’218 Patent.

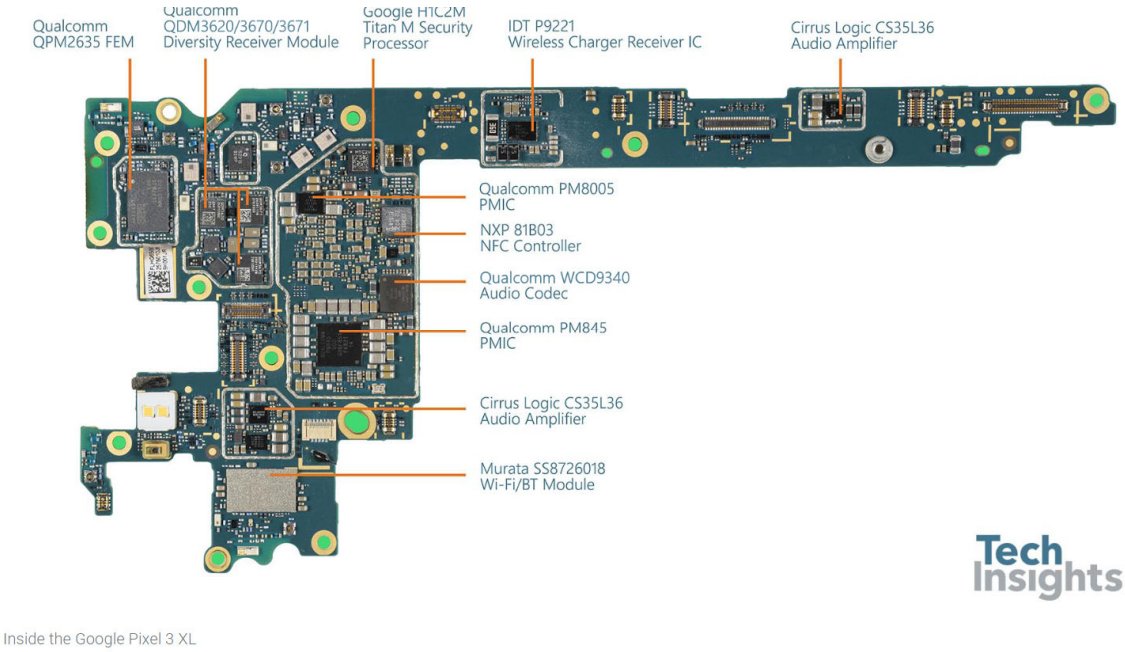
102. Google has directly infringed and continues to directly infringe the ’218 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling and/or importing into the United States products that satisfy each and every limitation of one or more claims of the ’218 Patent. Upon information and belief, these products include the Accused Products that practice the methods and systems covered by the ’218 Patent including, for example, card emulation and NFC payment functionality implemented by Google Pay running on an Android device. For example, these infrastructures infringe at least claim 1 of the ’218 Patent.

103. For example, Google has and continues to directly infringe at least claim 1 of the ’218 Patent by making, using, offering to sell, selling and/or importing into the United States products that implement a method for providing an e-purse, the method comprising: providing a portable device including or communicating with a smart card pre-loaded with an emulator configured to execute a request from an e-purse applet and provide a response the e-purse applet is configured to expect, the portable device including a memory space loaded with a midlet that is configured to facilitate communication between the e-purse applet and a payment server over a wireless network, wherein the e-purse applet is downloaded and installed in the smart card when the smart card is in communication with the payment server, the portable device further includes a contactless interface that facilitates communication between the e-purse applet in the smart card

and the payment server over a wired network; personalizing the e-purse applet by reading off data from the smart card to generate in the smart card one or more operation keys that are subsequently used to establish a secured channel between the e-purse applet and an e-purse security authentication module (SAM) external to the smart card, wherein said personalizing the e-purse applet comprises: establishing an initial security channel between the smart card and the e-purse SAM to install and personalize the e-purse applet in the smart card, and creating a security channel on top of the initial security channel to protect subsequent operations of the smart card with the e-purse SAM, wherein any subsequent operation of the emulator is conducted over the security channel via the e-purse applet.

104. The Accused Products provide a portable device, such as the Pixel 3 XL, including or communicating with a smart card pre-loaded with an emulator configured to execute a request from an e-purse applet and provide a response the e-purse applet is configured to expect. For example, the Pixel 3 includes or communicates with a smart card such as an NFC module, and/or assembly of an NFC module, secure element, processor, microcontroller, and/or memory, such as an NXP 81B03 NFC Controller. On information and belief, the smart card (*e.g.* NFC module) of the Pixel 3 XL is pre-loaded with an emulator configured to execute a request from an e-purse applet, such as a payment card applet within Google Pay, and provide a response that the applet is configured to expect.[50]

