IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA
WEST PALM BEACH DIVISION

IOT INNOVATIONS LLC, Plaintiff, v. SOMFY SYSTEMS, INC., SOMFY, SA, and SOMFY ACTIVITÉS, SA, Defendants.	No. 9:23-cv-81528-ROSENBERG/Reinhart **JURY TRIAL DEMANDED**

CONSOLIDATED COMPLAINT FOR PATENT INFRINGEMENT[1]

Plaintiff IoT Innovations LLC ("IoT Innovations" or "Plaintiff") files this Consolidated Complaint against Somfy Systems, Inc., Somfy, SA, and Somfy Activités, SA (collectively, "Defendants") alleging as follows:

NATURE OF THE ACTION

1. This is a patent infringement action to stop the infringement of the following United States Patents (collectively, the "Asserted Patents") issued by the United States Patent and Trademark Office ("USPTO") by Defendants:

	U.S. Patent No.	Available At
(1)	7,246,173	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7246173
(2)	7,394,798	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7394798
(3)	7,974,266	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7974266
(4)	7,974,260	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7974260
(5)	7,280,830	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7280830
(6)	7,379,464	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7379464

[1] Pursuant to this Court's Order (*see* DE 47), IoT Innovations' causes of action in Case No. 9:24-cv-80385 are included in this Consolidated Complaint.

	U.S. Patent No.	Available At
(7)	7,474,667	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7474667
(8)	7,593,428	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7593428
(9)	8,085,796	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/8085796
(10)	8,972,576	https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/8972576

2. IoT Innovations seeks injunctive relief and monetary damages.

PARTIES

3. IoT Innovations is a limited liability company formed under the laws of Texas with a registered office address located in Austin, Texas (Travis County).

4. Somfy Systems, Inc. ("Somfy Systems") is a corporation organized under the laws of the State of Delaware and has its principal place of business located at 121 Herrod Blvd, Dayton, New Jersey, 08810.

5. Somfy Systems may be served through its agent, Yilmaz Ozturan, CEO of Somfy Systems Inc., at its primary place of business located at 121 Herrod Blvd, Dayton, New Jersey, 08810.

6. Somfy Activités SA ("Somfy Activites") is a corporation organized under the laws of France with its principal place of business located at 50 avenue du Nouveau Monde, F-74 300 Cluses, France.

7. Somfy SA ("Somfy SA") is a corporation organized under the laws of France with its principal place of business located at 50 avenue du Nouveau Monde, F- 74 300 Cluses, France.

8. Somfy Activites is a wholly owned and controlled subsidiary of Somfy SA, and Somfy Activites is part of a multi-national group of companies ("Somfy Group") of which Somfy SA is the parent and controlling entity.

9. Somfy Systems, Somfy Activites and Somfy SA have acted in concert with respect to the facts alleged herein such that any act of one is attributable to any and all of the others and *vice versa*.

10. Defendants have been engaging in making, using (including testing performed from within the United States), offering for sale, selling, importing, or otherwise providing, within the United States and in particular the State of Florida and this Judicial District, directly, and/or by and through direction and control over their subsidiaries and affiliates, products that infringe the Asserted Patents.

11. Defendants operate in 59 countries, including the U.S.[2]

12. Somfy SA states that Somfy Group is "the global leader in opening and closing automation for both residential and commercial buildings."[3] Somfy SA further states that it is "a pioneer in the connected home."[4] Somfy SA along with its subsidiaries in the Somfy Group, including Somfy Activites, are engaged in research and development, manufacturing, importation, distribution, sales, and related technical services for motorized shades, blinds, curtains, awnings, screens, pergolas, and rolling shutters for residential and commercial applications.[5] Moreover, the Somfy Group provides smart home applications, controls, and automation systems to enhance the consumers use of Defendants' products.[6] Defendants' products are manufactured outside the U.S.

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[2] *2023 Non-Financial Statement*, SOMFY, https://service.somfy.com/downloads/group_v4/somfy-_dpef_2023_en.pdf at p. 12.

[3] SOMFY, https://service.somfy.com/downloads/group_v4/somfypress_release_-_acquisition_of_a_majority_stake_in_repar-stores.pdf

[4] *Id.*

[5] *See Products*, SOMFY, https://store.somfysystems.com/products/app-voice-control/somfy-tahoma.html?sfy_range_compatibility=TaHoma+compatible (last visited June 20, 2024); *see also* SOMFY, https://www.somfysystems.com/en-us/products/controls/tahoma (last visited June 20, 2024).

[6] *Id.*

and then imported into the United States, distributed, and sold to end-users *via* the internet and in brick and mortar stores and/or *via* dealers and "Somfy experts" in the U.S., in Florida, the Southern District of Florida.

JURISDICTION AND VENUE

13. IoT Innovations repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.

14. This is an action for infringement of a United States patent arising under 35 U.S.C. §§ 271, 281, and 284–85, among others. This Court has subject matter jurisdiction of the action under 28 U.S.C. § 1331 and § 1338(a).

15. Venue is proper against Somfy Systems in this District pursuant to 28 U.S.C. § 1400(b) and 1391(c) because it has maintained established and regular places of business in this District and has committed acts of patent infringement in the District. *See In re: Cray Inc.*, 871 F.3d 1355, 1362-1363 (Fed. Cir. 2017).

16. Venue is proper in this District pursuant to 28 U.S.C. § 1391 for Somfy, SA and Somfy Activites because, among other things, they are not residents of the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3). *See also In re: HTC Corporation*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) ("The Court's recent decision in TC Heartland does not alter" the alien-venue rule.).

Somfy Systems

17. Somfy Systems is subject to this Court's specific and general personal jurisdiction under due process because of Somfy Systems' substantial business in this judicial District, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, or deriving substantial revenue from goods and services provided to individuals in this state and in this District.

18. Specifically, Somfy Systems intends to do and does business in, has committed acts of infringement in, and continues to commit acts of infringement in this District directly, through intermediaries, by contributing to and through inducement of third parties, and offers its products or services, including those accused of infringement here, to customers and potential customers located in this state, including in this District.

19. Somfy Systems maintains regular and established places of business in this District.

20. Somfy Systems offers products and services and conducts business in this District as described below.

21. Somfy Systems ships and causes to be shipped into the District infringing products and materials instructing its customers to perform infringing activities to its employees, exclusive and non-exclusive contractors, agents, and affiliates for installation, operation, and service at locations within this District.

22. For example, Somfy Systems maintains regular and established places of business in the district, including at facilities located at 1200 SW 35th Ave, Boynton Beach, Florida 33426.

