

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS,
VERIZON CORPORATE SERVICES GROUP INC.,
T-MOBILE USA, INC., AT&T SERVICES, INC.,
AT&T MOBILITY LLC, and AT&T CORP.,
Petitioners,
v.

HEADWATER PARTNERS I LLC,
Patent Owner.

Case No.: IPR2024-00809
Patent 9,198,042 B2

**DECLARATION OF ERIK DE LA IGLESIA IN SUPPORT OF PATENT
OWNER'S RESPONSE**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

Executed on February 5, 2025, at Mountain View, California.



Erik de la Iglesia

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND AND QUALIFICATIONS	2
III.	LEGAL PRINCIPLES	6
A.	Claim Construction	6
B.	Burden of Proof	6
C.	Anticipation	6
D.	Obviousness	7
IV.	OVERVIEW OF THE '042 PATENT	8
V.	PERSON OF ORDINARY SKILL IN THE ART	14
VI.	CLAIM INTERPRETATION	14
A.	The intrinsic record supports my understanding of “network data service.”	17
B.	Extrinsic evidence also supports my understanding of “network data service.”	21
VII.	LIMONT’S SERVICES (SUCH AS EMAIL) ARE NOT “NETWORK DATA SERVICES.”	26

I, Erik de la Iglesia, hereby declare as follows:

I. Introduction

1. I am over the age of eighteen (18) years and otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of Patent Owner for the above-captioned *inter partes* review (“IPR”). I understand that the petition for *inter partes* review involves U.S. Patent No. 9,198,042 (“the ’042 patent”).

3. I make this declaration based on my personal knowledge, educational background and training, consideration of the materials I discuss herein, and my expert opinions.

4. My work on this matter is being billed at my normal hourly consulting rate of \$750, with reimbursement for actual expenses. My compensation is not related to the outcome of any proceeding involving the ’042 patent. I have no personal interest in the outcome of the case.

5. In preparing this declaration, I have reviewed and considered the ’042 patent, the ’042 Patent’s prosecution history, the Petition and prior art references submitted with the Petition, the declaration submitted by Dr. Houh in this proceeding, and each document cited in my declaration.

II. Background and Qualifications

6. My qualifications for forming the opinions given in this declaration are summarized here and are addressed more fully in my curriculum vitae, which is submitted as Exhibit 2002.

7. I hold a Bachelor of Science degree in Electrical Engineering from the University of Florida, and a Master of Science degree in Electrical Engineering from Stanford University. While at Stanford, I was an NSF Graduate Research Fellow. My graduate focus included VLSI CMOS architecture, high-speed circuit design, computer networks and protocols, and artificial intelligence. I have worked in several computer and electrical engineering related fields for over 25 years resulting in 68 issued U.S. patents that have been cited over 2,850 times in USPTO patent applications. Since 2003, I have served in a number of chief architect and founder roles of companies that have been acquired or gone public. My experiences include the design or implementation of networks and network-based computation and protocol systems similar to the technology of the '042 Patent, including systems for content targeting based on user behavior across devices.

8. Between December 1997 and November 1999, I was a circuit design engineer at Intel Corporation within the Mobile and Handheld Products Group. My responsibilities included working on several aspects of mobile processors and chipsets including clock and power distribution, dynamic clock frequency

selection, and the circuit design, device simulation, and validation of such features. Until March of 2000, I worked on similar functionality within the Microprocessor Products Group for the Itanium 3 and 4 products.

9. My work in power distribution included thermal modeling and predictive control of silicon devices and their packaging such as multi-tiered cooling systems for embedded, mobile, and desktop environments. Such systems included multiple tiers of thermal sensors, active and passive thermal control systems, and the feedback and analytic firmware and software control. My models were part of the development of the Thermal Design Power (TDP) metrics used by OEM and system designers to plan thermal control solutions for consumer and industrial products. The Mobile and Handheld Products Group also defined and implemented settings and policies for operations and security of devices.

10. Between March 2000 and September 2003, I worked as a logic designer and architect for WebStacks and, through acquisition, Extreme Networks. WebStacks built a fully hardware-based TCP and HTTP processing stack for network processing functions including load balancing, proxy processing, and content rewriting. I was responsible for the architecture and design of the HTTP processing engine including header extraction and processing.