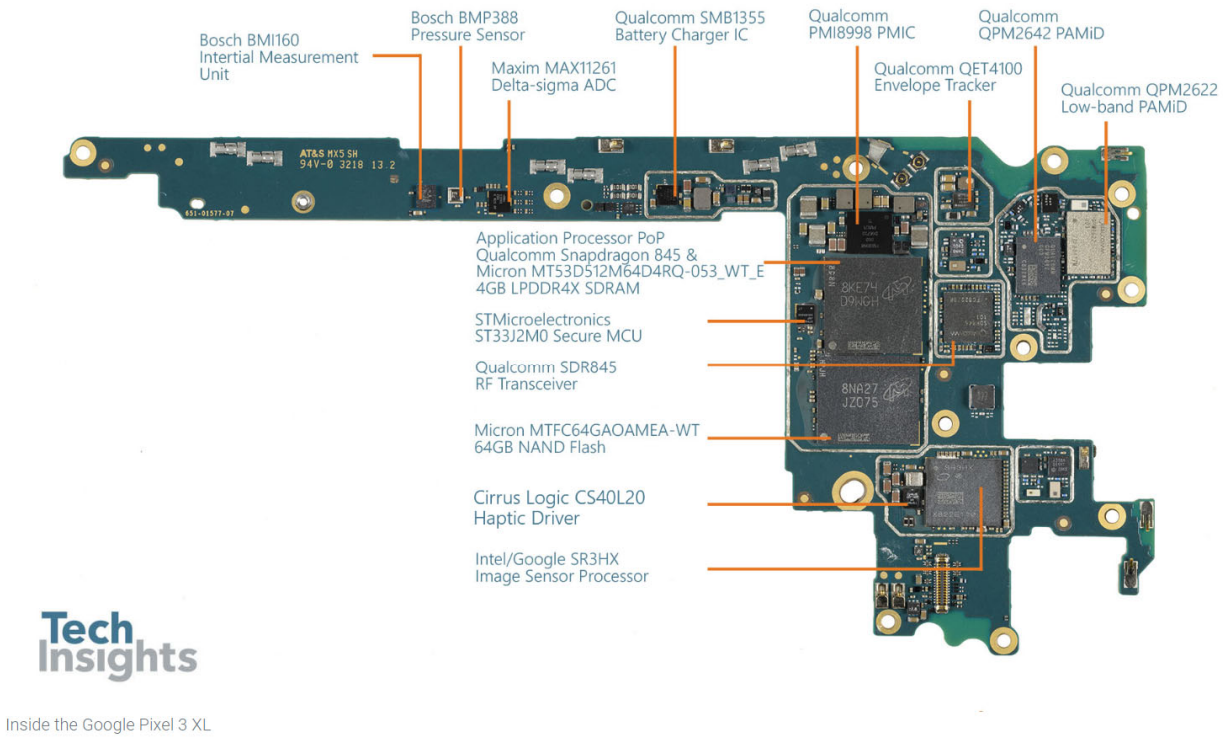
[50] *See e.g.* https://www.nxp.com/docs/en/data-sheet/PN7150.pdf.



Inside the Google Pixel 3 XL

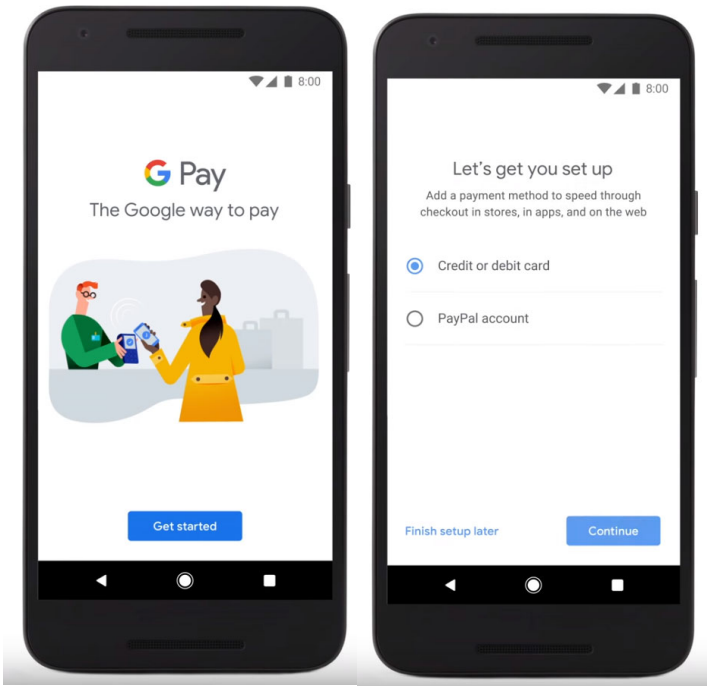
Source: https://www.techinsights.com/blog/google-pixel-3-xl-teardown

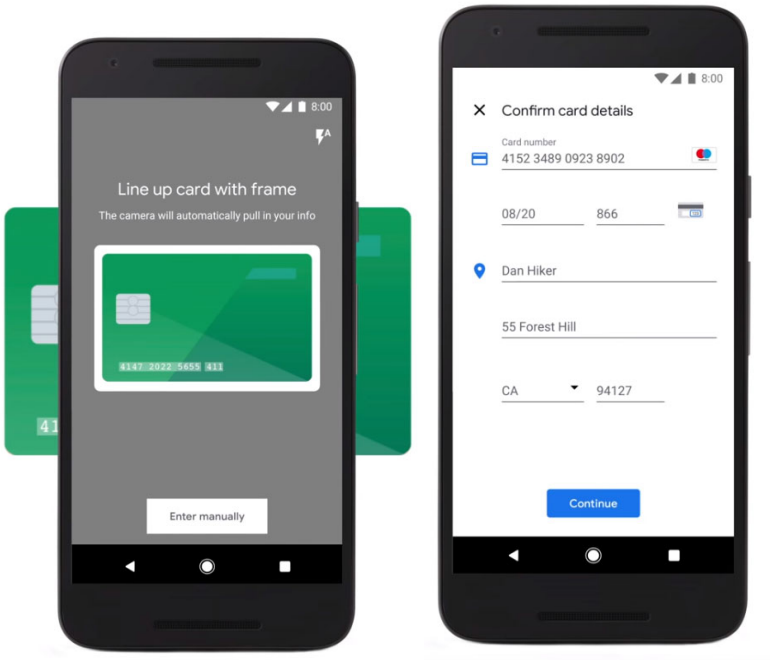
105. For example, Accused Products, such as the Pixel 3 XL, include a memory space loaded with a midlet, such as Google Pay, that is configured to facilitate communication between the e-purse applet, such as a payment card stored on the product, and a payment server, such as a merchant and/or financial institution payment server, over a wireless network. For example, on information and belief, the Pixel 3 XL comprises memory such as RAM, ROM, Flash, and/or EEPROM, including in both the NFC module and secure element.