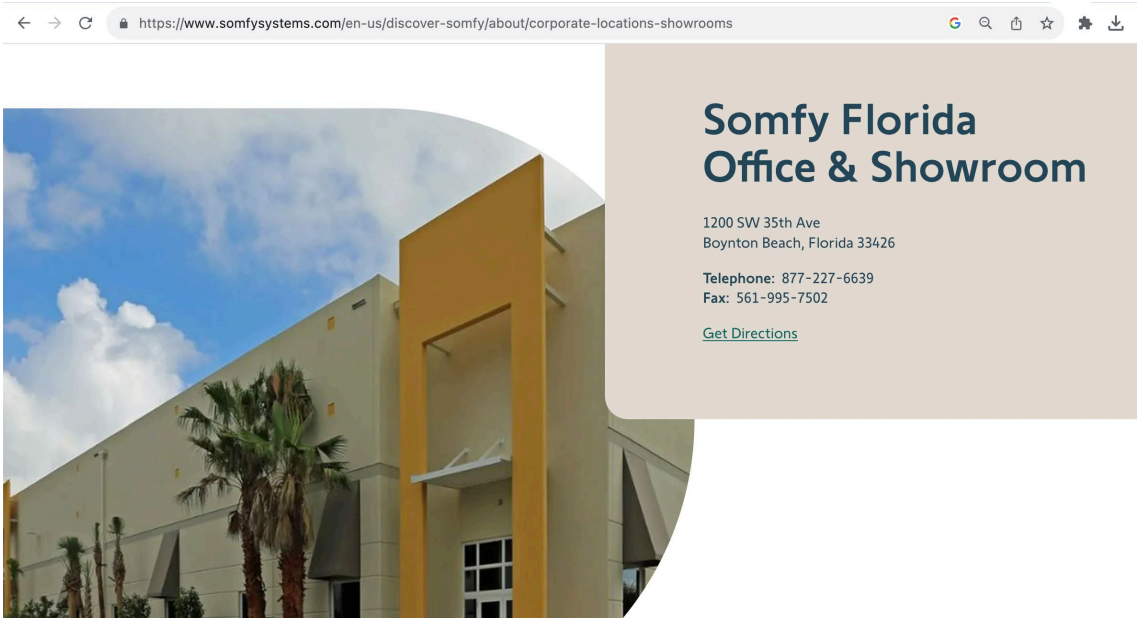


FIG. 1: *Locations and Showrooms*, SOMFY, https://www.somfysystems.com/en-us/discover-somfy/about/corporate-locations-showrooms.

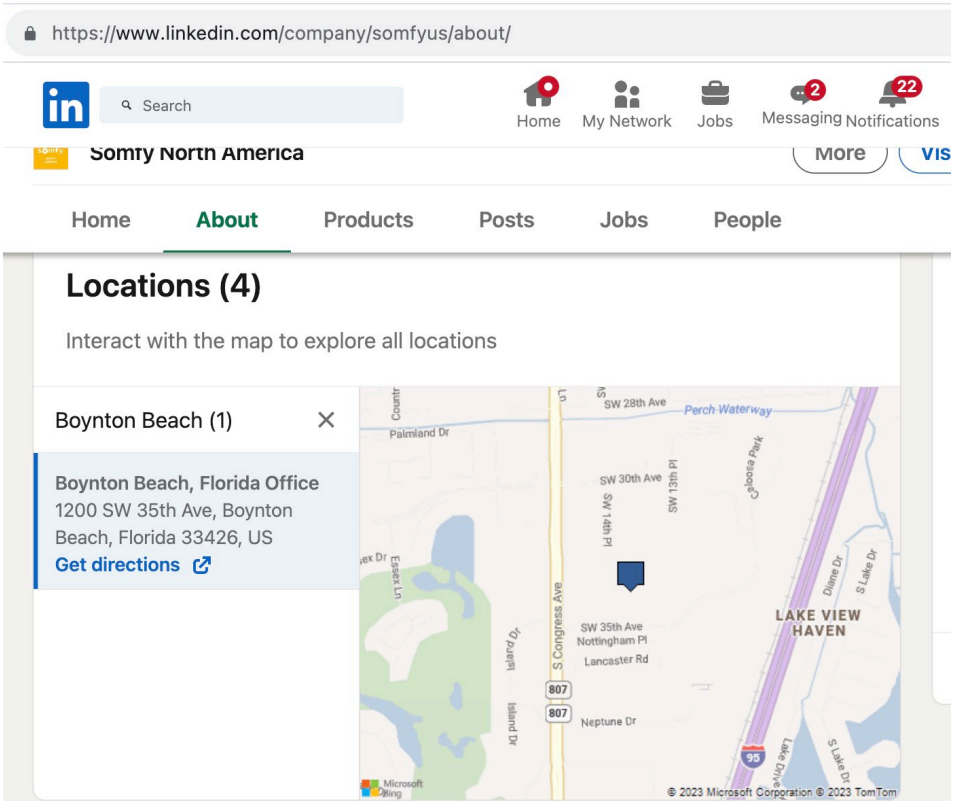


FIG. 2: *Somfy North America*, LINKEDIN, https://www.linkedin.com/company/somfyus/about/.

23. Somfy Systems commits acts of infringement from this District, including, but not limited to, use of the Accused Products and inducement of third parties to use the Accused Products in an infringing manner.

24. Through at least its website, www.somfysystems.com, Somfy Systems instructs its customers on how to install and use the Accused Products.

25. Furthermore, Somfy SA and Somfy Activites have purposefully directed infringing activities at residents of the State of Florida, and this litigation results from those infringing activities. Somfy SA and Somfy Activites regularly sell (either directly or indirectly), its products within this District. For example, Somfy SA and Somfy Activites have placed and continue to

place the Somfy TaHoma Gateway and TaHoma Switch into the stream of commerce *via* an established distribution channel with the knowledge or understanding that such products are being and will continue to be sold in this District and the State of Florida. Defendants are subject to this Court's specific and/or general personal jurisdiction pursuant to due process and/or the Florida Long Arm Statute, due to its substantial and pervasive business in this State and District, including its infringing activities alleged herein, from which Somfy SA and Somfy Activites derive substantial revenue from goods sold to Florida residents and consumers.

26. Somfy SA and Somfy Activites, SA commit acts of infringement from this District, including, but not limited to, use of the Somfy TaHoma Gateway and Somfy TaHoma Switch and inducement of third parties to use the Somfy TaHoma Gateway and Somfy TaHoma Switch.

27. Somfy SA and Somfy Activites have authorized sellers and sales representatives that offer and sell products in this Complaint through the State of Florida, including in this District, and to consumers throughout this District, such as the following stores located in Boyton Beach, Florida: City Shade Company, Drapery Lane, Shading Source, Inc., and Shoppers Drapes and Blinds; as well as the store Blind Ambition located in Texarkana, Florida.[7]

28. Somfy SA and Somfy Activites have authorized sellers and sales representatives that offer and sell products in this Complaint through the State of Florida, including in this District, and to consumers throughout this District, such as the Walmart stores located at 3200 Old Boynton Rd, Boynton Beach, Florida 33436; 9840 S Military Trl Ste G-1, Boynton Beach, Florida 33436; and 4545 Hypoluxo Rd, Lake Worth, Florida 33463.[8] Somfy Systems is also an authorized seller

[7] *See* SOMFY, https://www.somfysystems.com/en-us/where-to-buy (Search for "Interior Window Coverings," in the Zip/Postal Code "33426 Boyton Beach, Florida", "United States").