11. Between August 2003 and August 2007, I worked as Founder, Chief Architect and Director of Engineering for Reconnex, later acquired by McAfee.

Reconnex built a gigabit line-rate network security analyzer capable of classification, heuristic analysis, and policy enforcement on arbitrary protocols and content types. The Reconnex product captured and analyzed content transmitted over the internet using HTTP and other protocols, including storage protocols. Design of the Reconnex system was based on a modified and customized version of the Linux kernel which included specifically designed driver source code and interfacing between the application and kernel domains. Reconnex technology was employed in the audit and compliance verticals based on its ability to quickly analyze and classify the content of transmissions and interact with protocols and communications crossing corporate and departmental boundaries. In network environments, including mixed wired and wireless environments, Reconnex technology served to audit and enforce policy settings for security and operations control and identification and analysis of communication streams.

12. Between August 2007 and September 2008, I founded Strangways, a company focused on addressing messaging security for webmail and internet messaging protocols. Products and technology developed by Strangways were sold to SendMail Inc., Iron Port (Cisco), and other companies. The Strangways product utilized a Squid caching server and ICAP content rewrite server to translate HTTP to SMTP.

13. Between September 2008 and April 2014, I worked as Chief Architect for Gridiron Systems and, through acquisition, Senior Director of Technology for Violin Memory. I held the Senior Director position with Violin Memory both before and after the company's IPO. My responsibilities included architecture and design of flash media controllers, adaptive caching design, and machine learning for application storage behavior analytics.

14. The Gridiron product was a storage accelerator used in many analytic environments such as big data architectures with constant ingest and processing of financial, consumer and IoT data. In my role as Chief Architect, I often worked with customers to implement and accelerate their analytics environments and spoke on related topics at trade shows and industry user groups. During product development, I worked with the data science team at Shopzilla to improve database and storage performance for real-time shopping recommendation and user tracking for advertising.

15. Additional information regarding my employment history and prior expert testimony is included in Exhibit 2002. As reflected in Exhibit 2002, I have consulted on several matters involving intellectual property disputes including instances of alleged patent infringement requiring analysis of source code, reviewing and analyzing patents, writing expert reports, and testifying in court. I have testified at deposition and at trial in a number of these cases.

III. Legal Principles

A. Claim Construction

16. I understand that the first step in performing a validity analysis of the patent claims is to interpret the meaning and scope of the claims by construing the terms and phrases found in those claims. I understand that the appropriate construction of a claim term is its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent and the prosecution history.

17. I understand that standard for claim construction in an *inter partes* review is the same standard as is applied in district court proceedings.

18. I understand that a determination of the meaning and scope of the claims is a matter of law. I have been informed that to determine the meaning of the claims, one should consider the intrinsic evidence, which includes the patent's claims, written description, and prosecution history.

B. Burden of Proof

19. I understand that in an *inter partes* review, the petitioner has the burden of proving unpatentability by a preponderance of the evidence.

C. Anticipation

20. I have been instructed by counsel and understand that a reference is anticipated if a single prior art reference discloses each and every claim element,

either explicitly or inherently, as arranged in the same way as in the claim. I understand that where even one claim element is not disclosed in a reference, a contention of anticipation fails.

21. I further understand that when a reference fails to explicitly disclose a claim element, that reference inherently discloses that element only if the reference must *necessarily* include the undisclosed claim element.

D. Obviousness

22. I have been instructed by counsel and understand that a combination of prior art references may render a claim obvious if, at the time of the invention, a person of ordinary skill in the art would have selected and combined those prior-art elements in the normal course of research and development to yield the claimed invention.

23. I understand that in an obviousness analysis, one should consider the *Graham* factors, including: the scope and content of the prior art; the differences between the claimed inventions and the prior art; and the level of ordinary skill in the art. I further understand the obviousness analysis is to be performed on a claim-by-claim basis. I understand that a person of ordinary skill in the art is a person of ordinary creativity, not an automaton.

24. I have been instructed by counsel and understand that obviousness requires more than a mere showing that the prior art includes separate references

covering each separate limitation in a claim under examination. I understand obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have been motivated to combine those references in a manner that would include all limitations of the challenged claim, and, in making that combination, a person of ordinary skill in the art would have had a reasonable expectation of success.