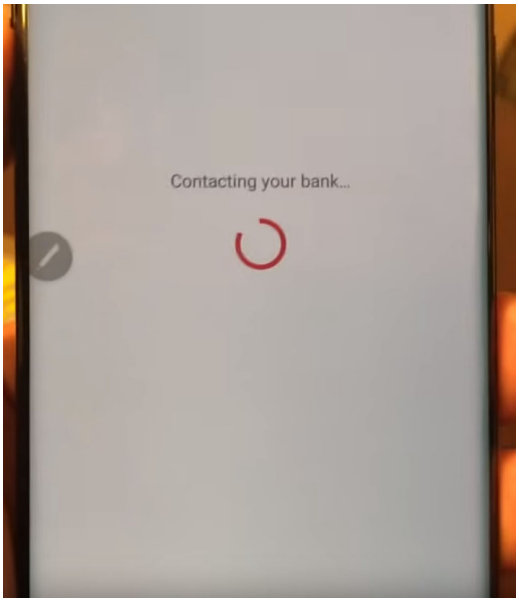
Source: https://www.techinsights.com/blog/google-pixel-3-xl-teardown

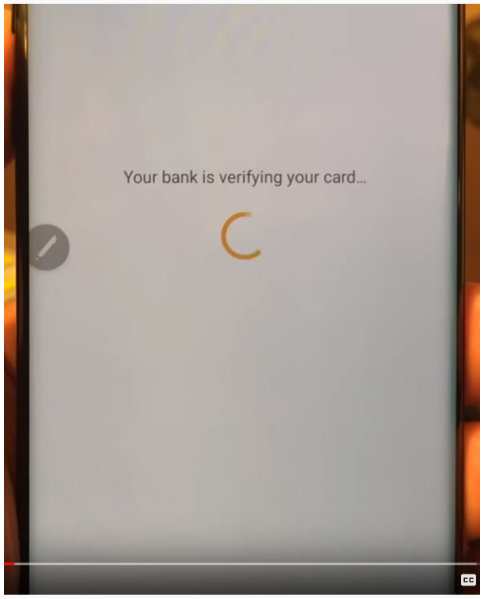
106. The Accused Products further perform a method wherein the e-purse applet is downloaded and installed in the smart card when the smart card is in communication with the payment server. For example, the Pixel 3 XL running Google Pay operates to download and install a payment card applet when the NFC module is in communication with the payment institution's server:





Source: https://www.youtube.com/watch?v=PQqLPuf3vGs





107. The Accused Products further include a contactless interface that facilitates communication between the e-purse applet in the smart card and the payment server over a wired network. For example, on information and belief, the NFC module of the Pixel 3XL includes a contactless NFC interface that facilitates communication between a payment card applet and a payment server over a wired network, such as via a payment card reader at a POS connected to a payment server via wired network.[51]

108. The Accused Products further personalize the e-purse applet (e.g. payment card applet within Google Pay) by reading off data from the smart card (*e.g.* NFC Module) to generate in the smart card one or more operation keys that are subsequently used to establish a secured channel between the e-purse applet and an e-purse security authentication module (SAM) external to the smart card. For example, on information and belief, Google Pay establishes operations keys that operate to establish secure connections between a stored payment card and an authentication

[51] *See e.g.* https://support.google.com/pay/answer/9231019.

module at a server of the card issuer and/or merchant when adding a given card to the device for the first time, and/or subsequently during transactions.[52]

109. The Accused Products further practice a method wherein personalizing the e-purse applet (*e.g.* configuring the payment card applet within Google Pay) comprises establishing an initial security channel between the smart card and the e-purse SAM to install and personalize the e-purse applet in the smart card. For example, on information and belief, Google Pay operates to establish a security channel with at least a card issuer server after a user enters details for a given payment card, and operates to install and personalize the applet in the smart card, such as to install the card with the user's personal information in the secure element of a smart card module.[53]

110. The Accused Products create a security channel on top of the initial security channel to protect subsequent operations of the smart card within the e-purse SAM, wherein any subsequent operation of the emulator is conducted over the security channel via the e-purse applet. For example, on information and belief, once a payment card applet is installed, operation of the emulator is conducted via operation of the e-purse applet. [54]

111. Google has indirectly infringed and continues to indirectly infringe one or more claims of the '218 Patent by knowingly and intentionally inducing others, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or importing into the United States products that include infringing technology such as the Accused Product that practice the systems and methods covered by the '218 Patent.