[8] *See* WALMART, https://www.walmart.com/ip/Somfy-Tahoma-RTS-ZigBee-Smartphone-and-Tablet-Interface-1811731/759804373?from=/search

and sales representative with a location of 1200 SW 35th Ave Boynton Beach, Florida 33426.[9]

29. Defendants have placed such products into the stream of commerce with the knowledge and understanding that such products are, will be, and continue to be sold, offered for sale, and/or imported into this judicial district and the State of Florida. *See Litecubes, LLC v. Northern Light Products, Inc.*, 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) ("[T]he sale [for purposes of § 271] occurred at the location of the buyer."); *see also Semcon IP Inc. v. Kyocera Corporation*, No. 2:18-cv-00197-JRG, 2019 WL 1979930, *3 (E.D. Tex. May 3, 2019) (denying accused infringer's motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to end users in the U.S. may constitute an offer to sell under § 271(a)).

30. Defendants utilize established distribution channels to distribute, market, offer for sale, sell, service, and warrant infringing products directly to consumers and other users in the U.S., including providing links via their website to online stores, retailers, resellers, distributors, and solution partners offering such products and related services for sale. For example, the Defendants assert that:

> SOMFY controls its distribution (international supply chain, local sales and marketing presence), which means SOMFY can deliver its products worldwide. Its customers are manufacturers and installers, who integrate SOMFY solutions into carrier products: blinds, shutters, doors and gates, or by replacing existing equipment in buildings, by leveraging the strength of the Group's brands. SOMFY also distributes finished products (a selection of motors and control panels, connected objects, digital applications) that are sold by prescribers, networks retailer installers or resellers, via large specialist and DIY stores, and online, either directly or indirectly.[10]

31. Upon information and based on public information, such Accused Products have been

[9] *See* Somfy North America, LINKEDIN, https://www.linkedin.com/company/somfyus/about/

[10] *2023 Non-Financial Statement*, SOMFY, https://service.somfy.com/downloads/group_v4/somfy-_dpef_2023_en.pdf at p. 8.

sold in retail stores, both brick-and-mortar and online, within this District and in Florida, including well-known and widely used retailers, such as Amazon.com and Walmart.[11]

32. Venue is therefore proper against Defendants in this District pursuant to 28 U.S.C. § 1400(b) and § 1391(c)(3).

Somfy SA

33. Somfy SA is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Florida Long Arm Statute, due at least to its substantial business in this State and District, including: (A) at least part of its infringing activities alleged herein which purposefully avail the Defendant of the privilege of conducting those activities in this state and this District and, thus, submits itself to the jurisdiction of this court; and (B) regularly doing or soliciting business, engaging in other persistent conduct targeting residents of Florida and this District, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported and services provided to and targeting Florida residents and residents of this District vicariously through and/or in concert with its alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers. For example, Somfy SA is related to, owns, and/or controls subsidiaries (such as Somfy Systems, Inc., BFT, and Somfy LLC) and business sectors (such as its Somfy and BFT business) that have a significant business presence in the U.S. and in Florida. Such a presence furthers the development, design, manufacture, importation, distribution, sale, and use (including by inducement) of infringing Somfy products in Florida, including in this District.

34. This Court has personal jurisdiction over Defendant Somfy SA, directly and/or

[11] *See* WALMART, https://www.walmart.com/ip/Somfy-Tahoma-RTS-ZigBee-Smartphone-and-Tablet-Interface-1811731/759804373?from=/search; *see also* AMAZON.COM, https://www.amazon.com/Somfy-TaHoma-Compatible-Assistant-SmartThings/dp/B0C2RFDN5T/ref=sxin_16_sbv_search_btf.

through the activities of Somfy SA's intermediaries, agents, related entities, distributors, importers, customers, subsidiaries, and/or consumers, including through the activities of Defendant Somfy Activites, other members of the Somfy Group, and U.S. based subsidiaries. Through direction and control of these entities, Somfy SA has committed acts of direct and/or indirect patent infringement within Florida, and elsewhere within the United States, giving rise to this action and/or has established minimum contacts with Florida such that personal jurisdiction over Somfy SA would not offend traditional notions of fair play and substantial justice.

35. Somfy SA controls or otherwise directs and authorizes all activities of its subsidiaries and related entities, including, but not limited to Defendant Somfy Activites, other members of the Somfy Group, and U.S. based subsidiaries. Defendant Somfy Activites, directly *via* its agents in the U.S. and via at least distribution partners, retailers, reseller partners, dealers, professional installers, and other service providers, Somfy SA has placed and continues to place infringing Somfy products into the U.S. stream of commerce. For example, import records show that Somfy SA's subsidiary and Defendant Somfy Activites and Somfy SA's subsidiary Somfy Logistique International supplies Somfy products to Somfy Systems Inc. in the United States. *See, e.g.*, U.S. Customs Records for Somfy Activites SA, IMPORT GENIUS, https://www.importgenius.com/suppliers/somfy-activites-sa (last visited June 20, 2024) (showing shipments to Somfy Systems Inc. totaling "163" in the period from November 2006 to June 2024); U.S. Shipment Report for Somfy Activites SA, PANJIVA.COM, https://panjiva.com/shipment_search/results?user_term=1&prefilter=none&type=us_imports&q=Somfy+Activites+SA&commit=Search (last visited June 20, 2024) (showing shipments to "Consignee Somfy Systems Inc." from "Shipper Somfy Activites SA" in the period from December 2023 to March 2024); U.S. Customs Records for Somfy Logistique International,

https://www.importgenius.com/suppliers/somfy-logistique-international (last visited June 20, 2024) (showing shipments to Somfy Systems Inc. totaling "23" in the period from November 2006 to June 2024); U.S. Shipment Report for Somfy Logistique International, PANJIVA.COM, https://panjiva.com/shipment_search/results?user_term=1&prefilter=none&type=us_imports&q=Somfy+Logistique+International&commit=Search (last visited June 20, 2024) (showing shipments to "Consignee Somfy Systems Inc." from "Shipper Somfy Logistique International" in the period from December 2023 to March 2024). Somfy SA has placed such products into the stream of commerce with the knowledge and understanding that such products are, will be, and continue to be sold, offered for sale, and/or imported into this District and the State of Florida. *See Litecubes, LLC v. Northern Light Products, Inc.*, 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) ("[T]he sale [for purposes of § 271] occurred at the location of the buyer."); *see also Semcon IP Inc. v. Kyocera Corporation*, No. 2:18-cv-00197-JRG, 2019 WL 1979930, at *3 (E.D. Tex. May 3, 2019) (denying accused infringer's motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to end users in the U.S. may constitute an offer to sell under § 271(a)).