25. I also understand that an obviousness analysis must be conducted with awareness of the distortion caused by hindsight bias and with caution of arguments reliant upon *ex post* reasoning. For instance, I understand that when considering obviousness, I should put myself in the position of a person of ordinary skill in the field at the time of the invention, rather than considering new information that is known today, but was not known before the priority date of the challenged patent.

IV. Overview of the '042 Patent

26. The '042 patent makes clear that controlling provision of network data services is designed to solve the problem felt by network service providers (such as Internet service providers, or ISPs). Specifically, the “Background of the Invention” section (reproduced in its entirety below) is focused on the bandwidth problems faced by providers of data access networks.

With the advent of mass market digital communications, applications and content distribution,

many access networks such as wireless networks, cable networks and DSL (Digital Subscriber Line) networks are pressed for user capacity, with, for example, EVDO (Evolution-Data Optimized), HSPA (High Speed Packet Access), LTE (Long Term Evolution), WiMax (Worldwide Interoperability for Microwave Access), DOCSIS, DSL, and Wi-Fi (Wireless Fidelity) becoming user capacity constrained. In the wireless case, although network capacity will increase with new higher capacity wireless radio access technologies, such as MIMO (Multiple-Input Multiple-Output), and with more frequency spectrum and cell splitting being deployed in the future, these capacity gains are likely to be less than what is required to meet growing digital networking demand.

Similarly, although wire line access networks, such as cable and DSL, can have higher average capacity per user compared to wireless, *wire line user service consumption habits are trending toward very high bandwidth applications and content that can quickly consume the available capacity and degrade overall network service experience*. Because some components of service provider costs go up with increasing bandwidth, this trend will also negatively impact service provider profits.

Ex. 1001 at 1:45-2:3 (“BACKGROUND OF THE INVENTION”).¹

27. The ’042 patent teaches that the challenges that access network service providers face as a result of increasing user bandwidth consumption can be addressed, for example, by “provisioning the right amount of data bandwidth and traffic priority to [an individual] device” based on reported service “usage measures,” as well as for example by “aggregate[ing] [the] reports from many different devices” to adjust “allocations across the entire network and make global bearer channel level or base station level decisions... and bearer channel QOS allocation decisions.” Ex. 1001, 31:61-32:14. In other words, the network data service providers can effectively manage network data access for individual devices and/or across the access network as a whole by adjusting device and network settings based on reports of devices’ network data service usage.

28. This focus on the challenges faced by network data service providers (i.e., providers of network connectivity) are reflected in the challenged claims of the ’042 patent (claims 1-18), which are directed at a high level to a provider of a network data service determining whether a particular service policy setting associated with a service profile for the network data service needs to be modified

¹ All emphases (bolding, italics, underlining, etc.) in this declaration are my own unless I have stated that an emphasis was in the originally quoted document.

based on a device's service state report, and sending configuration information to the device to assist in modifying or allowing modifications to a policy setting associated with a service profile that provides for access over a wireless access network. Claim 1 is the sole independent claim, and recites:

1. A method comprising:

receiving, over a service control link, a report from a wireless end-user device, the report comprising information about a device service state;

determining, based on the report, that a particular service policy setting of the wireless end-user device needs to be modified, the particular service policy setting being stored in a protected partition of the wireless end-user device, the protected partition configured to deter or prevent unauthorized modifications to the particular service policy setting, the particular *service policy setting being associated with a service profile that provides for access by the wireless end-user device to a network data service over a wireless access network*, the particular service policy setting configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network; and

is in response to determining that the particular service policy setting needs to be modified, sending configuration information to the wireless end-user device over the service control link, the configuration information configured to *assist in modifying or allowing modifications to the particular service policy setting*.

Ex. 1001 at 19:21-45 (claim 1).

29. By allowing the network data service provider to update a user device's service policy settings, the network data service provider is able to better control how the user device makes use of network data service over the wireless access network, and can better avoid situations where "very high bandwidth applications and content... quickly consume the available capacity and degrade overall network service experience" within the wireless access network. *See* Ex. 1001 at 1:45-2:3.

