

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MAJOR DATA, UAB,

Petitioner

v.

BRIGHT DATA LTD.,

Patent Owner

Case IPR2022-00915

Patent No. 10,257,319

DECLARATION OF DR. TIM A. WILLIAMS

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

I, Dr. Tim Williams, declare as follows:

1. My full name is Tim Arthur Williams.
2. I am an industry professional with over 45 years of experience in wireless communications, computer networking and telecommunications technology. A copy of my CV is attached as Exhibit A.
3. I am currently active currently active as Chief Executive Officer at Beach Technologies, LLC (Danville, CA) a company related to intellectual property consulting.
4. I am also currently active as a Member at Calumet Venture Management (Madison, WI) a company related to the investment into start-up companies.
5. Beginning in 2004, I was the Founder and Chairman at DoceoTech Inc. (Danville, CA) which provides training for engineers in wireless, computer networking, and telephony technologies.
6. From 2008 to 2010, I was Founder and Board Member of BitRail Networks, Inc (Miami, FL). This company designed and produced computer networking equipment. One market the company served was edge devices for residential and community access.
7. From 2006 to 2015, I was Founder and Board Member of BEEcube, Inc. (Freemont, CA). This company built high speed computing and computer

networking equipment. One market the company served was networking equipment for backhaul networks used in 5G cellular networks.

8. From 2004 to 2008, I was Founder and CEO of SiBEAM, Inc. This company designed and produced wireless networking IC and equipment.

9. From 1999 to 2000, I was Interim CEO and Advisory Board Member of Atheros Communications, Inc. (Palo Alto, CA) . This company designed and produced wireless networking IC and equipment.

10. From 1998 to 2000, I was CTO of Picazo Communications, Inc. (San Jose, CA). This company built computer networking equipment to provide VoIP PBX functionality.

11. From 1991 to 1998, I was Co-Founder, CTO, VP Engineering of Wireless Access, Inc. (Santa Clara, CA). This company developed over the air communication protocols for communication between the subscriber device and the network.

12. From 1979 to 1991, I was a Member of the Technical Staff at Motorola, Inc. (Schaumburg, IL and Austin, TX). In IL, I designed protocols for Digital voice communications. In TX, I designed ICs for communications including Telecom, Wireless, Cellular and Computer Networking.

13. I have been engaged in over 200 patent related litigations since 1999. Many of these cases relate to computer networking technologies, including protocols for Internet communications and the architecture of computer networks.

14. I hold degrees from Michigan Technological University (B.S.E.E., 1976) and the University of Texas at Austin (M.S.E.E., 1982 and Ph.D., Electrical Engineering, 1985 and M.B.A., 1991).

15. I am the principal inventor on 28 U.S. Patents all of which relate to communications technologies.

16. I have been a Registered Patent Agent since 2002.

17. If called upon to do so, I could and would testify truthfully as follows:

18. Based on my experience in the art and my study of the Internet communication systems disclosed in the Challenged Patents (U.S. Patents Nos. 10,257,319 (“the ’319 Patent”) and 10,484,510 (“the ’510 Patent”), collectively “Challenged Patents”), which share the same inventors of Derry Shribman and Ofer Vilenski and a common specification), in my opinion a person of ordinary skill in the art (a “POSA” hereafter) would be an individual who, as of October 8, 2009, the filing date of the shared provisional application, had a Master’s Degree or higher in the field of Electrical Engineering, Computer Engineering, or Computer Science or as of that time had a Bachelor’s Degree in the same fields and two or more years of experience in Internet communications.

19. I understand that the Board instituted inter partes review of the Challenged Patents in IPR2021-01492 and IPR2021-01493, respectively. In the Institution Decisions, the Board applied the definition of a POSA proposed by Petitioner NetNut Ltd. as having “at least a bachelor’s degree in Computer Science or related field (or equivalent experience), and two or more years’ experience working with and programming networked computer systems” and having familiarity with “the underlying principles of Web, Internet, or network communication, data transfer, and content sharing across networks, including the HTTP and TCP/IP protocols” as of October 8, 2009. EX. 2004 at 17-18; EX. 2005 at 17-18. In my opinion, and the Board agreed (*see* EX. 2004 at 18; EX. 2005 at 18), that the proposed qualifications between my POSA definition and the Board’s POSA definition applied in the Institution Decisions is not materially different, at least in terms of affecting an institution decision in IPR2022-00861, IPR2022-00862, IPR2022-00915, and IPR2022-00916. My analysis herein does not change under either POSA definition.

20. I have reviewed each of the Challenged Patents, the file history for each of the Challenged Patents, and the file histories for related patents (EX. 2009 and EX. 2011). I have also reviewed the Petitions and exhibits thereto, the Patent Owner Preliminary Responses and exhibits thereto, and the Institution Decisions in IPR2021-01492 and IPR2021-01493 (the “NetNut IPRs” hereafter). I understand

that the Petitions and exhibits thereto in IPR2022-00861, IPR2022-00862, IPR2022-00915, and IPR2022-00916 are “copycats” to the Petitions and exhibits thereto in the NetNut IPRs.

21. I have also reviewed at least the Claim Construction Order (Dkt. 191)(the “Teso C.C. Order”), the Supplemental Claim Construction order (Dkt. 453)(the “Teso Supplemental C.C. Order”), the February 16, 2021 Order denying defendants’ Motion for Judgement on the Pleadings under Fed. R. Civ. P. 12(c) and 35 U.S.C. § 101 (Dkt. 303)(the “Teso Alice Order”), the Declaration of Dr. Vernon Thomas Rhyne (Dkt. 126-5) and the Declaration of Dr. Michael J. Freedman in Support of Defendants’ Responsive Claim Construction Brief (Dkt. 138-1) in the case of *Bright Data Ltd. v. Teso LT, UAB et al.*, Case No. 2:19-cv-00395 (E.D. Tex.)(the “Teso Litigation” hereafter). I have also reviewed my prior declaration in support of Plaintiff Bright Data Ltd.’s Claim Constructions (Dkt. 106-7), the Declaration of Dr. Kimberly Claffy in support of Defendant’s Responsive Claim Construction Brief (Dkt. 115-1), and the Court’s Claim Construction Order (Dkt. 146)(the “NetNut C.C. Order”) in the case of *Bright Data Ltd. v. NetNut Ltd.*, Case No. 2:21-cv-00225 (E.D. Tex.)(the “NetNut Litigation” hereafter).

22. Based on my experience in the NetNut Litigation, I have also reviewed each of Patent Nos. 10,491,713 (“the ’713 Patent”) and 11,050,852 (“the ’852 Patent”) and 11,044,346 (“the ’346 Patent”) and their file histories.