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[52] https://support.google.com/pay/merchants/answer/6345242?hl=en

[53] https://www.youtube.com/watch?v=7zS6aR22QZM.

[54] https://www.youtube.com/watch?v=Z5M5n8ZOBfg

112. Google, with knowledge that these products, or the use thereof, infringe the ’218 Patent knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the ’218 Patent by providing these Accused Product to end users for use in an infringing manner.

113. Google induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’218 Patent, while remaining willfully blind to the infringement.

114. RFCyber has suffered damages as a result of Google’s direct infringement of the ’218 Patent in an amount to be proved at trial.

115. RFCyber has suffered, and will continue to suffer, irreparable harm as a result of Google’s infringement of the ’218 Patent for which there is no adequate remedy at law, unless Google’s infringement is enjoined by this Court.

COUNT II
(Infringement of the ’787 Patent)

116. Paragraphs 1 through 99 are incorporated herein by reference as if fully set forth in their entireties.

117. RFCyber has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the ’787 Patent.

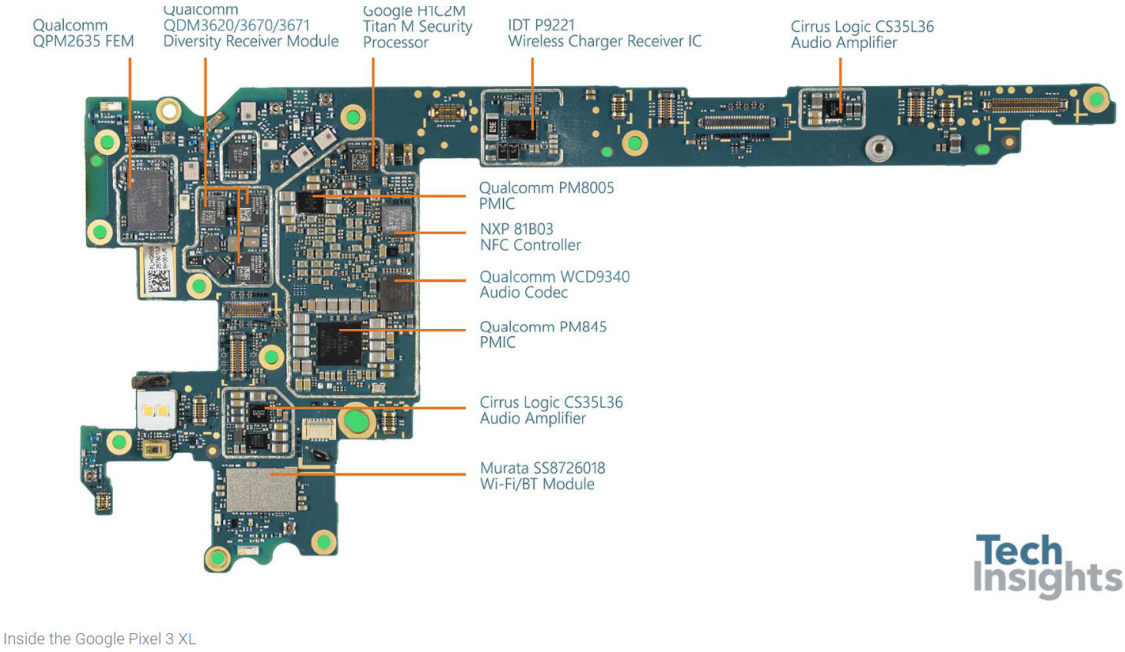
118. Google has directly infringed and continues to directly infringe the ’787 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling and/or importing into the United States products that satisfy each and every limitation of one or more claims of the ’787 Patent. Upon information and belief, these products include the Accused Products that practice the methods and systems

covered by the '787 Patent including, for example, card emulation and NFC payment functionality implemented by Google Pay running on an Android device. For example, these infrastructures infringe at least claim 1 of the '787 Patent.

119. For example, Google has and continues to directly infringe at least claim 1 of the '787 Patent by making, using, offering to sell, selling and/or importing into the United States products that comprise a portable device for commerce, the portable device comprising an emulator loaded in a smart card module for storing security values and updated transaction logs, and an e-purse applet to cause the portable device to function as an electronic purse (e-purse), wherein both of the emulator and e-purse applet are already personalized via a personalization process built on a first security channel so that the emulator is set to store a set of keys for subsequent data access authentication and the e-purse applet is configured to conduct a transaction with a network server over a second security channel; a first interface configured to perform field communication (NFC) with a reader to perform electronic commerce with the e-purse applet against a fund stored in the emulator; a second interface configured to perform mobile commerce with a payment server via an application against the fund stored in the emulator; and a purse manager midlet being executed in the portable device to act as an agent to facilitate communications between the e-purse applet and a payment server to conduct transactions therebetween.