30. I note that Dr. Houh alleges that "[t]he '042 patent does not identify any specific problem that it seeks to solve nor does it characterize anything within its disclosure as [a] solution." Ex. 1003 ¶34. In my view, this represents a fundamental misunderstanding of the '042 patent. For example, the '042 patent (including in portions cited by Dr. Houh himself) states that "With the advent of many mass market digital communications, applications, and content distribution, many access networks such as wireless networks, cable networks, and DSL (Digital Subscriber Line) networks are pressed for user capacity." Ex. 1001 at 1:47-55; *id.* at 1:55-1:61 (explaining that this same problem applies to wireless access networks); *id.* at 1:62-2:3 (explaining that this trend will "negatively impact service provider profits").

31. In my opinion, a POSITA would readily understand that the bulk of the disclosure of the '042 patent, as well as claim 1 of the '042 patent, is aimed at solving these problems by allowing providers of network data service (such as data services provided by network carriers such as Petitioners T-Mobile, Verizon, and AT&T) to ensure that mobile devices on their networks are configured appropriately (for example, to not unnecessarily consume excess bandwidth provided by the network carriers that would have negatively impacted profitability) in an efficient and secure manner. *See, e.g.*, Ex. 1001 at 3:47-65 (explaining that embodiments of the invention allow for “service usage policy implementation” including “measur[ing] access and/or service usage on one or more access networks; control[ing] access and/or service usage on one or more access networks,” and “implement[ing] quality of service (QOS) controls”); *id.* at 13:64-14:11 (discussing monitoring network data usage “for the purpose of provisioning the right amount of data bandwidth and traffic priority to the device,” and making “QOS allocation decisions”); *id.* at claim 1 (reciting “determining... that a particular service policy setting of the wireless end-user device needs to be modified,” which setting is “associated with a service profile that provides for access by the wireless end-user device to a network data service over a wireless access network,” and “in response to determining that the particular service policy setting needs to be modified, sending configuration information... configured to

assist in modifying or allowing modifications to the particular service policy setting”). A POSITA would understand that by securely allowing modification of the policy settings for the network data service, the network data service provider has much more control over provision over how the devices use and consume network data, and thus can take measures to alleviate user capacity concerns.

V. Person of Ordinary Skill in the Art

32. Dr. Houh alleges that a person of ordinary skill in the art, as of the priority date of the ’042 Patent, “would had a mixture of training and work experience, such as by having a Bachelor’s degree in computer science and two years of experience; or by obtaining a Master’s degree in computer science, but having only one year of experience.” Ex. 1003 at ¶43. For purposes of this declaration only, I adopt Dr. Houh’s proposed level of skill in the art.

VI. Claim Interpretation

33. While I do not believe that any terms require an expressed construction, I herein address how a POSITA would understand the scope of the claimed “network data service.”

34. A POSITA would understand that “network data service” is a term of art, and refers to a service in which access to network data is provided. Notably, “data” in this context is a reference to data accessibility (i.e., a data plan or data connectivity), as opposed to other types of network services (such as network SMS

service or network voice service). Specifically, “network data service” refers to connectivity to an access network such that data service can be used, rather than specific services that might make use of such network data services.

35. A POSITA would understand, for example, that “network voice service,” “network SMS service,” and “network data service” are related terms, and “network voice service” and “network SMS service” helps shed light on the meaning of “network data service.”² A POSITA would readily understand that “network voice service” is a service that provides for voice connectivity, such that a user can make calls with their phone. In contrast to network voice service, there are *also* services that may make use of the voice service. For example, one could call a phone psychic which would charge a per-minute fee for psychic services. Although these phone psychic services can be accessed *using* a network voice service, they would not be understood as themselves *being* “network voice service.”

36. The same is true of network SMS service. SMS (or “Short Message Service”) is a well-known service that allows users to send and receive text

² I note that network data service can, as a general matter, include voice and text services, because voice and text are “data.” However, as discussed below, in certain contexts “data service” is used to have an even more narrow understanding, as *excluding* voice or text connectivity.

messages. “Network SMS service” refers to a service that provides the ability to send and receive SMS messages generally. There are also various services that *make use of* network SMS service—for example, one can sign up with their bank to receive automated fraud alert texts. This fraud alert text service is a service that *makes use of* network SMS service to operate, but a POSITA would not understand it to itself meet the definition of “network SMS service.”