Background to the Challenged Patents

23. The common specification distinguishes two prior art systems. The first prior art system is the traditional use of a proxy server as an intermediary between a client device and a web server. *See* '319 Patent at 2:8-39. The second prior art system is the traditional use of a peer-to-peer system using caching client devices. *See* '319 Patent at 2:40-3:3. The common specification explains that the prior art systems are cost prohibitive and do not handle dynamic content due to the typical cache-storage methods.

24. In contrast, Bright Data's novel use of a client device as an intermediary as recited in the claims lowers costs and is able to handle dynamic content. In my opinion, it would not be obvious to a POSA to use a client device, having limited resources unlike a server, as an intermediary proxy.

Introduction to the Challenged Patents

25. All of the patents claiming priority to Provisional Application No. 61/249,624 filed on October 8, 2009 share the same specification. I agree with the Rhyne C.C. Declaration's description of the '319 and '510 Patents, which were at issue in the Teso Litigation. Each of the patent claims recites a web server. Specifically, the independent claim of the '319 Patent refers to a "first server that comprises a web server" and the independent claims of the '510 Patent refers to a "web server." In addition, each of the patent claims recites a separate server referred

to as the “**second server**” in the ‘319 and ‘510 Patents. Finally, each of the independent patent claims in the ‘319 and ‘510 Patents recites a “first client device” serving as an intermediary between the web server and the second server.

26. Based on my experience in the NetNut Litigation, I note that the ‘713 and ‘852 Patents in this same family have claims that additionally recite a “requesting client device” that is not an intermediary.

27. The ‘319 and ‘510 Patent claims recite methods comprising elements performed by the “first client device” within a **second server** ↔ **first client device** ↔ **web server** architecture as shown, for example, in the annotated claims in the following table:

‘319 Patent	‘510 Patent
<p>1. A method for use with a first client device, for use with a first server that comprises a web server that is a Hypertext Transfer Protocol (HTTP) server that responds to HTTP requests, the first server stores a first content identified by a first content identifier, and for use with a second server, the method by the first client device comprising:</p> <ul style="list-style-type: none"> receiving, from the second server, the first content identifier; sending, to the first server over the Internet, a Hypertext Transfer Protocol (HTTP) request that comprises the first content identifier; receiving, the first content from 	<p>1. A method for use with a web server that responds to Hypertext Transfer Protocol (HTTP) requests and stores a first content identified by a first content identifier, the method by a first client device comprising:</p> <ul style="list-style-type: none"> establishing a Transmission Control Protocol (TCP) connection with a second server; sending, to the web server over an Internet, the first content identifier; receiving, the first content from the web server over the Internet in response to the sending of the first content identifier; and sending the received first content, to the second server over

<p>the first server over the Internet in response to the sending of the first content identifier; and sending, the first content by the first client device to the second server, in response to the receiving of the first content identifier.</p>	<p>the established TCP connection, in response to the receiving of the first content identifier.</p>
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28. The '713 and '852 Patent claims recite methods comprising elements performed by the “requesting client device” within a **requesting client device** ↔ **second server** ↔ **first client device** ↔ **web server** architecture as shown, for example, in the annotated claims in the following table:

'713 Patent	'852 Patent
<p>1. A method for use with a requesting client device that comprises an HTTP client and is identified over the Internet by a first Internet Protocol (IP) address, for use with a first server that is a web server that is Hypertext Transfer Protocol (HTTP) or Hypertext Transfer Protocol Secure (HTTPS) server that respectively responds to HTTP or HTTPS requests and stores a first content identified by a first content identifier, for use with a second server distinct from the first web server and identified in the Internet by a second IP address, the method by the requesting client device comprising: identifying, an HTTP or HTTPS request for the first content; sending, to the second server using the second IP address over the</p>	<p>1. A method by a requesting client device that is identified over the Internet by a first Internet Protocol (IP) address, for use with a first server that is a web server that is Hypertext Transfer Protocol (HTTP) or Hypertext Transfer Protocol Secure (HTTPS) server that respectively responds to HTTP or HTTPS requests and stores a first content identified by a first Uniform Resource Locator (URL), and for use with a second server distinct from the first web server and identified in the Internet by a second IP address, the method by the requesting client device comprising: generating an HTTP or HTTPS request that comprises the first URL and a geographical location; sending, to the second server using the second IP address over the Internet, the generated HTTP or</p>

<p>Internet in response to the identifying, the first content identifier and a geographical location; and receiving, over the Internet in response to the sending, from the second server via a first client device, the part of, or the whole of, the first content.</p>	<p>HTTPS request; and receiving, over the Internet in response to the sending, from the second server via a first client device, part of, or whole of, the first content, wherein the first content comprises a web-page, an audio content, or a video content.</p>
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29. The steps of claim 1 in each of the Challenged Patents are performed by an intermediary client device – a “**first client device**” – located between the web server and the second server. As discussed below, the common specification discloses a “client device” may be, for example, a requesting client device or an intermediary client device.

Review of the Common Specification

30. The common specification of the Challenged Patents provides several exemplary embodiments in the detailed description and the figures showing that both servers and client devices can be configured to operate as intermediaries in a computer ↔ server ↔ computer or computer ↔ client device ↔ computer pathway. For example, Figure 1 and the associated discussion show a proxy server between one or more client devices and a web server in a communication pathway. *See e.g.*

'319 Patent at Fig. 1 and 2:8-15 (“One solution that has been in use is called a "proxy". FIG. 1 is a schematic diagram providing an example of use of a proxy within a network 2. A proxy, or proxy server 4, 6, 8 is a device that is placed between one or more clients, illustrated in FIG. 1 as client devices 10, 12, 14, 16, 18, 20, that request data, via the Internet 22, and a Web server or Web servers 30, 32, 34 from which they are requesting the data.”)