36. Somfy SA utilizes established distribution channels to distribute, market, offer for sale, sell, service, and warrant infringing products directly to consumers and other users, including providing links *via* its own website to online stores, retailers, detailers, resellers, distributors, and dealers offering such products and related services for sale. *See Where to Buy*, SOMFY, https://www.somfysystems.com/en-us/where-to-buy (accessible via menu "Where to Buy" and providing links for "Search Our Dealer Locator," "Connect With a Local Somfy Dealer," and "Shop Online for Somfy Controls & Accessories") (last visited June 20, 2024). For example, such Somfy products and services have been sold in both brick and mortar and online retail stores and

showrooms within this District and in Boyton Beach, Florida: City Shade Company, Drapery Lane, Shading Source, Inc., and Shoppers Drapes and Blinds; as well as the store Blind Ambition located in Texarkana, Florida. *See* SOMFY, https://www.somfysystems.com/en-us/where-to-buy (Search for "Interior Window Coverings," in the Zip/Postal Code "33426 Boyton Beach, Florida", "United States"). Somfy products are also sold *via* the national retailers Walmart and Amazon.com. Upon information and based on public information, such Accused Products have been sold in retail stores, both brick-and-mortar and online, within this District and in Florida, including well-known and widely used retailers, such as Amazon.com and Walmart. *See* WALMART, https://www.walmart.com/ip/Somfy-Tahoma-RTS-ZigBee-Smartphone-and-Tablet-Interface-1811731/759804373?from=/search; *see also* AMAZON.COM, https://www.amazon.com/Somfy-TaHoma-Compatible-Assistant-SmartThings/dp/B0C2RFDN5T/ref=sxin_16_sbv_search_btf.

37. Based on Somfy SA's connections and relationship with manufacturers, dealers, retailers, and digital distribution platforms, Somfy SA knows that Florida is a termination point of the established distribution channel, namely online and brick and mortar stores offering Somfy products and related services and software to third-party manufacturers, distribution partners, retailers (including national retailers), reseller partners, dealers, service providers, consumers, and other users in Florida. Somfy SA, therefore, has purposefully directed its activities at Florida, and should reasonably anticipate being brought in this Court, at least on this basis. *See Icon Health & Fitness, Inc. v. Horizon Fitness, Inc.*, No. 5:08CV26, 2009 U.S. Dist. LEXIS 34767, *39 (E.D. Tex. Mar. 26, 2009) (finding that "[a]s a result of contracting to manufacture products for sale in" national retailers' stores, the defendant "could have expected that it could be brought into court in the states where [the national retailers] are located").

38. In the alternative, this Court has personal jurisdiction over Somfy SA under Federal

Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law, Somfy SA is not subject to the jurisdiction of the courts of general jurisdiction of any state, and exercising jurisdiction over Somfy SA is consistent with the U.S. Constitution.

39. Venue is proper in this District pursuant to 28 U.S.C. § 1391.

40. Defendant Somfy SA is a foreign entity and may be sued in any district under 28 U.S.C. § 1391(c). *See also In re HTC Corporation*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) ("The Court's recent decision in TC Heartland does not alter" the alien-venue rule.).

Somfy Activites

41. Defendant Somfy Activites is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Florida Long Arm Statute, due at least to its substantial business in this State and this District, including: (A) at least part of its infringing activities alleged herein which purposefully avail the Defendant of the privilege of conducting those activities in this state and this District and, thus, submits itself to the jurisdiction of this court; and (B) regularly doing or soliciting business, engaging in other persistent conduct targeting residents of Florida and this District, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported and services provided to and targeting Florida residents and residents of this District vicariously through and/or in concert with its partners, alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers. For example, Somfy Activites and parent Defendant Somfy SA and U.S.-based subsidiaries Somfy Systems, BFT, and Somfy LLC manufacture, import, distribute, offer for sale, sell, and induce infringing use of Somfy products to distribution partners, retailers (including national retailers), resellers, dealers, service providers, consumers, and other users.

42. This Court has personal jurisdiction over Somfy Activites, directly and/or indirectly via the activities of Somfy Activites' intermediaries, agents, related entities, distributors,

importers, customers, subsidiaries, and/or consumers, including parent Defendant Somfy SA and U.S.-based subsidiaries Somfy Systems, BFT, and Somfy LLC. Alone and in concert with or via direction and control of or by at least these entities, Somfy Activites has committed acts of direct and/or indirect patent infringement within Florida, and elsewhere within the United States, giving rise to this action and/or has established minimum contacts with Florida. For example, Somfy Activites operates within a global network of sales and distribution of Somfy products that includes subsidiaries of Somfy, retail stores and showrooms, dealers, resellers, professional installers, and distributors operating in Florida, including this District.

43. As a part of Somfy's global manufacturing and distribution network, Somfy Activites also purposefully places infringing Somfy products in established distribution channels in the stream of commerce, including in Florida, *via* distribution partners, retailers (including national retailers), resellers, dealers, brand ambassadors, service providers, consumers, and other users. For example, Somfy Activites imports Somfy products directly to subsidiary Somfy Systems Inc.[12] Therefore, Somfy Activites, alone and in concert with other members of the Somfy Group, its parent entity Defendant Somfy SA and its U.S. based subsidiaries, has purposefully directed its activities at Florida, and should reasonably anticipate being brought in this Court, at least on this basis. Through its own conduct and through direction and control of its subsidiaries or control by Defendant Somfy SA, Somfy Activites has committed acts of direct and/or indirect patent

[12] *See* U.S. Customs Records for Somfy Activites SA, IMPORT GENIUS, https://www.importgenius.com/suppliers/somfy-activites-sa (last visited June 20, 2024) (showing shipments to Somfy Systems Inc. totaling "163" in the period from November 2006 to June 2024); *see also* U.S. Shipment Report for Somfy Activites SA, PANJIVA.COM, https://panjiva.com/shipment_search/results?user_term=1&prefilter=none&type=us_imports&q=Somfy+Activites+SA&commit=Search (last visited June 20, 2024) (showing shipments to "Consignee Somfy Systems Inc." from "Shipper Somfy Activites SA" in the period from December 2023 to March 2024).

infringement within Florida, and elsewhere within the United States, giving rise to this action and/or has established minimum contacts with Florida such that personal jurisdiction over Somfy Activites would not offend traditional notions of fair play and substantial justice.

44. In the alternative, the Court has personal jurisdiction over Somfy Activites under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law, Somfy Activites is not subject to the jurisdiction of the courts of general jurisdiction of any state, and exercising jurisdiction over Somfy Activites is consistent with the U.S. Constitution.

45. Venue is proper in this District pursuant to 28 U.S.C. § 1391 because, among other things, Somfy Activites is not a resident in the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3).

46. Defendants Somfy SA and Somfy Activites each have significant ties to, and presence in, the State of Florida and this District, making venue in this District both proper and convenient for this action.