37. Similar logic applies to network data service, which refers to services that provide data connectivity over a data access network (again, like the access networks offered by Spectrum, Verizon, T-Mobile, etc.). These network service providers provide network data service, which is a service that provides data connectivity over a data access network, consistent with the claim language. *See* Ex. 1001, 19:32-35 (“the particular service policy setting being associated with a service profile that *provides for access* by the wireless end-user device *to a network data service over a wireless access network*”). Of course, the point of having network data service is to access online services, such as VoIP services, email services, or online banking services. But these services that *make use of* the service provider’s network data service (which provides network connectivity to the user) are not *themselves* network data services.

38. As discussed below, this understanding is consistent with the intrinsic record, historical and contemporaneous usages of “network data service,” as well as Petitioners’ own patents and other publications.

A. The intrinsic record supports my understanding of “network data service.”

39. Regarding the intrinsic record, both the claim language and the specification are relevant. As discussed above, the term “network data service” itself has a known meaning of a service that provides network data connectivity (i.e., connectivity to a data access network). But the surrounding claim language further emphasizes the context that the invention is aimed at providing controlled access to a “wireless access network” (such as a 4G or 5G network):

1. A method comprising:... determining... that a particular service policy setting of the wireless end-user device needs to be modified..., the particular service policy setting being associated with a service profile that *provides for access* by the wireless end-user device *to a network data service over a wireless access network*....

Ex. 1001, 19:20-45 (claim 1). The claim language itself shows not only that a “network data service” is involved, but further emphasizes the provision of “access... over a wireless access network.” A POSITA would thus understand the claims to be focused on provision of network data service (i.e., a service that

provides access to a data access network such as those provided by ISPs or other network providers).

40. The specification confirms the clear focus on the relevant service being one that provides network access / connectivity. For instance, the “Background of the Invention” section (reproduced in its entirety below) relates exclusively to the problems faced by “access networks such as wireless networks” and “wire line access networks” which are “pressed for user capacity” because, for example, “user service consumption habits are trending toward very high bandwidth applications and content that can quickly consume the available capacity and degrade overall network service experience”:

With the advent of mass market digital communications, applications and content distribution, *many access networks such as wireless networks, cable networks and DSL (Digital Subscriber Line) networks are pressed for user capacity*, with, for example, EVDO (Evolution-Data Optimized), HSPA (High Speed Packet Access), LTE (Long Term Evolution), WiMax (Worldwide Interoperability for Microwave Access), DOCSIS, DSL, and Wi-Fi (Wireless Fidelity) becoming user capacity constrained. In the wireless case, although network capacity will increase with new higher capacity wireless radio access technologies, such as MIMO (Multiple-Input Multiple-Output), and with more frequency spectrum and cell

splitting being deployed in the future, these capacity gains are likely to be less than what is required to meet growing digital networking demand.

Similarly, although wire line access networks, such as cable and DSL, can have higher average capacity per user compared to wireless, *wire line user service consumption habits are trending toward very high bandwidth applications and content that can quickly consume the available capacity and degrade overall network service experience. Because some components of service provider costs go up with increasing bandwidth, this trend will also negatively impact service provider profits.*

Ex. 1001 at 1:45-2:3. In other words, the problem the '042 patent seeks to solve is one of declining “service provider” (i.e., providers of access network connectivity) profits due to high bandwidth consumption. Usage of “high bandwidth applications and content” contribute to this problem, but the patent is not concerned with issues faced by the providers of these “applications and content”; it is instead focused on problems faced by providers of network data service.

41. The patent teaches that one solution to this problem is for the “device” to “report[] usage measures” which includes “traffic statistics, projected traffic demand, application usage, projected QOS [quality of service] demand... for the purpose of provisioning the right amount of data bandwidth and traffic priority to

the device.” Ex. 1001, 31:61-32:14. This process can also be applied to “aggregate such reports from many different devices to project needed allocations across the entire network and make global bearer channel level or base station level decisions... and bearer channel QOS allocation decisions.” *Id.* This solution is clearly focused on how an entity that provides access network connectivity can control and optimize device access to the network.