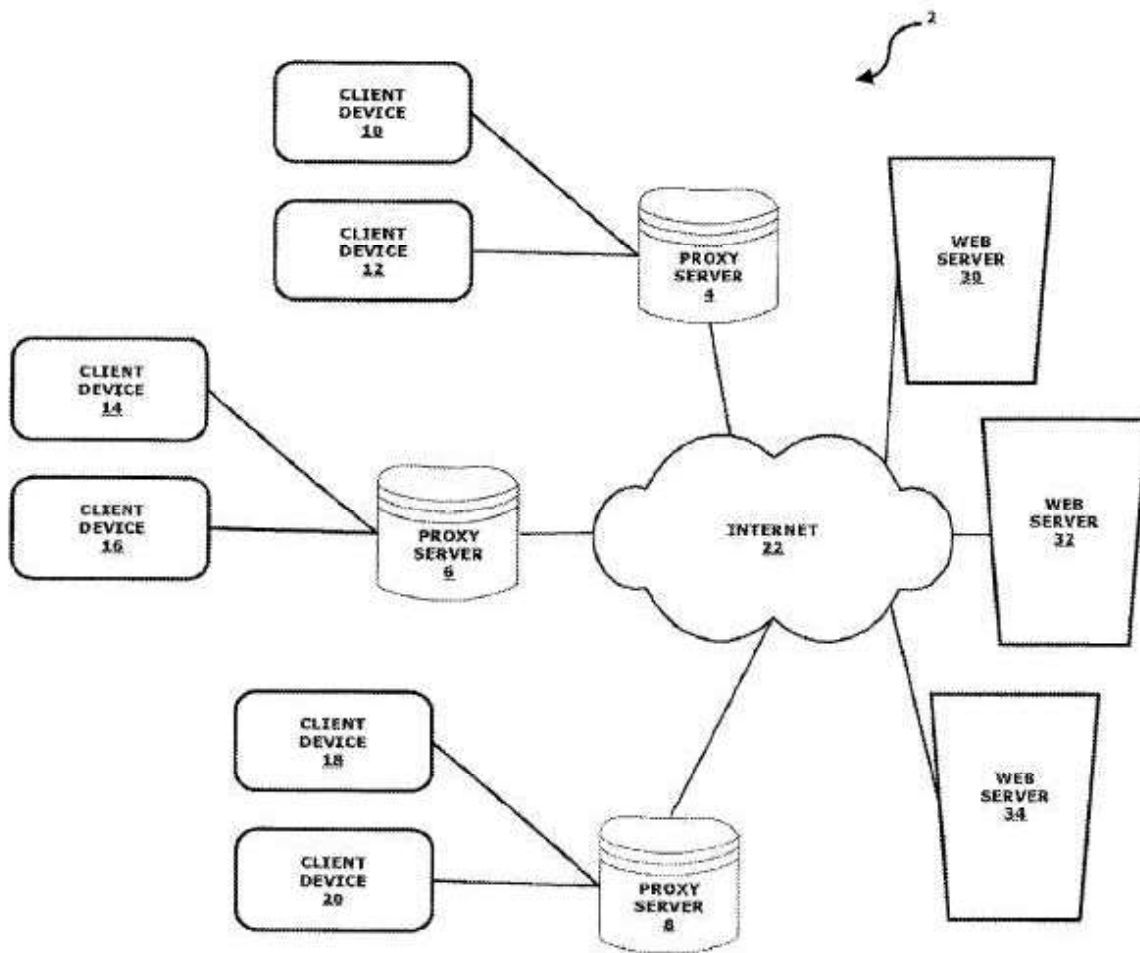


FIG. 1

31. Similarly, Figure 3 shows an exemplary embodiment of network 100 with an agent serving as an intermediary between a client and web server. As described in the specification, the communication network comprises communication devices that can serve as a client, peer, or agent, as well as separate servers and web servers:

An example of such a communication network **100** is provided by the schematic diagram of FIG. 3. The network **100** of FIG. 3 contains multiple communication devices. Due to functionality provided by software stored within each communication device, which may be the same in each communication device, each communication device may serve as a client, peer, or agent, depending upon requirements of the network 100, as is described in detail herein. It should be noted that a detailed description of a communication device is provided with regard to the description of FIG. 4.

....

The communication network 100 also contains a Web server 152. The Web server **152** is the server from which the client **102** is requesting information and may be, for example, a typical HTTP server, such as those being used to deliver content on any of the many such servers on the Internet. It should be noted that the server **152** is not limited to being an HTTP server. In fact, if a different communication protocol is used within the communication network, the server may be a server capable of handling a different protocol. It should also be noted that while the present description refers to the use of HTTP, the present invention may relate to any other communication protocol and HTTP is not intended to be a limitation to the present invention.

The communication network **100** further contains an acceleration server **162** having an acceleration server storage device **164**.

'319 Patent at 4:41-5:10.

As each communication device is configured to operate as a client, agent or peer as necessary, in my opinion, a POSA would understand client 102 and agent 122 to both be client devices.