120. The Accused Products comprise an emulator loaded in a smart card module for storing security values and updated transaction logs. For example, the Pixel 3 XL comprises an NFC Module with an emulator, such as a host card emulator, for storing security values, such as

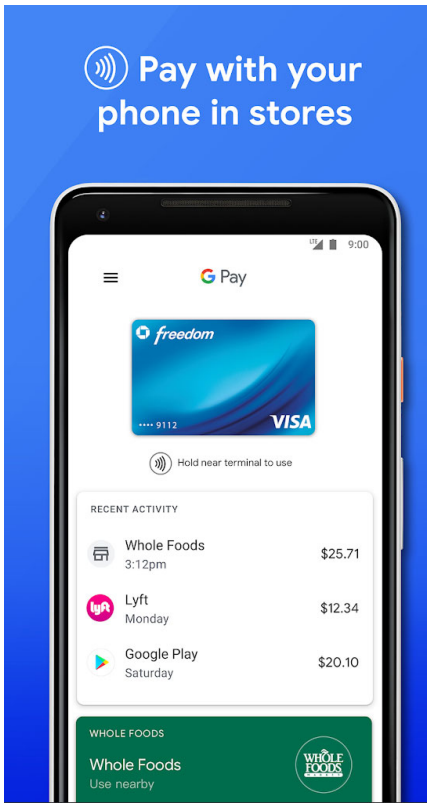
operating keys and/or a tokenized card and cryptogram, and for updating transaction logs, such as via Google Pay.[55]



Source: https://www.techinsights.com/blog/google-pixel-3-xl-teardown

See e.g. Google Pay screen capture depicting updated transaction logs:

[55] *See* https://support.google.com/pay/answer/9231020; https://support.google.com/pay/merchants/answer/6345242?hl=en/



Source: https://play.google.com/store/apps/details?id=com.google.android.apps.walletnfcrel&hl=en_US

121. The Accused Products further comprise an e-purse applet, such as a payment card applet within Google Pay, to cause the portable device (*e.g.* the Pixel 3 XL) to function as an electronic purse. For example, applets within Google Pay cause Android devices to carry out a transaction, such as via NFC.

122. The Accused Products further comprise a portable device wherein both of the emulator (*e.g.* host card emulator of the NFC module) and e-purse applet (*e.g.* payment card applet) are already personalized via a personalization process built on a first security channel so that the emulator is set to store a set of keys for subsequent data access authentication and the e-purse applet is configured to conduct a transaction with a network server over a second security channel. For example, on information and belief, the emulator and applet of a Pixel 3 XL running Google Pay are personalized during installation so that the emulator stores a set of keys (*e.g.* operating

keys and/or a tokenized card and cryptogram) for subsequent access and authentication during transactions.[56]

123. The Accused Products further comprise a first interface configured to perform field communication (NFC) with a reader to perform electronic commerce with the e-purse applet against a fund stored in the emulator. For example, the Pixel 3 XL comprises an NFC Module, such as an NXP 81B03 NFC Controller, including an NFC interface to perform electronic commerce with a card reader.[57]

124. The Accused Products further comprise a second interface configured to perform mobile commerce with a payment server via an application against the fund stored in the emulator. For example, on information and belief, the Pixel 3 XL comprises a second interface to perform mobile commerce with a payment server, such as the payment server of an issuer and/or a merchant, against a fund stored in the emulator, such as a gift card fund stored in the emulator of an NFC module via the payment servers of Google Pay-enabled applications.[58]

125. The Accused Products further comprise a purse manager midlet, such as Google Pay, being executed in the portable device to act as an agent to facilitate communications between the e-purse applet and a payment server to conduct transactions therebetween. For example, on information and belief, the Pixel 3 XL executes Google Pay to facilitate communications between payment cards (*e.g.* cards within an emulator and/or secure element of an NFC module) and a payment server (*e.g.* an issuer and/or merchant payment server) during transactions conducted via NFC and/or via Google Pay-enabled application.

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[56] https://support.google.com/pay/merchants/answer/6345242?hl=en
[57] https://www.techinsights.com/blog/google-pixel-3-xl-teardown
[58] *See e.g.* https://pay.google.com/about/where-to-use/.

126. Google has indirectly infringed and continues to indirectly infringe one or more claims of the ’787 Patent by knowingly and intentionally inducing others, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or importing into the United States products that include infringing technology such as the Accused Products that practice the systems and methods covered by the ’787 Patent.

127. Google, with knowledge that these products, or the use thereof, infringe the ’787 Patent knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the ’787 Patent by providing these Accused Products to end users for use in an infringing manner.

128. Google induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’787 Patent, while remaining willfully blind to the infringement.

129. RFCyber has suffered damages as a result of Google’s direct infringement of the ’787 Patent in an amount to be proved at trial.

130. RFCyber has suffered, and will continue to suffer, irreparable harm as a result of Google’s infringement of the ’787 Patent for which there is no adequate remedy at law, unless Google’s infringement is enjoined by this Court.

COUNT III
(Infringement of the ’855 Patent)

131. Paragraphs 1 through 99 are incorporated herein by reference as if fully set forth in their entireties.

132. RFCyber has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the ’855 Patent.

133. Google has directly infringed and continues to directly infringe the ’855 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 ’855 Patent. Upon information and belief, these products include the Accused Products that practice the methods and systems covered by the ’855 Patent, including, for example, card emulation and NFC payment functionality implemented by Google Pay running on an Android device. For example, these infrastructures infringe at least claim 1 of the ’855 Patent.