42. The other disclosures of the ’042 patent are similarly focused on problems and solutions for providers of network connectivity, not on providers of online content more generally. For instance, the specification refers to the fact that there may be “different set[s] of DAS service policies corresponding to the different types of access networks supported,” which a POSITA would understand correspond to access networks controlled by different network data service providers. See Ex. 1001 at 11:66-12:7. In other words, the service policy relates to the provision of a particular network data service over an access network (rather than some service, like email, which merely makes use of a network data service provided by a network carrier but does not itself provide network data service).

43. Furthermore, nowhere in the ’042 patent is there any discussion of how a provider of website or email services can optimize transmissions or ensure policy settings are being enforced. Instead, the patent generally focuses on network

data service, which as discussed above, a POSITA would understand to be a data connectivity service provided by a network data provider such as an ISP.

B. Extrinsic evidence also supports my understanding of “network data service.”

44. My understanding of “network data service” is further supported by extrinsic evidence, including historical and more contemporaneous usages of the term, as well as usages by Petitioners themselves.

45. Usage of the term “network data service” to refer to data connectivity service in particular (as opposed to the services that may ultimately make use of such data connectivity service) is not at all a recent development. For instance, a 1969 “Survey of Telecommunications Technology” authored by the “President’s Task Force on Communications Policy” recognized that there were “three major categories of common carrier services historically offered are telephone service, record service (telegrams, TELEX/TWX, data) and leaded circuits).” Ex. 2033 at 67. The survey further explained that “switched **network data services**” is a subset of record service which “*permits users* of the regular telephone switched network *to transmit data* using a regular telephone line and a data terminal.” *Id.* at 77. In other words, as far back as 1969, “network data service” was used as a synonym for data connectivity via an access network (in

that instance, the access network being a regular telephone network that allowed for data transmissions).

46. This historical understanding is consistent with more contemporaneous usages of the term, which both pre-date and post-date the '042 patent's 2009 priority date. For example, a 2003 publication by University of Texas Professors in collaboration with a Swedish researcher provides “an overview of data services over networks.” *See* Ex. 2034 at 1-2. In that overview, titled “Network Service Types,” the authors note that the “Internet today consists of thousands of access networks, which vary in scale from large wireline access networks... to smaller wireless access networks supporting tens to hundreds of users.” *Id.* at 2. They further note that “[t]hese access networks are interconnected by core networks (such as AT&T, WorldCom, or Sprint backbone networks) which support hundreds of millions of users).” *Id.* The paper describes two “different network data service types”—“guaranteed service and best effort service.” *Id.* (“In guaranteed service, the network provides some sort of service guarantee.... In best effort service, the network makes no promises.”). Of course, by “network service types” and “network data service types,” the paper does not mean all types of services that may be provided over the Internet—rather, it is referring specifically to data connectivity over data access networks.

47. In 2012, Consumer Action published a “Cell Phone Savvy Training Manual” (Ex. 2035), which makes clear that “network data service” is distinct from simply “downloading apps and uploading photos to social media”—rather, it is the specific *service* that allows this data connectivity in the first place. Specifically, the publication teaches that individuals may “*conserve* [their] network data service” by downloading data when on Wi-Fi service as opposed to a network carrier’s service. Ex. 2035 at 7. Of course, if “network data service” included *all* services that related to transfer of data over a network, one could not “conserve” “network data service” by downloading data on Wi-Fi. By “network data service” this publication is thus clearly referring to the service provided by the wireless network carrier (which unlike services provided by wired network carriers, were often subject to monthly limits and/or “overage” costs—*id.* at 6-7), not online services generally. This understanding is further confirmed by the reference to “smartphones requir[ing] data service, which is an additional, ongoing monthly expense.” *Id.* at 1.

48. This understanding of “network data service” is also consistent with Petitioners’ own patents. For instance, U.S. Patent No. 8,743,790 (Ex. 2036) claims priority to August 24, 2009, and is assigned to AT&T Intellectual Property I, L.P. That patent makes clear that “network data services” (as well as “voice services” and “video services”) are services “provided by the service provider,”

which a POSITA would understand to be for example, an ISP in the case of network data services (or a telephone carrier in the case of voice services, or a television service provider in the case of video services). *See* Ex. 2036 at 18:14-20 (Claim 12); *see also id.* at 1:15-16 (“Triple play services provide voice, video and data service to a subscriber from a single provider.”); *id.* at 17:30-37 (Claim 5) (distinguishing a “network data service” from “video service” and “voice service”); *id.* at FIG. 5 (noting that such “voice data, video data, and network data” services can be enabled or disabled by connecting or disconnecting a “residential gateway,” which FIG. 6 makes clear provides connectivity to network 626).