THE ACCUSED PRODUCTS

47. IoT Innovations repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.

48. Somfy Activites owns, operates, advertises, and/or controls the website and domain www.somfysystems.com, through which Defendants advertise, sell, offer to sell, provide and/or educate customers about their products and services. *See* **Exhibit A.**

49. Defendants use, causes to be used, sell, offer for sale, provide, supply, and distribute their home control platform and systems including, but not limited to, those marketed as Somfy home and automation solutions, which include, at least, Somfy's Automated Smart Home &

Controls Solutions (including but not limited to Somfy's Connect Main Controller and IP/io Gateway, myLink™ RTS Smartphone and Tablet Interface 120V AC, TaHoma Switch, TaHoma Gateway, and TaHoma® RTS/Zigbee Smartphone and Tablet Interface, animeo IP/RS485, animeo IP Building Controller, and all other animeo products sold in the United States that enable control of shades or sensors through by a wireless connection to an app, Sub Controller, and IB+Touch Building Controller 8 Zone), its wireless/RTS Motorized Products (including but not limited to all Somfy motorized controls that integrate with TaHoma, myLink, the Main Controller and IP/io Gateway, and/or animeo IP/RS485, such as the Oximo®, Altus®, Glydea®, Irismo™, Sonesse®, Sunea®, Orea, Eolis, Sunis, Soliris, Clever™, Maestria™, and Cord Lift branded wireless motors like the 540R2 RTS CMO, 525A2 RTS CMO, 550R2 RTS CMO, 535A2 RTS CMO, 530R2 RTS CMO, Oximo™ RTS 525A2, Oximo™ RTS 550R2, Altus® RTS 530R2, Altus® RTS 506S2 , Altus® RTS 680R2, Altus® RTS 660R2, Altus® RTS 6100R2, Altus® RTS 540R2, Altus® RTS 535A2, Altus® RTS 409R2 RH with Fast Connector, Altus® RTS 525A2, Altus® RTS 550R2, Glydea® ULTRA 60 Motor RTS with 10' Plug, Glydea® ULTRA 35 Motor RTS with 10' Plug, Glydea® ULTRA 60 Motor RTS with 10' Plug, Irismo™ 45 WireFree RTS, Irismo™ 35 WireFree RTS, Irismo™ 35 (Mini DC) RTS, Irismo™ 45 (Mini DC) RTS, Sonesse® 40 RTS 404S2 RH with Fast Connector, Sonesse® ULTRA 506A2 RTS, Sonesse® ULTRA 504 A8 DC RTS, Sonesse® 506S2 RTS, Sonesse® 510S2 RTS, Sonesse® 510S2 RTS RH, Sonesse® 506S2 RTS RH, Sonesse® 30 DCT 24V DC, Sonesse® 30 RTS 24V DC, Sonesse® 40 RTS 406A2 RH with Fast Connector, Sonesse® 40 RTS 404A2 RH with Fast Connector, Sonesse® 40 RTS 409R2 RH with Fast Connector, Sonesse® 28 WireFree™ RTS (Li-ion and External Battery), Sonesse® 40 WireFree™ RTS (Li-ion and External Battery), Sonesse® ULTRA 30 WireFree™ RTS (Li-ion and External Battery), Sonesse® 506A2 RTS RH 24V DC, Sonesse® 30 24V DC Zigbee,

Sonesse® 30 RS485, Sonesse® 50 RS485, LT50 RS485, Sunea® RTS CMO 535A2 (with 18" Fast Connector, Black Cable), Sunea® RTS CMO 525A2 (with 18" Fast Connector), Sunea® RTS CMO 535A2 (with 18" Fast Connector), Sunea® RTS CMO 550R2 (with 18" Fast Connector), Cord Lift WireFree™ TL25 Motor, Roll Up 28 WireFree™ RTS V2 (Li-ion and External Battery), T3.5 ESP Hz 6Nm 18rpm 12V DC KIT, T3.5 ESP Hz 3Nm 23rpm 12V DC, T3.5 ESP Hz 3Nm 23rpm 12V DC KIT, T3.5 ESP Hz 3Nm 12rpm 12V DC KIT, T3.5 ESP Hz 10Nm 12rpm 12V DC, T3.5 ESP Hz 6Nm 18rpm 12V DC, T5 Hz 10Nm 35rpm 120V, T5 Hz 15Nm 18rpm 120V, T5 Hz 25Nm 18rpm 120V, T5 Hz 35Nm 18rpm 120V, T5 Hz 30Nm 12rpm 120V, T5 Hz 50Nm 12rpm 120V, T5 Hz 10Nm 12rpm 120V, T5 Hz 20Nm 12rpm 120V, T6 Hz 80Nm 14rpm 120V, T6 Hz 100Nm 14rpm 120V, Orea RTS 550R2, Orea RTS 535A2, Clever™ Tilt Blind Motors and 6, 4, 3 or 2 piece Motor Kits (with or without rechargeable batteries), Radio RTS Card (Plug-in Module), DM15Hz 15Nm 18rpm 120V, DM15Hz 25Nm 18rpm 120V, DM15Hz 30Nm 12rpm 120V, DM15Hz 35Nm 18rpm 120V, DM15Hz 50Nm 12rpm 120V, DM16Hz 60Nm 14rpm 120V With NEMA plug, DM16Hz 80Nm 14rpm 120V With NEMA plug, DM16Hz 100Nm 14rpm 120V With NEMA plug, Maestria™ RTS 550R2 Maestria™ RTS 510A2, Maestria™ RTS 525A2, Maestria™ RTS 535A2), Smart Sensors (Ondeis® WireFree RTS Rain & Sun Sensors, Eolis RTS 60 MPH Wind Sensor 24V DC Kit, Eolis 3D WireFree™ RTS Wind Sensor (White, Off-White, and Black), Sunis Outdoor WireFree™ RTS Sun Sensor, Soliris RTS Sun and Wind Sensor 24V DC Kit, Eolis RTS Wind Sensor 24V DC Kit), Smart Hosts, Smart Lighting, Smart Fixtures, Smart Keypads, Smart Home Apps,[13] TaHoma North America, TaHoma pro, myLink, Help Me, and Somfy Set&Go Connect Pro), Smart Remotes, Z-Wave, Somfy Server(s), and Somfy's encryption

[13] *See, e.g.*, Exhibit C; *Support Service*, SOMFY, https://www.somfypro.com/services-support/useful-tools/help-me-app ; GOOGLE PLAY STORE, https://play.google.com/store/apps/ , Search "Apps by Somfy".

technologies and its wireless capabilities, and their associated hardware and software and functionalities (the "Accused Products"). *See, e.g.*, Exhibit A (Smart Home Solutions); **Exhibit B** (Main Controller); **Exhibit C** (Somfy App); **Exhibit K (**IP/io Gateway); and **Exhibit O** (Z-Wave).

50. Defendants also instruct their customers, agents, employees, and affiliates regarding how to use the Accused Products. *See, e.g.*, **Exhibit D**; **Exhibit E**; **Exhibit F**; **Exhibit G**; **Exhibit H**; **Exhibit I**; **Exhibit L**; **Exhibit M**; and **Exhibit N**.

51. For these reasons and the additional reasons detailed below, the Accused Products practice at least one claim of each of the Asserted Patents. In support, Plaintiff attaches the Walter Gibson Overby (hereinafter, "Overby Decl.") which is incorporated herein in its entirety by reference and as specifically cited below.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 7,246,173

52. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

53. The USPTO duly issued U.S. Patent No. 7,246,173 (entitled "Method And Apparatus For Classifying IP Data"; hereinafter, the "'173 patent") on July 17, 2007, after full and fair examination of Application No. 09/834,918, which was filed on April 16, 2001. *See* '173 patent at p.1.

54. IoT Innovations owns all substantial rights, interest, and title in and to the '173 patent, including the sole and exclusive right to prosecute this action and enforce the '173 patent against infringers and to collect damages for all relevant times.