134. For example, Google has and continues to directly infringe at least claim 1 of the ‘855 Patent by making, using, offering to sell, selling and/or importing into the United States products that practice a method for funding an e-purse, the method comprising receiving a PIN from a user of a portable device, wherein the portable device is a near field communication (NFC) enabled device that includes a card module; initiating a request from a midlet embedded in the portable device after the PIN is verified, wherein the midlet sends the request to an e-purse applet; causing the e-purse applet to compose a response to the request; sending the response by the e-purse applet over a wireless network to a server administrating the e-purse, the server is configured to verify the response against an account in a financial institution across a network, a fund transfer

request is initiated by the server to the financial institution when the response is successfully verified; receiving commands from the server in responding to the fund transfer request; and causing an emulator in the portable device to update a transaction log after an authenticity of the commands is verified by the e-purse applet, wherein the e-purse in the portable device has been personalized by operations including: establishing an initial security channel between the card module and an e-purse security authentication module (SAM) external to the card module to install and personalize the e-purse applet in the card module, and creating a security channel on top of the initial security channel to protect subsequent operations of the card module with the e-purse SAM, wherein any subsequent transactions with the e-purse are conducted over the security channel.

135. The Accused Products practice a method of receiving a PIN from a user of a portable device, wherein the portable device is a near field communication (NFC) enabled device that includes a card module. For example, on information and belief, the Google Pixel 3 XL includes a card module, such as a NXP 81B03 NFC Controller, and requires a PIN to unlock, and further requires a PIN to carry out a transaction via NFC.[59]

136. The Accused Products practice a method of initiating a request from a midlet embedded in the portable device after the PIN is verified, wherein the midlet sends the request to an e-purse applet. For example, on information and belief, the Pixel 3 XL practices a method of initiating a request from Google Pay after the PIN is verified, where Google Pay sends a request to a payment card applet.[60]

[59] *See* https://support.google.com/pay/answer/7643912?co=GENIE.Platform%3DAndroid&hl=en.
[60] *See* https://developers.google.com/pay/api/android/reference/request-objects.

137. The Accused Products practice a method of causing the e-purse applet to compose a response to the request. For example, on information and belief, the payment card applet composes a response including the transaction, user, and/or device information, such as one or more operations keys, tokenized card information, and/or cryptograms.[61]

138. The Accused Products practice a method of sending the response by the e-purse applet over a wireless network to a server administrating the e-purse, the server is configured to verify the response against an account in a financial institution across a network, a fund transfer request is initiated by the server to the financial institution when the response is successfully verified. For example, on information and belief, the Pixel 3 XL performs a method of sending the response by a payment card applet to a payment server and/or gateway server over a wireless network, such a cellular network, Wireless WAN, Wireless MAN, Wireless PAN, Wireless LAN, and/or a Global Area Network. On information and belief, the payment and/or gateway server is configured to respond to the request, such as a request for funds to complete a transaction, when the response is verified.[62]

139. The Accused Products practice receiving commands from the server in responding to the fund transfer request. For example, on information and belief, the Pixel 3 XL receives commands in response to a fund transfer request, such as to communicate transaction information to a card reader.

140. The Accused Products further practice causing an emulator in the portable device to update a transaction log after an authenticity of the commands is verified by the e-purse applet wherein the e-purse in the portable device has been personalized by operations including, for

[61] *See* https://developers.google.com/pay/api/android/reference/response-objects.
[62] *See* https://developers.google.com/pay/api/web/guides/setup.

example, on information and belief, an emulator, such as a host card emulator, within the Pixel 3 XL updating a Google Pay transaction log once commands have been authenticated by an installed and configured payment card applet, such as based on operating keys, tokenized card information, and/or cryptograms.

141. The Accused Products further practice establishing an initial security channel between the card module and an e-purse security authentication module (SAM) external to the card module to install and personalize the e-purse applet in the card module. For example, on information and belief, the Pixel 3 XL personalizes payment card applets by establishing an initial security channel with a security authentication module located on or behind the card-issuer's payment server, to install and configure the payment cards with the user's personal information.[63]

142. The Accused Products further practice a method of creating a security channel on top of the initial security channel to protect subsequent operations of the card module with the e-purse SAM, wherein any subsequent transactions with the e-purse are conducted over the security channel. For example, on information and belief, an instance of Google Pay operating on the Pixel 3 XL operates to establish operating keys, tokenized card information, and/or cryptograms with which subsequent communications (*e.g.* subsequent transactions with a personalized card applet) are protected.

143. Google has indirectly infringed and continues to indirectly infringe one or more claims of the '855 Patent by knowingly and intentionally inducing others, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or

[63] *See* https://support.google.com/pay/answer/7625139?co=GENIE.Platform%3DAndroid&hl=en.

importing into the United States products that include infringing technology such as the Accused Products that practice the systems and methods covered by the ’855 Patent.

144. Google, with knowledge that these products, or the use thereof, infringe the ’855 Patent knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the ’855 Patent by providing these Accused Products to end users for use in an infringing manner.

145. Google induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’855 Patent, while remaining willfully blind to the infringement.

146. RFCyber has suffered damages as a result of Google’s direct infringement of the ’855 Patent in an amount to be proved at trial.

147. RFCyber has suffered, and will continue to suffer, irreparable harm as a result of Google’s infringement of the ’855 Patent for which there is no adequate remedy at law, unless Google’s infringement is enjoined by this Court.

COUNT IV
(Infringement of the ’009 Patent)

148. Paragraphs 1 through 99 are incorporated herein by reference as if fully set forth in their entireties.

149. RFCyber has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the ’009 Patent.

150. Google has directly infringed and continues to directly infringe the ’009 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 '009 Patent. Upon information and belief, these products include the Accused Products that practice the methods and systems covered by the '009 Patent, including, for example, card emulation and NFC payment functionality implemented by Google Pay running on an Android device. For example, these infrastructures infringe at least claim 1 of the '009 Patent.