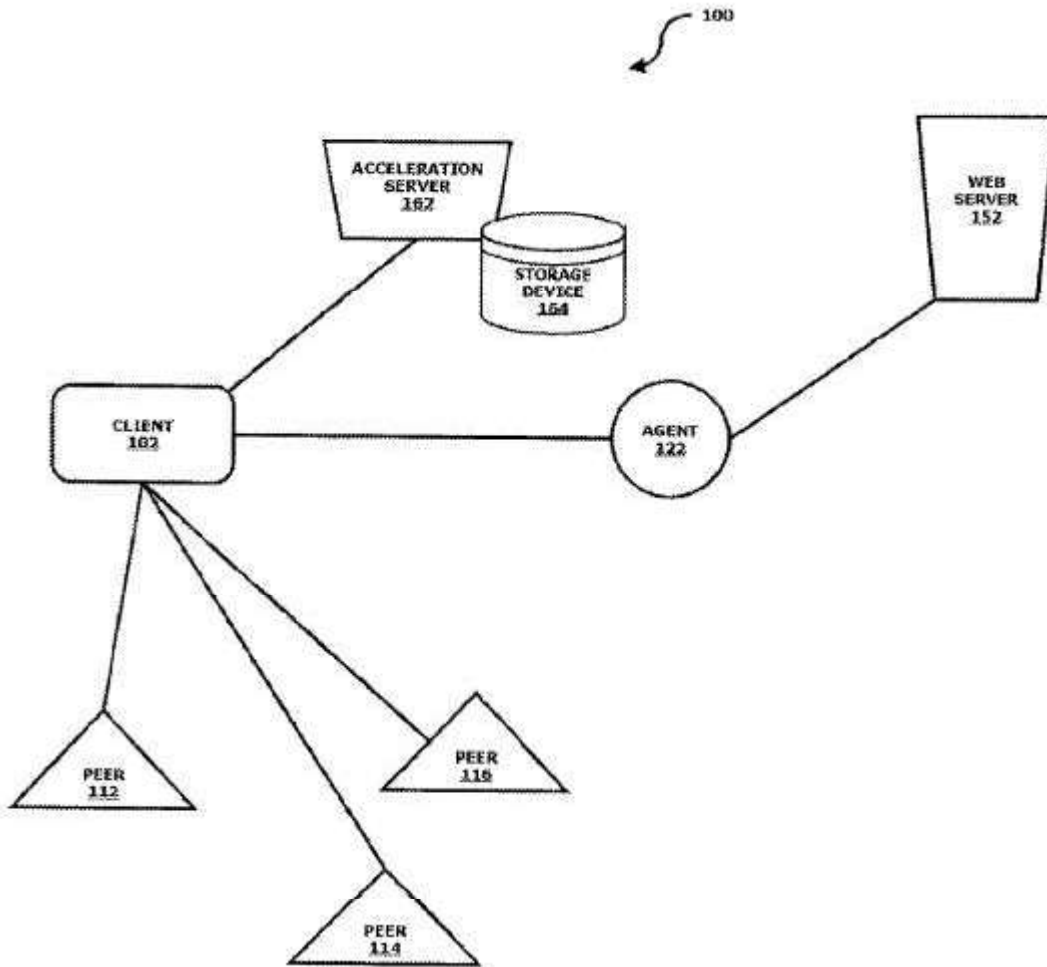


FIG. 3

32. As shown in Figure 3, agent 122, in some embodiments, is a client device which can receive requests for content intended for web server 152. *See, e.g.,* '319 Patent at 5:21-29. The common specification also describes that the 'agent' can

request this content directly from the web server. *See, e.g.*, '319 Patent at 15:62-16:11.

33. The specification discloses how a communication device can be configured to serve as a client, agent, and peer. *See* '319 Patent at 4:44-50; 5:21-29; *see also* '319 Patent at 9:12-50. For example, the specification discloses, when executing the fetching method, the requesting client device may be executing the client module 224 disclosed in FIG. 6, while the proxy client device may be executing the agent module 228 disclosed in FIG. 6.

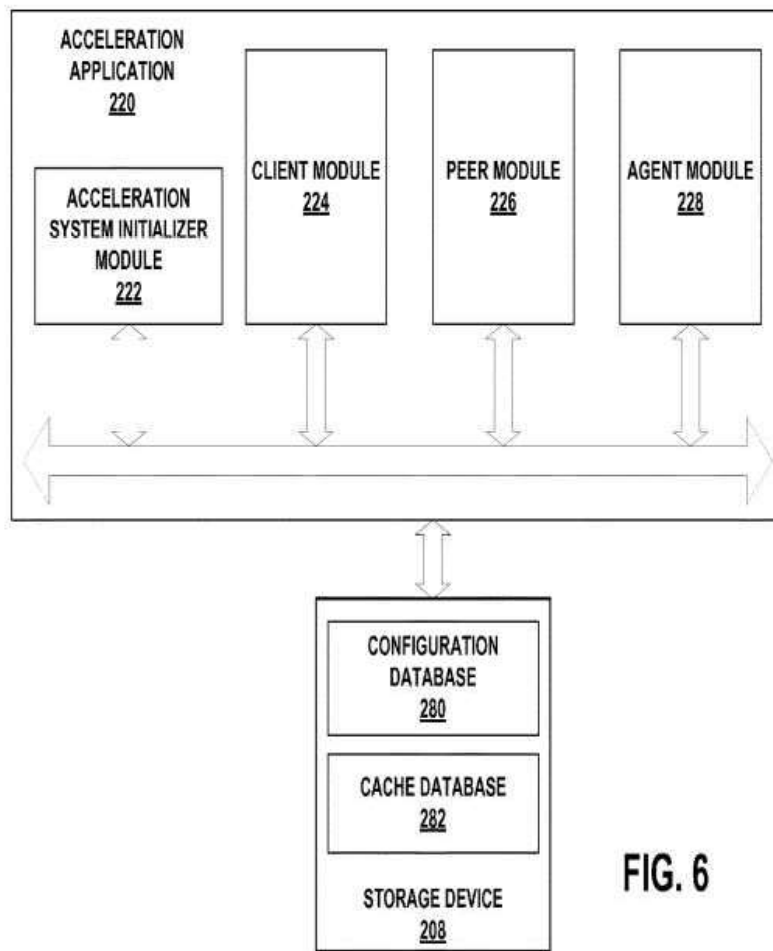
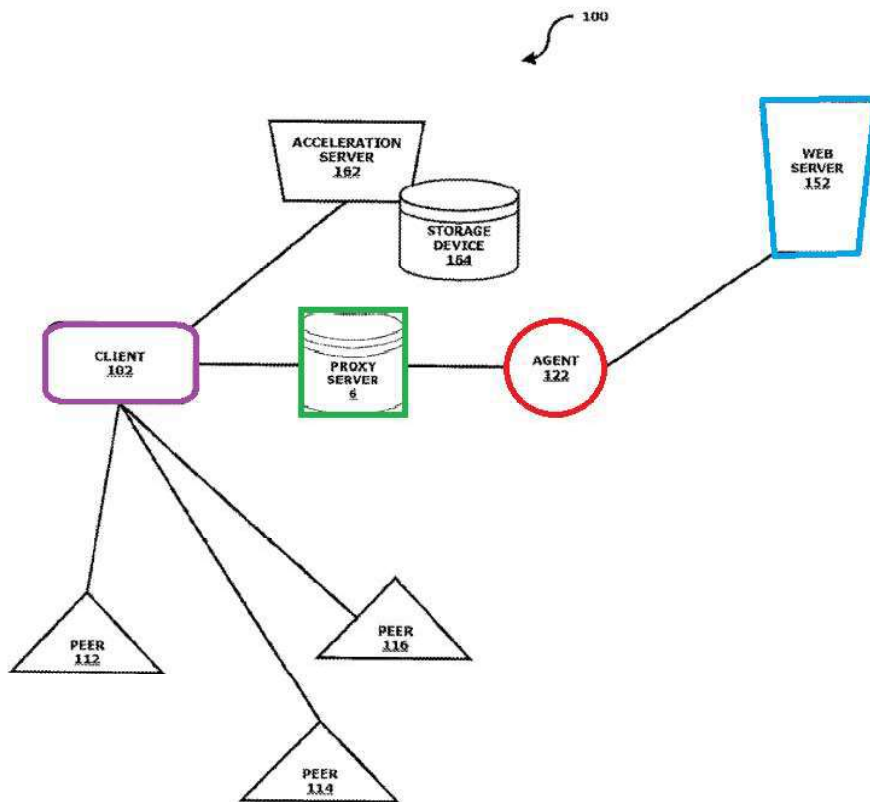


FIG. 6

34. In my opinion, upon reviewing the common specification in general, and Figures 1 and 3 in particular, that proxy server 6 of Figure 1 could be inserted between client 102 and agent 122 of Figure 3, as shown below in a modified version of Figure 3. A POSA would understand the **requesting client device** ↔ **second server** ↔ **first client device** ↔ **web server** corresponds to client 102 ↔ proxy server 6 ↔ agent 122 ↔ web server 152, as annotated in the modified figure below. Therefore, a POSA would understand the common specification discloses a **requesting client device** ↔ **proxy server** ↔ **proxy client device** ↔ **web server** architecture.