49. Likewise, U.S. Patent No. 8,208,403 (Ex. 2037, the “‘403 patent’”) claims priority to 2007, and is assigned to Verizon Patent and Licensing Inc. That patent states that “‘network service,’ as the term is used herein, is to be broadly interpreted to include any act or variety of work done for others (e.g., for compensation).” *Id.* at 1:66-2:5. However, “*network data services*” are recognized to be far narrower, and as a subset of “telecommunication services”:

A “network service,” as the term is used herein, is to be broadly interpreted to include any act or variety of work done for others (e.g., for compensation). For example, in one implementation, a network service may include *telecommunications services, such as* telephone services,

Internet services, *network data services*, radio services, television services, video services, etc.

Id.

50. Because “network data services” are a subset of telecommunications services, a POSITA would readily understand that these are data connectivity services (provided, e.g., by telecommunications companies such as Verizon) as opposed to the services that users are able to access *with* their data network connectivity (provided, e.g., by website operators such as Google or Meta, which do not act as telecommunications services providers when providing website content from Gmail or Facebook). This understanding is consistent with the plain meaning of “network data service,” as I have discussed at length above.

51. In sum, it is my opinion that “network data service” is a service that provides connectivity via a data network.³

³ I finally note, to the extent relevant, that this understanding of “network data service” is also consistent with my understanding of Headwater’s preliminary infringement contentions as submitted in district court litigation. For instance, in Headwater’s infringement contentions against Verizon, Headwater identified the claimed “service profile information” (with which the service policy setting is associated) as being “[c]arrier configuration information” associated with “APN access settings and service plan settings.” Ex. 2026 at 14; *see also* Ex. 2027 at 11 (infringement contentions against T-Mobile asserting the same); Ex. 2028 at 13 (infringement contentions against AT&T asserting the same). A POSITA would understand that APN access settings and service plan settings relate specifically to the provision of network data service in the sense that they are settings required by data service providers (such as Verizon, T-Mobile, and AT&T) for network data

VII. Limont’s services (such as email) are not “network data services.”

52. The Petition points to unspecified “configuration settings” in Limont as satisfying the claimed “service policy setting.” However, the Petition does not explain what specifically Limont’s “configuration settings” entail, or how they constitute the plain meaning (or *any* construction) of “service policy setting.” For example, while the Petition does state that Limont refers to “configuration settings” as “policy settings,” the Petition does not explain why any of these configuration/policy settings would constitute “*service* policy settings” as required by the claim. See Pet. at 28-31.

53. A POSITA would understand (as the Eastern District of Texas recently recognized—*see* Ex. 2038 at 19-20, Ex. 2039 at 17-18, and 2040 at 17-18) that, in the context of the ’042 patent, “service policy settings” are policy settings particular to the “network data service” recited in claim 1. *See id.* (claim

service plans such as the data or voice plans that the data service providers provide to consumers. *See* Ex. 2041 (<https://www.samsung.com/uk/support/mobile-devices/how-do-i-check-my-apn-mobile-internet-settings/>) (“An Access Point Name (APN) provides all the details that your device needs to connect to mobile data. If you are setting up a new device or putting your SIM card into a device for the first time, your network operator should send you their APN details in a configuration message.”); Ex. 2042 (<https://www.verizon.com/support/knowledge-base-212894/>) (“Carrier settings updates are small files that are installed on iOS devices. The carrier settings include updates to Access Point Names (APNs), MMS settings, features like tethering and default apps. Having the most up to date carrier settings is recommended for the proper functionality of the device.”).

construction orders construing “service policy setting” as a “policy setting for a network data service”). A “network data service” is the only specific type of service recited in claim 1, and a POSITA would understand that in referring to a “service policy setting,” the claim is referring to a setting for that particular “network data service.” This is consistent with the claim language, which recites that the “service policy setting being associated with a service profile that provides for access by the wireless end-user device to a network data service over a wireless access network.”