151. For example, Google has and continues to directly infringe at least claim 1 of the '009 Patent by making, using, offering to sell, selling and/or importing into the United States products that comprise a mobile device for conducting a secured transaction over a network, the mobile device comprising: a network interface; an interface to receive a secure element; a memory space for storing at least a module and an application downloaded from the network; a processor coupled to the memory space and configured to execute the module to perform operations including: sending to a server via the network interface an identifier identifying the application together with device information of a secure element, wherein the application is downloaded from the network in the mobile device; establishing a secured channel between the secure element and the server using a key set installed on the secure element, wherein the server is configured to prepare data necessary for the application to function as designed on the mobile device; and receiving the data from the server to associate the application with the secure element, wherein the application subsequently functions in conjunction with the secure element.

152. The Accused Products comprise a network interface. For example, on information and belief, the Pixel 3 XL comprises interfaces such as the NFC interface and antenna of an NXP 81B03 NFC Controller, a Murata SS8726018 Wi-Fi/BT Module, Qualcomm QPM2646 and QPM2622 PAMiD modules, and/or a Qualcomm SDR845 RF transceiver module.[64]

[64] *See* https://www.techinsights.com/blog/google-pixel-3-xl-teardown.

153. The Accused Products further comprise an interface to receive a secure element. For example, on information and belief, the Pixel 3 XL comprises an NFC Module, such as an NXP 81B03 NFC Controller, which further comprises a secure element.[65]

154. The Accused Products further comprise a memory space for storing at least a module and an application downloaded from the network. For example, on information and belief, the Pixel 3 XL includes memory such as RAM, ROM, Flash, and/or EEPROM for storing an application downloaded from the network, such as Google Pay, applications configured to accept Google Pay, and/or payment cards within Google Pay.[66]

155. The Accused Products further comprise a processor coupled to the memory space and configured to execute the module to perform operations. For example, the Pixel 3 XL comprises a processor such as a Snapdragon 845 SoC and/or NXP 81B03 NFC Controller, coupled to memory such as RAM, ROM, Flash, and/or EEPROM.

156. The Accused Products further comprise a processor configured to execute the module to perform operations including, sending to a server via the network interface an identifier identifying the application together with device information of a secure element, wherein the application is downloaded from the network in the mobile device. For example, on information and belief, a processor of the Pixel 3 XL are configured to execute sending an identifier, such as tokenized card information, operating keys, and/or one or more cryptograms associated with an instance of Google Pay and/or a payment card within Google Pay to an issuer and/or merchant payment server.

[65] *Id.*
[66] *Id.*

157. The Accused Products further comprise a processor configured to execute the module to perform operations including establishing a secured channel between the secure element and the server using a key set installed on the secure element, wherein the server is configured to prepare data necessary for the application to function as designed on the mobile device. For example, on information and belief, a processor of the Pixel 3 XL is configured to establish a secure channel between a secure element (*e.g.* of the a secure element of its NFC Module) using a server key installed on the secure element, such as an operating key, token, and/or cryptogram associated with a payment card, and a payment server configured to prepare data sufficient to enable an NFC transaction.

158. The Accused Products further comprise a processor configured to execute the module to perform operations including, receiving the data from the server to associate the application with the secure element, wherein the application subsequently functions in conjunction with the secure element. For example, on information and belief, a processor of the Pixel 3 XL is configured to execute the module, such as Google Pay, to perform operations including receiving data from a card-issuer payment server to associate the application, such as the payment card application, with the secure element, such as by generating a device-specific account number, token, cryptogram, and/or operating key associated with the payment card. For example, on information and belief, the payment card application subsequently functions in conjunction with the secure element, such as during transactions performed via contactless payment at a point of sale.

159. Google has indirectly infringed and continues to indirectly infringe one or more claims of the ’009 Patent by knowingly and intentionally inducing others, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or

importing into the United States products that include infringing technology such as the Accused Product that practice the systems and methods covered by the ’009 Patent.

160. Google, with knowledge that these products, or the use thereof, infringe the ’009 Patent knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the ’009 Patent by providing these Accused Product to end users for use in an infringing manner.

161. Google induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’009 Patent, while remaining willfully blind to the infringement.

162. RFCyber has suffered damages as a result of Google’s direct infringement of the ’009 Patent in an amount to be proved at trial.

163. RFCyber has suffered, and will continue to suffer, irreparable harm as a result of Google’s infringement of the ’009 Patent for which there is no adequate remedy at law, unless Google’s infringement is enjoined by this Court.

COUNT V
(Infringement of the ’046 Patent)

164. Paragraphs 1 through 99 are incorporated herein by reference as if fully set forth in their entireties.

165. RFCyber has not licensed or otherwise authorized Google to make, use, offer for sale, sell, or import any products that embody the inventions of the ’046 Patent.

166. Google has directly infringed and continues to directly infringe the ’046 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 ’046 Patent. Upon information and belief, these products include the Accused Products that practice the methods and systems covered by the ’046 Patent, including, for example, card emulation and NFC payment functionality implemented by Google Pay running on an Android device. For example, these infrastructures infringe at least claim 1 of the ’046 Patent.