Claim Construction for “client device”

35. The Board preliminarily construed term “client device” as a “communication device that is operating in the role of a client.” EX. 2004 at 19; EX. 2005 at 22.

36. Based upon the common specification, in my opinion, a POSA would understand the term “client device” to mean a “consumer computer.” *See, e.g.*, ‘319 Patent at 2:44-46 (“In the network 50, files are stored on computers of consumers, referred to herein as client devices.”). Alternatively, a POSA would understand the term “client device” to mean a “consumer communication device”. In my opinion, these proposed constructions are consistent with the claim language, the specification, and the prosecution histories distinguishing servers from client devices.

37. In my opinion, a POSA would understand a client device is a communication device in the context of the specification. This is consistent with the Court’s constructions in the Teso Litigation and in the NetNut Litigation. EX. 1017, EX. 1020, EX. 2006. As described in the specification, “each communication device may serve as a client, peer, or agent” (‘319 Patent at 4:48-49) which in my opinion, informs a POSA that client 102, peers 112, 114, 116, and agent 122 are all “client devices” in the context of the specification. *See also* ‘319 Patent at 4:44-50; 5:21-29.

38. In the NetNut Litigation, Defendant NetNut Ltd. proposed a construction of “client” as “a device operating in the role of a client”, but the Court expressly rejected removing the word “communication” from its prior construction in the Teso Litigation. EX. 2006 at 14. In my opinion, a POSA would understand that ‘communication device’ has a special meaning in the context of the specification as referring to a ‘client device’.

39. The specification discloses HOW a communication device can be configured to serve as a client, agent, and peer. *E.g.*, ‘319 Patent at 4:44-50; 5:21-29; 9:12-50. For example, as discussed above, the specification discloses a **requesting client device** ↔ **proxy server** ↔ **proxy client device** ↔ **web server** architecture. The specification explains, when executing the fetching method, the requesting client device may be executing the client module 224 disclosed in FIG. 6, while the proxy client device may be executing the agent module 228 disclosed in FIG. 6. Therefore, in my opinion, A POSA would understand in the context of the ‘319 and ‘510 Patents, a client device is a consumer computer with specific software to operate in accordance with the claims.

40. In the specification, this software is disclosed, for example, in Figure 6 showing acceleration application 220 on communication device 200. Figure 6 and the associated text disclose communication devices having client, peer, and agent modules, but no server module. In my opinion, a POSA would understand from the

specification that one “client device” may be the requesting client device and another “client device” may be the proxy client device. In my opinion, a POSA would understand the term “client device” to have a consistent definition for each of these roles.

41. With respect to the modified version of Figure 3 annotated above, in my opinion, a POSA would understand that client 102 corresponds to the requesting client device, i.e., a communication device.

42. With respect to the modified version of Figure 3 annotated above, in my opinion, a POSA would understand that agent 122 corresponds to the proxy client device. The agent 122 is a “communication device” closest to the web server 152 (*e.g.*, ‘319 Patent 5:27), although a different communication device may be selected to be the agent (*e.g.*, ‘319 Patent at 5:30-34). In my opinion, agent 122 is a “client device”, i.e., a communication device.

43. In the context of the specification, a client device would be understood to be, more specifically, a consumer computer like a laptop or a smartphone. *See, e.g.*, ‘319 Patent at 2:44-46 (“In the network 50, files are stored on **computers of consumers**, referred to herein as **client devices**.”)(emphasis added). In my opinion, the specification explicitly states that “computers of consumers” are “referred to herein as client devices” and the term “client devices” is used in the claims. *See, e.g.*, ‘319 Patent at 2:44-46. Therefore, in my opinion, a POSA would understand a “client

device” is a consumer computer in the context of the specification. This understanding is also consistent with statements made by Applicant during prosecution of the parent application that issued as Patent No. 10,069,936, further discussed below. In my opinion, in the context of the specification, a POSA would understand that a consumer device is distinguished from a commercial device. A POSA would also understand that a consumer device is not a dedicated proxy server.

44. A “consumer” is commonly defined as “a person who buys goods or services for their own use” or “someone who buys goods or services for personal use”. *E.g.*, <https://dictionary.cambridge.org/us/dictionary/english/consumer> (EX. 2007) and <https://www.collinsdictionary.com/us/dictionary/english/consumer> (EX. 2008). This is also consistent with statements made by Applicant during prosecution of the parent application that issued as Patent No. 10,069,936, where the applicant stated that client devices are “typically consumer owned and operated.” EX. 2009 at 163.

45. Further, in my opinion, given that the above recited architectures in the ‘319 and ‘510 Patent claims distinguish between client devices and servers (e.g. **proxy server** ↔ **proxy client device** ↔ **web server**) a POSA would understand that the mere inclusion of three interchangeable general use computers in pathway such as a generic **computer** ↔ **computer** ↔ **computer** architecture would not by itself disclose the recited architecture of the Challenged Patents. The Court repeatedly

acknowledged that a client device is not merely a general-purpose computer. *E.g.*, EX. 2006 at 14-15.

46. In my opinion, the recited architecture in the claims of the Challenged Patents distinguishes the novel use of a client device, rather than a proxy server, as an intermediary. This understanding is consistent with the Teso Alice Order finding the claims of the '319 and '510 Patent not abstract. EX. 2012 at 8-9 (“If the claimed methods in this case were simply the receipt and forwarding of information over the Internet, Teso might have a compelling argument. However, it is the use of non-traditional client devices that transforms the Asserted Claims into non-abstract subject matter.”) This understanding is also consistent with the Teso C.C. Order, the Teso Supplemental C.C. Order, and the NetNut C.C. Order. EXS. 1017, 1020, 2006.

47. In my opinion, a POSA would understand that a client device is typically portable, like, for example, a laptop or a smartphone. I also agree with the applicant’s statements during prosecution that a client device is not a dedicated network element, unlike a server. I also agree with the applicant’s statements during prosecution that a client device typically uses a single connection, unlike a server. I also agree with the applicant’s statements during prosecution that a client device is resource limited (e.g., bandwidth and storage), unlike a server.