55. The claims of the '173 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of IP data classification systems and methods in packet switch networks.

56. The written description of the '173 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

57. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '173 patent.

The Technical Problems That Existed In The Art Of Packet Switched Networks In April of 2001

58. The inventions of the '173 patent are directed to solving technical problems that existed in packet switched network technologies in April of 2001 by employing QoS techniques through modification of IP data packets to overcome the problems with then-existing standard packet formats. The specification of '173 patent provides substantial detail concerning the problems with then-existing technology for packet switched networks. '173 patent at 1:13-41. At the priority date of the '173 patent, the Internet was fairly new to the general public but was slowly making its way into its daily affairs. The smart phone had not yet been invented, so internet usage was still primarily limited to at-home or in-office computer usage over a modem. *See* Overby Decl., at ¶196.

59. The Internet is a packet switched network. '173 patent at 1:20. "In packet switched networks, packets may be transmitted between nodes coupled to the network to effect communication between the nodes. Information in the packets may include messages and commands such as a request for service, connection managements controls, or data. Large transmissions may be divided into packets instead of being transmitted as one long string." *Id*. at

1:13-19; *see* Overby Decl., at ¶197.

60. Although the Internet was new to the public, packet switched networks had been around since the early to mid-1960s. One of the first networks to use packet switching was ARPANET, a precursor to the Internet. As part of the development of packet switched networks, the Internet Protocol (IP) was created. IP is a "protocol that defines how to format various information into packets and transmit those packets using the Internet. IP provides a near universal delivery system that can operate on almost any underlying network." '173 patent at 1:21-25; *see* Overby Decl., at ¶198.

61. At the priority date of the patent, the adopted IP version was IPv4, which was version 4 of the Internet Protocol, first deployed in the early 1980s. IPv4 serves what could be called the computer market. The focus of IPv4 is to "couple computers together to permit communications over various networks where the computers range from personal computers (PC's) to supercomputers." '173 patent at 1:29-31. At the priority date of the '173 patent, "[m]ost of the computers [we]re attached to local area networks (LAN's) and the vast majority [we]re not mobile." *Id*. at 1:31-33; *see* Overby Decl., at ¶199.

62. In December 1998, the first draft of Internet Protocol version 6 (IPv6) emerged. https://www.rfc-editor.org/rfc/pdfrfc/rfc2460.txt.pdf; *see also* '173 patent at p. 1, Other Publications Section. As of the priority date of the '173 patent, IPv6 was not fully developed and not yet standardized. https://www.internetsociety.org/blog/2017/07/rfc-8200-ipv6-has-been-standardized/. The Internet Engineering Task Force (IETF) ratified it as an Internet Standard on July 14, 2017. *Id*. "IPv6 is intended to be compatible with IPv4 while addressing the needs of high performance networks (e.g., ATM) and low bandwidth networks (e.g., wireless). IPv6 also provides a platform for new Internet functionality that may be required in the future (*e.g.,*

telephony, television, video on demand, equipment control)." '173 patent at 1:35-41; *see* Overby Decl., at ¶200.

63. The specification explains that "[a] characteristic of IPv4 and IPv6 is the use of an IP header of a particular format for each of the packets for identifying the source, destination and other information related to the packet. The routing header may identify one or more intermediate nodes to be visited by the packet on the way to the destination." '173 patent at 2:38-43. The '173 patent notes that "[s]ource routing has been specified in both IPv4 and IPv6 to provide a means for the source apparatus to list one or more intermediate nodes to be visited on the way to a packet's destination." *Id*. at 2:44-47; *see* Overby Decl., at ¶201.

64. However, source routing was handled differently in IPv4 and then-proposed IPv6. '173 patent at 2:48-67. "In IPv4, a loose source and record route (LSRR) option and a strict source and record route (SSRR) option are provided for source routing. FIG. 2A illustrates a packet format for the LSSR option and FIG. 2B illustrates a packet format for the SSRR option." *Id*. at 2:48-52.

FIG. 2A

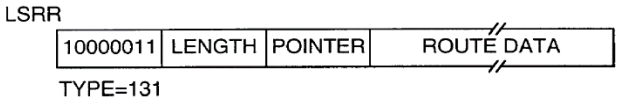


FIG. 2B

As noted in the '173 patent, "[t]he source apparatus may put the address of the first to intermediate router it wants the packet to visit in a destination address field in the IP header, and the addresses of the remaining routers the packet will visit in the route data field inside the LSRR option or the SSRR option." *Id.* at 2:53-57. The specification explains that "[t]he address of the real destination to which the packet is sent may be put at the end of the route data field inside the LSRR option or

the SSRR option." *Id.* at 2:57-60. In IPv4, "[t]he intermediate router, whose address is in the destination address field in the packet, may replace the destination address field with the next address in the source route." *Id.* at 2:60-63. "Therefore, before the source routing has been consumed completely (*i.e.*, the pointer field is not greater than the length field in the LSRR option or the SSRR option), the destination address does not carry the address of the final destination." *Id.* at 2:63-67; *see* Overby Decl., at ¶202.

65. Source routing in then-proposed IPv6 was more complicated. "FIG. 3 illustrates the format of an IP header for IPv6 and **FIGS. 4** and **5** illustrate the format of routing headers for IPv6." '173 patent at 3:1-3.

FIG. 3

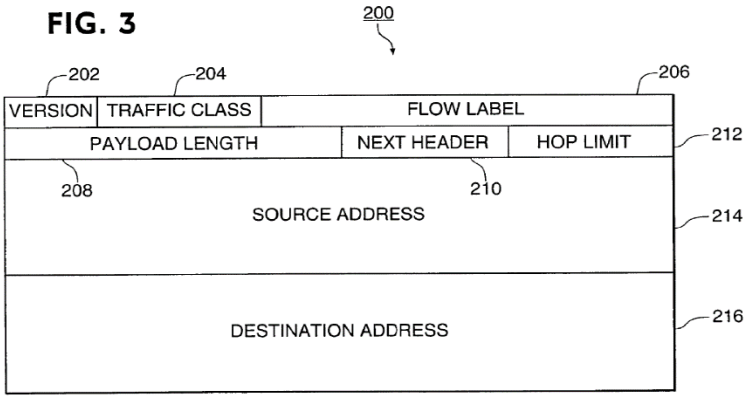
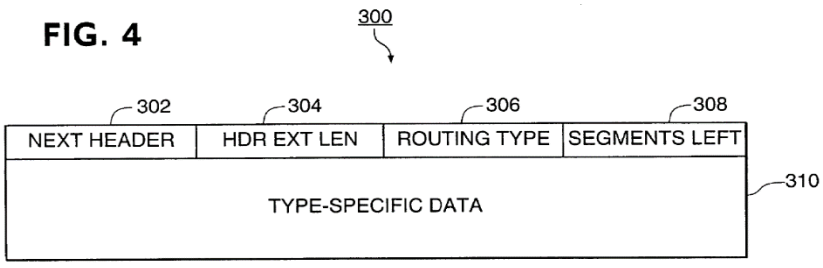
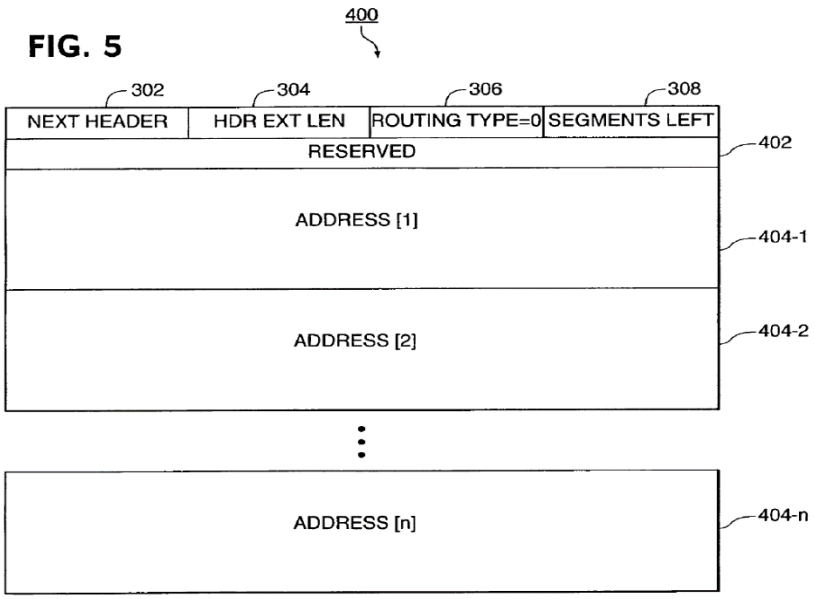