167. For example, Google has and continues to directly infringe at least claim 1 of the ’046 Patent by making, using, offering to sell, selling and/or importing into the United States products that practice a method for mobile payment, the method comprising: causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data, the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device; extracting the electronic invoice from the captured data in the mobile device; displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the tag; receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user; calculating a total amount by adding the additional amount to the amount in the electronic invoice; generating a payment request in the mobile device in response to the electronic invoice after the user has chosen an electronic purse (e-purse) maintained locally in the mobile device; displaying the electronic invoice on the display of the mobile device for the user to verify the payment request verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway; displaying a denial of the payment request

when the balance is less than the total amount; sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed; and displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

168. The Accused Products practice a method comprising causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data, the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device. For example, on information and belief, Google Pay causes a mobile device, such as the Pixel 3 XL, to capture data from an NFC tag, such as an NFC tag of a card reader at a POS, and allows the Pixel 3 XL to capture data embedded in the tag including an electronic invoice and settlement information, such as the merchant's payment address.

169. The Accused Products further practice a method of extracting the electronic invoice from the captured data in the mobile device. For example, on information and belief, Google Pay extracts the electronic invoice, such as the tokenized payment request identifying an amount, recipient, merchant, and financial institution.

170. The Accused Products further practice a method of displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the tag. For example, on information and belief, Google Pay displays the amount of an

invoice to be paid during a transaction on the display of a mobile device, such as the Google Pixel 3 XL.[67]

171. The Accused Products practice a method of receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user. For example, on information and belief, Google Pay receives an entry from an Android device in a transaction log, the entry including the amount of an invoice and optionally an additional amount from the user, such as a tip entered at a POS terminal.[68]

172. The Accused Products practice a method of calculating a total amount by adding the additional amount to the amount in the electronic invoice. For example, on information and belief, Google Pay calculates a total amount to be paid and recorded by adding an amount of taxes (*e.g.* sales tax) and/or tips to the amount in the electronic invoice.[69]

173. The Accused Products practice a method of generating a payment request in the mobile device in response to the electronic invoice after the user has chosen an electronic purse (e-purse) maintained locally in the mobile device. For example, on information and belief, Google Pay generates a payment request in an Android device after a user has chosen an electronic purse (*e.g.* Google Pay) maintained locally in the device. For example, given selection of a payment card applet within Google Pay, the payment card applet generates a payment token, such as by generating transaction information based on operations keys, tokenized card information, and/or cryptograms.

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[67] *See e.g.*https://developers.google.com/web/fundamentals/payments/merchant-guide/deep-dive-into-payment-request.
[68] *See e.g.* https://support.google.com/pay/answer/7644079?co=GENIE.Platform=Android&hl=en-GB&visit_id=637322422214429870-3081968095&rd=1.
[69] *See e.g.* https://squareup.com/help/us/en/article/6540-square-terminal-payments-faq.

174. The Accused Products further display the electronic invoice on the display of the mobile device for a user to verify the payment request. For example, on information and belief, Google Pay causes an android device, and/or a POS to display the amount of a transaction for a user to verify, such as by actuating a payment button, entering a PIN or other security information, or tapping the device to effect payment.

175. The Accused Products further practice verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway. For example, on information and belief, Google pay verifies a balance of existing funds or available credit by checking information stored in a secure element, without the need for sending a request to a payment gateway.[70]

176. The Accused Products display a denial of the payment request when the balance is less than the total amount. For example, on information and belief, Google Pay causes an android device to display a screen showing that a payment was declined when there are insufficient funds to settle a transaction.

177. The Accused Products further practice sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed. For example, on information and belief, Google Pay sends the payment request from the Android device to the payment gateway, such as the payment server of a card issuer and/or merchant. For example, on information and belief, when there is sufficient balance in a given payment card of

[70] *See e.g.* https://support.google.com/wearos/thread/215767?hl=en.

Google Pay, such as funds or credit available based on a value in a secure element, the payment gateway sends a message to the POS that the transaction is successful, and the POS displays a success message.

178. The Accused Products further practice displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount. For example, on information and belief, Google Pay causes an Android device to display a confirmation that the balance in the e-purse has been reduced by the total amount, such as by displaying a lower account balance.[71]

179. Google has indirectly infringed and continues to indirectly infringe one or more claims of the ’046 Patent by knowingly and intentionally inducing others, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or importing into the United States products that include infringing technology such as the Accused Product that practice the systems and methods covered by the ’046 Patent.

180. Google, with knowledge that these products, or the use thereof, infringe the ’046 Patent knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the ’046 Patent by providing these Accused Products to end users for use in an infringing manner.

181. Google induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’046 Patent, while remaining willfully blind to the infringement.

[71] *See e.g.* https://support.google.com/pay/answer/7644143?hl=en-GB&visit_id=637322422214429870-3081968095&rd=1

182. RFCyber has suffered damages as a result of Google's direct infringement of the '046 Patent in an amount to be proved at trial.

183. RFCyber has suffered, and will continue to suffer, irreparable harm as a result of Google's infringement of the '046 Patent for which there is no adequate remedy at law, unless Google's infringement is enjoined by this Court.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, RFCyber prays for relief against Defendants as follows:

a. Entry of judgment declaring that Defendants have directly and/or indirectly infringed one or more claims of each of the Patents-in-Suit;

b. An order awarding damages sufficient to compensate RFCyber for Defendants' infringement of the Patents-in-Suit, but in no event less than a reasonable royalty, together with interest and costs;

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

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

Dated: August 21, 2020

Respectfully submitted,

/s/ *Vincent J. Rubino, III*

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