48. In my opinion, a POSA would understand that a client device is typically understood to be (a) regularly switched off and taken offline; (b) capable

of processing only a limited number of requests for another device at any given time, which may for example include a single user login; and/or (c) for acceptance of lesser fault tolerance, lesser reliability, and lesser scalability, prioritizing value to client device users over system costs.

49. In my opinion, a POSA would understand “client” to be consistent with its plain and ordinary meaning in the context of “client device” discussed above. A POSA’s understanding of client and client device is further evidenced by extrinsic materials including the February 17, 2015 “Network Fundamentals Study Guide” with a definition of client as “an application that runs on a personal computer or workstation and relies on a server to perform some operations.” <https://www.webopedia.com/reference/network-fundamentals-study-guide/#topologies> (EX. 2010).

50. In my opinion, given the specifications discussion of problems associated with the prior art system of using a proxy server as an intermediary (*e.g.*, ‘319 Patent at 2:8-39) a POSA would NOT consider a proxy client device to encompass a proxy server.

51. In my opinion, a POSA would understand there are structural differences between client devices and servers in the context of the specification and I have seen no contradictory disclosure in the specification or in the prosecution

histories. Rather, client devices are repeatedly distinguished from servers in the specification and the prosecution histories.

52. For example, Figure 1 is prior art. '319 Patent at 3:66-67. The exemplary end-points in the architecture of Fig. 1 are clients devices 14,16 and web server 32. These end-points never change roles. In my opinion, a POSA would understand that client devices 14,16 are client devices and not servers; and a POSA would understand that web server 32 is a server and not a client device. The exemplary intermediary is proxy server 6. In my opinion, a POSA would understand that proxy server 6 is a server and not a client device. As shown in Figure 1, proxy server 6 (i) receives requests from client devices 14,16 and (ii) sends requests to web server 32.

53. Figure 3 is an exemplary embodiment of the present invention. '319 Patent at 4:3-5. The exemplary end-points in the architecture of Fig. 3 are client 102 and web server 152. The end-points never change roles. In my opinion, a POSA would understand that client 102 is a client device and not a server; and a POSA would understand that web server 152 is a server and not a client device. The exemplary intermediary is agent 122. In my opinion, a POSA would understand that agent 122 is a client device and not a server. As shown in Figure 3, agent 122 (i) receives requests from client devices and (ii) sends requests to web server 152.

54. Upon reviewing the specification in general, and Figures 1 and 3 in particular, a POSA would understand that proxy server 6 must be structurally different from agent 122. In my opinion, these figures inform a POSA that a server is not a client device and that a client device is not a server. This understanding is consistent with the prosecution history as well. For example, in each of the Notices of Allowance, the examiner acknowledged that the “environment” in which the methods are performed is novel. *See, e.g.*, Notice of Allowance dated 1/23/2019, IPR2021-01492, EX. 1002 at 50; Notice of Allowance dated 10/3/2019, IPR2021-01493, EX. 1002 at 41; Notice of Allowance dated 6/29/2018, EX. 2009 at 44. This understanding is also consistent with the Court’s Teso Alice Order acknowledging the non-traditional use of client devices in this particular architecture makes the methods non-abstract. EX. 2012 at 8-9. In my opinion, a POSA would understand that a proxy client device is not the same as a proxy server.

55. The patent prosecution history of the parent, Patent No. 10,069,936, clearly distinguishes client devices from servers. During prosecution, the examiner had rejected then-pending claims over the Garcia reference. *See, e.g.*, EX. 2009 at 458. Applicant responded by amending the claims to specify that the ‘devices’ being used as intermediaries are ‘clients’ in contrast to the teachings of Garcia. EX. 2009 at 215. As Applicant stated, the “the ‘device’ was equated in the Garcia reference to the cache server 306, which is clearly **a dedicated device and performs a server**

functionality. The Garcia reference is silent, and actually teaches away from identifying and using another client device for supporting a content request by a specific client.” EX. 2009 at 215 (emphasis in original).

56. The examiner responded that the arguments are moot in view of the new ground(s) of rejection. EX. 2009 at 172. The examiner conceded that “Garcia fails to teach a group of clients for data communication between the web server and a requesting client via one or more clients selected from the group and [] the selected client receiving the content from the web server and [] the requesting client receiving the content from the selected client.” EX. 2009 at 174.

57. In my opinion, this concession shows that the examiner recognized a server cannot be equated to a client device regardless of the role being performed at a given moment in time. This understanding is consistent with other statements by Applicant during prosecution as, for example, discussed below.

58. Applicant also stated that “[t]here is a clear distinction in the art and as taught by the Garcia reference between clients and servers.” EX. 2009 at 163. Applicant stated that “[c]lient devices, such as client 105 in the Garcia reference, are end-units that request information from servers, use client-related software such as Web browser software, communicate over the Internet using ISP connection, and are typically **consumer owned and operated...**” EX. 2009 at 163 (emphasis added). “[A] client device typically connects to the Internet via an ISP using a single

connection.” EX. 2009 at 163. “Clients are inherently [re]sources limited, such as in bandwidth and storage capability.” EX. 2009 at 164.

59. Applicant clearly distinguished servers from client devices: “In contrast, server devices are known in the art to be dedicated devices to store information objections, to be provided to clients upon request.” EX. 2009 at 163.

60. In the Notice of Allowance, the examiner acknowledged that “the limitations of the independent claims, **within its environment**, is allowable subject matter over the prior art, in light of the specification”. EX. 2009 at 44 (emphasis added).

61. In my opinion, upon reviewing the prosecution history of the ‘936 Patent, a POSA would understand that there are structural differences between servers and client devices in the context of the specification.

62. The patent prosecution history of the ’319 Patent further shows that servers and client devices are not interchangeable general use computers. Applicant stated that “a few types of devices (servers / clients) communicating over a network.” IPR2021-01492, EX. 1002 at 281. The applicant argued that “the claims involve specific networking of physical elements such as servers and clients, connected via various networks forming a specific structure and relationships, which are physical apparatuses, and are NO[T] a ‘generic computer’ as stated in the Action.” *Id.* In addition, the applicant further asserted that “the Examiner does not sufficiently

establish that the ‘ordered combination’ of the recited elements also fails to ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* “Specifically, the claimed components as a combination perform functions that are not merely generic - It is respectfully submitted that the conventional arrangement involves fetching data by a client device from a server device, while the claims disclose a server receiving information from another server via a client device, which is unique and solves a specific problem such as anonymity when fetching information.” *Id.* at 282-283.

63. In the Notice of Allowance, the examiner acknowledged that “the limitations of the independent claims, **within its environment**, is allowable subject matter over the prior art, in light of the specification”. IPR2021-01492, EX. 1002 at 50 (emphasis added).