54. As discussed above, a POSITA would understand that “network data service” is a service that provides connectivity via a data network.⁴

55. The Petition and Dr. Houh point only to email and web page servers as allegedly providing a “network data service” that satisfies the claim language. *See* Pet. at 43-44 (referring to Limont’s “electronic mail server” or a server that “transfer[s] data (*e.g.*, Web pages) to mobile device 101” as constituting a server

⁴ I note that my prior declaration referred to the “network data service” as a “service that provides network data.” I agree with that original statement, but in reviewing the Patent Trial and Appeal’s Institution Decision, I believe there was some confusion regarding how a POSITA would understand the term “network data.” “Network data” refers to data provided by an access network (*e.g.*, Verizon network data), as opposed to more generally “online data” or “website data” which network data can be used to access. A POSITA would not understand, for example, the Gmail content server to be providing “network data” (even though “network data” can be used to access a Gmail content server).

providing a “network data service”). Petitioner’s expert provides the same allegation, alleging that “Limont’s policies can be specific to different services’ (such as email and web pages) data.” Ex. 1003 ¶ 458; *see also id.* ¶ 459 (“email is one type of specific data service for which policies are evaluated”); *id.* 461 (alleging that “Limont teaches policies that are specific to a ‘network data service’ in the form of an HTTP web data service” (i.e., web pages maintained by a web server)).

56. However, a POSITA would understand that hosting an email or web page server is not providing a “**network data service**,” because they are not providing **network data** (i.e., they are not providing data connectivity via a network, which is what a POSITA would understand the term “network data” in this context to mean). As noted above, a POSITA would have understood “network data service” to refer specifically to provision of a service that provides data network connectivity rather than a service that provides data which may be accessible over any number of unspecified networks (which would be so broad as to apply to nearly any computer-based services given the interconnectivity of devices).

57. The fact these email and website services would **not** be understood by a POSITA to be “network data services” is, as I have discussed above, clear from the term itself (and even further emphasized by the intrinsic record which is

focused on services offered by network service providers). For instance, a POSITA would immediately understand that a subscription for data connectivity service for a mobile device is a “network data service” subscription. In contrast, a POSITA would **not** understand a subscription for an email service (e.g., a subscription for premium Gmail services) or for a website service (e.g., a subscription to the Wall Street Journal) to be “network data service” subscriptions. This is because “network data service” has a plain meaning to a POSITA that would readily be understood as excluding services that do not provide network data connectivity such as email and website services.

58. Petitioners (as providers of network data services of the type discussed in the '042 patent) are aware of the distinction between general email and website data, on the one hand, and network data services (such as 5G network connectivity services) that involve provision of network data on the other hand, particularly in light of Exhibits 2033 and 2034 which as discussed above use “network data service” as a type of telecommunications service provided by a service provider, analogous to voice service or video service. Nevertheless, they fail to identify how Limont discloses a “network data service” under the proper interpretation that satisfies the requirements of claim 1 of the '042 patent. Instead, they identify only email and web site services as allegedly constituting the claimed “network data service.”

59. In my opinion, a POSITA would draw a clear distinction between the claimed “network data service” and a content server that provides email or website data (which data may ultimately be transmitted over a data network). I note that if “network data service” *were* interpreted to mean any service that may involve data that is transmitted over some network, then “network data service” would be implicit in data being transmitted over a network, even if “network data” (which a POSITA would understand as referring to network connectivity) isn’t being provided by the provider of the data. Such an interpretation, divorced from plain meaning as well as the context of the ’042 patent, would effectively rewrite the surrounding claim language as “...a service profile that provides for access by the wireless end-user device to a ~~network data service~~ over a wireless access network...,” because *all* data is provided by some service. The redundancy of the claim language implicit in the Petitioners’ theory is a still further reason that a POSITA would understand “network data service” to refer to a service that provides network data connectivity.

60. Accordingly, for all of the reasons discussed above, it is my opinion that Petitioners and Dr. Houh have failed to identify a “network data service” or a “service policy setting” that satisfies the claim language as a POSITA would understand those terms.