FIG. 4





The '173 patent explains that "[t]he IP header **200** illustrated in FIG. **3** includes the following fields: a version field **202**, a traffic class field **204**, a flow label field **206**, a payload length field **208**, a next header field **210**, a hop limit field **212**, a source address field **214** and a destination address field **216**." '173 patent at 3:4-8. It further teaches that "[t]he source address field **214** may store the address of the initial sender (i.e., the source apparatus) of the packet and the destination address field **216** may store the address of the intended recipient (i.e., the destination apparatus) of the packet." *Id.* at 3:24-28; *see* Overby Declaration, at ¶203.

66. The '173 patent further discusses the routing header in **FIG. 4** and **5**. It describes, through use of the Figures, the fields available in the routing header for then-proposed IPv6:

> The routing header **300** illustrated in **FIG. 4** includes the following fields: a next header field **302**, a header extension length field **304**, a routing type field **306**, a segments left field **308** and a type-specific data field **310**. The next header field **302** may store information identifying the type of header immediately following the routing header. The header extension length field **304** may store information indicating the length of the routing header. The routing type field **306** may store information indicating the variant of the routing header. The segments left field **308** may store a value indicating the number of route segments still remaining to be visited by the packet before the destination is reached, and the type-specific data field **310** may

> store information including addresses of the nodes to be visited by the packet.
>
> **FIG. 5** illustrates a routing header **400** where the routing type field **306** has a value of "0." This identifies the routing header as a Type 0 routing header. The Type 0 routing header **400** illustrated in **FIG. 5** includes all the same fields as shown in the routing header **300** (**FIG. 4**) with the exception of a reserved field **402** and address fields **404-1** to **404-*n***. The reserved field **402** may be initialized by the source and can be used in any manner by the intermediate nodes. The address fields **404-1** and **404-*n*** include a sequence of addresses of nodes to which the packet is to be routed. This includes the address of the destination. For the Type 0 routing header **400**, the bits of the reserved field **402** are all set to "0."

'173 patent at 3:29-55; *see* Overby Decl., at ¶204.

67. Then the '173 patent explains how the use of these fields is accomplished and the problems that can occur under certain conditions. For instance, "[t]he source apparatus (such as the first host **10**) puts the address of the first router (such as the first router **20**) the packet should visit in the destination address field **216** of the IP header, and the addresses of the remaining routers in the address list **404-1**-**404-*n*** of the routing header." '173 patent at 3:56-60. "The address of the real destination may be put in the last entry (or last destination address field) in the address list (*i.e.,* the Address [n] field **404-*n***)." *Id.* at 3:60-63. "The segments left field **308** in the routing header may indicate the number of intermediate routers still to be visited before reaching the final destination." *Id.* at 3:63-65; *see* Overby Decl., at ¶205.

68. One part of the technological problem is this: "before the segments left field **308** reaches zero, the destination address field **216** in the IP header carries the address of an intermediate node, rather than the address of the final destination[,]" which may be undesirable where a specific QoS is required. '173 patent at 3:66-4:3. When attempting to ensure a desired QoS (using RSVP, as an example), "upon receiving an incoming packet, a RSVP node may first determine which session it belongs to based on the ***Destination Addresses***, the ProtocolId and the optional Destination Port." *Id.* at 4:23-27 (emphasis added). While "[s]uch classification

procedure may perform correctly if there is no source routing[,] . . . the following conditions may lead to incorrect session classification." *Id.* at 4:28-30.

> Condition A: In IPv4, if the LSRR option or the SSRR option is present and the source routing hasn't been consumed completely. That is, the pointer field is not greater than the length field in the LSRR option or the SSRR option.
>
> Condition B: If the IPv6v routing header is present and the source routing hasn't been consumed completely. That is, the segments left field **308** is not zero.

Id. patent at 4:31-37; *see* Overby Decl., at ¶206.

69. "If one of these conditions [wa]s met, then the destination address field in the IP packet may carry the address of the next router it wants to visit rather than the final destination address in the session object in the traffic control state block. This may cause the packet to not receive the requested QoS until the source routing has been consumed completely." '173 patent at 4:38-43; *See* Overby Decl., at ¶207.

The Claimed Advances of the '173 Patent

70. The technological problems identified above left a need for improved methods and systems for ensuring a desired QoS is applied to a data stream by "classifying [IP] data to be sent from a source apparatus to a destination apparatus in a packet switch network." '173 patent at 1:46-48. According to the specification, the '173 patent claims are directed to "receiving the data (including a routing header) at a first node and classifying the data at the first node based on source routing information of the data," which "may be provided within a destination field of a routing header for IPv6 or may be provided within LSRR/SSRR of the data for IPv4." *Id*. at 1:48-53. "The routing header may include a segments left field, a first destination address field and a last destination address field. Classifying may be based on the last destination address field of the routing header." Id. at 1:58-61. These advances are claimed by use of a method (described above)

and "a router for use in a packet switched network" that "include[s] a receiving device to receive the IP data at a first node and a processor device coupled to the receiving device to receive the IP data and to classify the data at the first node based on source routing information." *Id*. at 1:67-2:6; *see* Overby Decl., at ¶208.

71. The '173 patent teaches that "the present invention may be provided within each of the routers such as the first router 20 and the second router 30 (FIG. 1) in order to perform a classification method . . . to allow correct classification of packets." '173 patent at 4:44-49. It is further explained that "to classify a session correctly and provide the desired QoS, the session classification may be based on the final destination address, which could be carried in the destination address field in the IP packet in the IPv4 LSRR/SSRR option or in the IPv6 routing header." '173 patent at 4:51-56; *see* Overby Decl., at ¶209.