64. In my opinion, upon reviewing the prosecution history of the ‘319 Patent, a POSA would understand that there are structural differences between servers and client devices in the context of the specification.

65. In the patent prosecution history of the ‘510 Patent, in the Notice of Allowance, the examiner again acknowledged that the “environment” of the claimed methods was novel over the prior art. IPR2021-01493, EX. 1002 at 41.

Claim Construction for “second server”

66. The Board preliminarily construed the term “second server” as “server that is not the client device”, with the clarification that “second server” is a “device that is operating in the role of a server and that is not the client device.” EX. 2004 at 19; EX. 2005 at 22. During the NetNut Litigation, NetNut proposed that the term “second server” should mean “a device operating in the role of a server”. The Court stated it “hereby expressly rejects Defendant’s proposal of referring generically to “a device,”... ” EX. 2006 at 20. The Court reiterated that “second server” means “server that is not the client device.” EX. 2006 at 23.

67. As discussed above, consistent with the Teso C.C. Order, the Teso Supplemental C.C. Order, the Teso Alice Order, and the NetNut C.C. Order, a POSA would understand that the recited architectures in the claims of the Challenged Patents is not merely satisfied by a generic computer ↔ computer ↔ computer architecture.

68. As discussed above, the claim language itself distinguishes client devices and servers. The specification also distinguishes client devices and servers. A POSA would understand that the mere inclusion of interchangeable general-purpose computers in a pathway such as a generic computer ↔ computer ↔ computer pathway would not by itself disclose the architecture of the claimed methods. In the context of the ‘319 and ‘510 Patents, it would be improper to call one component a client device and another identical component a server. There are

many prosecution history statements that client devices and servers are different physical elements, they are different types of network components. In allowing the issued claims, the examiner found that client devices are distinguished from servers.

69. The Court has repeatedly acknowledged that a server is not a communication device. *E.g.*, Teso Supplemental C.C. Order, EX. 1020 at 10. Even if a server is “operating as a client” according to the RFCs, that does not transform a server into a communication device in the context of the ‘319 and ‘510 Patents. Regardless of the role being performed, a server is not a communication device.

70. In my opinion, the “second server” is separate and distinct from the “first client device” of the claims, consistent with the Court’s constructions. In my opinion, a server is structurally different from a client device as disclosed in the specification or recited in the patent claims. As discussed above comparing Figures 1 and 3, a POSA would understand that a client device is structurally different from a proxy server. In my opinion, a POSA would understand that agent 122 of Figure 3 is not the same as proxy server 6 of Figure 1.

71. In my opinion, a POSA would understand the “second server” recited in the claims to be a server that is not a client device. This proposed construction is consistent with the claim language, the specification, and the prosecution histories distinguishing servers from client devices. A POSA would understand that, in general, a “server” is not a “client device” in the context of the specification. For

example, the Court construed “client device” as a communication device in the Teso Litigation and in the NetNut Litigation. Based on the Court’s construction for “client device”, a server is not a client device because a server is not a communication device.

72. In my opinion, a POSA would understand that a server is not a consumer computer. A POSA would consider a server to be a commercial network element, rather than a consumer device. A POSA would understand that, unlike a client device, a server is not portable. I also agree with the applicant’s statements during prosecution that a server is a dedicated network element, unlike a client device. I also agree with the applicant’s statements during prosecution that a server is capable of multiple connections, unlike a client device. Further, in my opinion, a POSA would understand a server (a) to remain online with greater availability and maximum up time to receive requests almost all of the time (switching off servers can be catastrophic to a network); (b) to efficiently process multiple requests from multiple client devices at the same time; (c) to generate various logs associated with the client devices and traffic from/to the client devices; (d) to primarily interface and respond to the client devices, oftentimes without a Graphical User Interface (“GUI”); (e) to have greater fault tolerance and higher reliability with lower failure rates; and/or (f) to provide scalability for increasing resources to serve increasing client demands. These server-attributes distinguish a server from a client device.

73. A POSA's understanding of server is further evidenced by extrinsic materials including the February 17, 2015 "Network Fundamentals Study Guide" with a definition of server as "A computer or device on a network that manages network resources. Servers are often dedicated, meaning that they perform no other tasks besides their server tasks." <https://www.webopedia.com/reference/network-fundamentals-study-guide/#topologies> (EX. 2010).

74. To the extent that the Board's constructions are intended to construe any intermediary computer operating in a **computer ↔ computer ↔ computer** architecture as both a client and server, as discussed above, such construction is inconsistent with the disclosure in the Challenged Patents, the patent prosecution history of at least the '319 Patent, the Teso C.C. Order, Teso Supplemental C.C. Order, the Teso Alice Order and the NetNut C.C. Order. A POSA would NOT understand the recited client devices and servers to be merely interchangeable general use computers.

This declaration is made under penalty of perjury under the laws of the United States of America and the States of Texas that the foregoing is true and correct.

Signed in Danville, California on June 23, 2022

Tim Arthur Williams

Dr. Tim Arthur Williams

EXHIBIT A

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Dr. Williams has 45 years of professional experience in wireless communications, networking and telecom technology. He is an entrepreneur who has participated in the organization and operation of start up companies that brought wireless LAN, software VoIP PBX, and 2-way paging technology to the marketplace. Dr. Williams holds numerous patents in wireless and signal processing technology. He is an experienced litigation support consultant with experience in patent infringement matters. Dr. Williams is also a registered Patent Agent.

- Wireless LAN
- Cellular and PCS Standards
- Cellular Telephone Architecture
- Digital Signal Processing
- Telecommunications Technology
- VoIP Technology
- Computer Networking
- Wireless Networks & Protocols

Year	University	Degree
1991	University of Texas at Austin	MBA
1985	University of Texas at Austin	Ph.D., Dissertation: “Digital Signal Processing Techniques for Acoustic Log Data”
1982	University of Texas at Austin	MSEE, Thesis: “Cepstral Processing of Speech Signals”
1976	Michigan Technological University	BSEE

Professional Experience

From: 2008
To: 2010
Organization: Expressume, Inc / Montage Inc. – Milwaukee, WI
Title: Board Member
Summary: This company sells software for human resource recruiting. This company was sold in June 2019.

From: 2008
To: 2014
Organization: Faculte, Inc. – San Jose, CA
Title: Board Member
Summary: This company provided SaaS (Software as a Service) web video based communication products.

From: 2008
To: 2010
Organization: BitRail Networks Inc. – Miami, FL
Title: Founder, Board Member
Summary: This company sold computer networking solutions.

From: 2008
To: Present
Organization: Calumet Venture Management – Madison, WI
Title: Member
Summary: This company provides seed capital and management expertise to small companies.

From: 2006
To: 2015
Organization: BEEcube Inc. – Fremont, CA
Title: Founder, Board Member, Board Advisor
Summary: This company built high speed processing solutions. This company was sold to National Instruments, Inc. in Feb 2015.

Tim Arthur Williams, Ph.D.
Curriculum Vitae

From: 2006
To: 2015
Organization: Topaz Equity, LLC – Danville, CA
Title: Founder, Board Member
Summary: This is a private equity investment company. It owned AtomAMPD which develops, markets and sells software based network solutions.

From: 2004
To: Present
Organization: DoceoTech Inc. – Danville, CA
Title: Founder, Chairman
Summary: This was a training company that provides training for engineers in Wireless, Networking, and Telephony technologies. It is currently owned by Beach Technologies, LLC.

From: 2004
To: 2006
Organization: SiBEAM, Inc. – Sunnyvale, CA
Title: Founder, Chief Executive Officer
Summary: This is a fabless semiconductor company that develops high-speed wireless networking ICs. This company was sold to Silicon Image, Inc. in Apr 2011.

From: 2001
To: 2004
Organization: JetQue, Inc. – Danville, CA
Title: Founder, Chief Executive Officer
Summary: This company created messaging solutions for the mobile professional.

From: 1999
To: 2000
Organization: Atheros Communications, Palo Alto, CA
Title: Interim CEO, Advisory Board Member
Summary: This company builds wireless LAN ICs. Atheros became a public company in May 2004. (ATHR) This company was sold to QCOM in Jan 2011.

Tim Arthur Williams, Ph.D.
Curriculum Vitae

From: 1998
To: 2000
Organization: Picazo Communications, Inc. – San Jose, CA
Title: Chief Technology Officer, Advisory Board Member
Summary: This company built and sold software PBXs Telephony equipment using VoIP and Circuit Switched Technologies. The company was purchased by Intel.

From: 1996
To: Present
Organization: Beach Technologies, LLC – Danville, CA
Title: Chief Executive Officer
Summary: This is a consulting company that provides IP services. It owns DoceoTech LLC and Streaming Knowledge LLC, which perform the same services.

From: 1991
To: 1998
Organization: Wireless Access, Inc. – Santa Clara, CA
Title: Co-Founder, Chief Technical Officer, Vice President of Engineering, Vice President of Business Strategy
Summary: This was a startup company focusing on the Narrow Band PCS equipment market. The company developed the over the air protocols, the subscriber equipment and the ICs to deploy 2-way paging services. The company was sold to Glenarby Electronics.

From: 2014
To: 2021
Organization: Through Technology, LLC. – Chicago, IL
Title: Partner
Summary: This is a private equity investment company. It owns Through Technology Group, PTE LTD, which is registered in Singapore.

From: 1979
To: 1991
Organization: Motorola, Inc. – Austin, TX – Semiconductor Sector

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Title: Sr. Engineer, Member Technical Staff, Sr. MTS
Summary: Business manager, project leader, and senior technical member of the teams which were responsible for product development of the following systems:

- ADPCM transcoder,
- ISDN U-reference point transceiver,
- CT-2 voice codec and channel modem,
- GSM voice codec and channel modem,
- TDMA voice codec and channel modem
- CDMA voice codec and channel modem, and
- Japanese Digital Cellular voice codec and channel modem.

From: 1976
To: 1979
Organization: Motorola Inc. - Chicago, IL - Communications Sector - Digital Voice Privacy Group
Title: Engineer
Summary: This group built the first commercial digitally encrypted two-way FM land mobile radio system.

Professional Certifications

▪ Patent Agent – U.S. Patent and Trademark Office #50,790 (Jan 2002)

Issued Patents

Patent	Date	Description
9,787,471	2017	Data Enciphering or Deciphering using a Hierarchical Assignment System
7,904,117	2011	Wireless Communication Device using Adaptive Beamforming
6,781,962	2004	Apparatus and Method for Stored Voice Message Control
6,600,481	2003	Data entry apparatus and method
6,088,457	2000	Method and apparatus for over the air programming a communication device
5,854,595	1998	Communications apparatus and method with a computer interchangeable integrated circuit card
5,557,642	1996	Direct conversion receiver for multiple protocols

Tim Arthur Williams, Ph.D.
Curriculum Vitae

5,428,638	1995	Method and apparatus for reducing power consumption in digital communications devices
5,345,406	1994	Bandpass sigma delta converter suitable for multiple protocols
5,101,344	1992	Data processor having split level control store
5,001,661	1991	Data processor with combined adaptive LMS and general multiplication functions
4,989,169	1991	Digital tone detector using a ratio of two demodulators of differing frequency
4,972,356	1990	Systolic IIR decimation filter
4,965,762	1990	Mixed size radix recoded multiplier
4,947,363	1990	Pipelined processor for implementing the least-mean-squares algorithm
4,876,542	1989	Multiple output oversampling A/D converter with each output containing data and noise
4,862,169	1989	Oversampled A/D converter using filtered, cascaded noise shaping modulators
4,843,585	1989	Pipelineable structure for efficient multiplication and accumulation operations
4,843,390	1989	Oversampled A/D converter having digital error correction
4,796,219	1989	Serial two's complement multiplier
4,737,925	1988	Method and apparatus for minimizing a memory table for use with nonlinear monotonic arithmetic functions
4,734,876	1988	Circuit for selecting one of a plurality of exponential values to a predetermined base to provide a maximum value
4,727,508	1988	Circuit for adding and/or subtracting numbers in logarithmic representation
4,722,067	1988	Method and apparatus for implementing modulo arithmetic calculations
4,682,302	1987	Logarithmic arithmetic logic unit
4,618,946	1986	Dual page memory system having storage elements which are selectively swapped between the pages
4,406,010	1983	Receiver for CVSD modulation with integral filtering
4,398,262	1983	Time multiplexed n-ordered digital filter

Patent Applications and Continuation Applications

Appl. Num.	Pub. Date	Description
20070037528	2007	Wireless Communication Device using Adaptive Beamforming
20040252679	2004	Stored Voice message Control Extensions
15/711,590	2017	Data Enciphering or Deciphering using a Hierarchical Assignment

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Published Papers

6 Sept 2016 Putnam, Jonathan D. and Williams, Tim A., The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence. Available at SSRN: <https://ssrn.com/abstract=2835617>

Litigation Experience

See attached.