72. The '173 patent provides classification algorithms for IPv4 (see '173 patent at 4:57-5:3) and for IPv6 (see id. at 5:4-15). These are self-explanatory and will not be specifically recited here except to say they are largely captured in claims 1, 13, and 25, and in claims 2-4, 14-16, and 26-28 (algorithms for IPv6) and claims 5-7, 17-19, and 30-32 (algorithms for IPv4). *See* Overby Decl., at ¶210.

The Claims of the '173 Patent Provide Solutions To Problems With Providing a Desired QoS in Packet Switched Networks in April of 2001.

73. The '173 patent contains 37 total claims (six independent and thirty-one dependents, each of which include additional technical steps/limitations). For purposes of this declaration, the focus is primarily on claims 1, 13, and 17, three of the six independent claims, and some of their dependent claims, though the same arguments (and more) apply to the other claims in the patent. Claims 1 (with some of its dependents), 13 (with some of its dependents), and claim 17 (and some of its dependents) are cited below, with some bolding, italics, and underlining, which are provided

for emphasis and to show how the claims are directed to solve the technical problems described in the specification:

> **1.** A method of ***classifying Internet Protocol (IP) data to be sent from a source apparatus to a destination apparatus in a packet switched network***, said method comprising:
>
> ***receiving said data at a first node***, the ***data comprising a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus***; and
>
> ***classifying said data at said first node based on an entry in said header***.
>
> **2.** The method of ***claim 1***, wherein ***said entry is provided within said header of said data for IPv6***.
>
> **3.** The method of ***claim 2***, wherein said ***classifying is based on a destination address provided within said header***.
>
> **4.** The method of ***claim 2***, wherein ***said header comprises a segments left field, a first destination address field and a last destination address field***, and said ***classifying is based on information within said last destination address field of said header***.
>
> **13.** ***A router for use in a packet switched network for transmission of Internet Protocol (IP) data*** to be sent from a source apparatus to a destination apparatus, said router comprising:
>
> ***means for receiving said IP data at a first node, the data comprising a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus***; and
>
> ***means for classifying said IP data at said first node based on an entry in said header***.
>
> **14.** The router of ***claim 13***, wherein ***said source routing information is provided within said header of said data for IPv6***.
>
> **15.** The router of ***claim 14***, wherein said ***classifying is based on a destination address provided within said header***.

> **16.** The router of ***claim 14***, wherein ***said header comprises a segments left field***, ***a first destination address field*** ***and a last destination address field, and said means for classifying classifies said IP data based on information of said last destination address field of said header***.
>
> **17.** A router for use in a packet switched network for transmission of Internet Protocol (IP) data to be sent from a source apparatus to a destination apparatus, said router comprising:
>
> ***means for receiving said IP data at a first node***, the ***data comprising a header comprising a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus***; and
>
> ***means for classifying said IP data at said first node based on an entry in said header wherein said entry in said header is provided within one of LSRR and SSRR of said data for IPv4***.
>
> **18.** The router of ***claim 17***, wherein said ***classifying is based on a destination address provided within said one of LSRR and SSRR of said data for IPv4***.
>
> **19.** The router of ***claim 17***, wherein said ***one of LSRR and SSRR of said data for IPv4 comprises a first destination address field and a last destination address field***, and said ***classifying is based on information within said last destination address field of said one of LSRR and SSRR of said data for IPv4***.

'173 patent claims 1-4, 13-19 (emphasis added); *see* Overby Decl., at ¶211.

74. The other claims are similarly directed to solutions to the technical problems in packet switched networks that existed in April of 2001 (as taught in the '173 patent). For instance, claims 5 to 7 are methods that mirror the routers of claims 17 to 19 (directed to IPv4 solutions). Likewise, claims 25 to 29 claim various routers that mirror the methods claimed in claims 1 to 4. Similarly, claims 30-32 are directed to various routers that are similar to the routers claimed in claims 17 to 19 (but without the use of means-plus-function claiming). *See* Overby Decl., at ¶212.

75. A skilled artisan would understand that the technical solutions discussed in the '173

patent to provide a desired QoS in a packet switched networks are directly captured in the claims of the '173 patent, including in claims 1-7, 13-19, and 25-32 (and the other dependent claims of the '173 patent), which generally provide for routers and associated methods for classifying IP data (according to the strictures of IPv4 and IPv6, as specified) based on entries in the header of the IP data. The specific algorithms taught in the '173 patent to accomplish this for IPv6 are captured in claims 1-4, 13-16, and 25-29 (algorithms for IPv6, *see* '173 patent at 5:4-15) and the algorithms taught in the '173 patent to accomplish this for IPv4 are captured in claims 5-7, 17-19, and 30-32 (algorithms for IPv4, *see* '173 patent at 4:57-5:3). The other claims largely (and directly) capture the other teachings of the '173 patent and are directed to other details like reserving resources of nodes from source and destination apparatuses, storing source routing data at various nodes, classifying at different nodes, *etc*. *See* '173 patent at claims 8-12, 20-24, and 33-37; *see* Overby Decl., at ¶213.

76. These claims clearly claim the solutions that were identified as problems in the art in the specification of the '173 patent. Claims 5-7, 17-19, and 30-32 (algorithms for IPv4) are directed to, among other things, methods and routers for a packet switch network that allows for desired QoS by classifying IP data at a first node based on a IPv4 header entry (*e.g.*, within LSRR/SSRR of IPv4 data) comprising a list of at least one intermediate node to be visited on a way to the destination apparatus. Similarly, claims 1-4, 13-16, and 25-29 (algorithms for IPv6) claim methods and routers for a packet switch network that allows for desired QoS by classifying IP data at a first node based on IPv6 heading data (*e.g.*, a routing header) of comprising a list of at least one intermediate node to be visited on a way to the destination apparatus. Claims 8-12, 20-24, and 33-37 employ more detailed solutions to the technical problems that existed in packet switch networks in April of 2001 by reserving resources of nodes from source and destination

apparatuses, storing source routing data at various nodes, and classifying at different nodes. There is nothing abstract about these claims. A skilled artisan would understand that these claims provide a specific improvement in computer capabilities that did not exist prior to the priority date of the '173 patent. *See* Overby Decl., at ¶214.

77. These claims are not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including claims 1-7, 13-19, and 25-32, and the other dependent claims referenced above, accomplish something tangible in the computer world. As explained above, the claims of the '173 patent are directed at improving the then-existing state of technology for packet switched networks in order to provide a desired QoS that was not possible within the strictures of IPv4 and then existing standards developed for IPv6. None of these steps could be performed by a human or with a pen and paper because problems of this type simply do not exist outside the computer realm. *See* Overby Decl., at ¶215.

78. Finally, the claims of the '173 patent do not preempt all the ways of ensuring a desired QoS for packet-switched networks or reliably routing packets in a packet switched network. For instance, the many prior art systems discussed on the cover page of the '173 patent can be freely practiced without fear of infringing the patent. There are also countless other ways packet switched network packet routing can be employed. *See* Overby Decl., at ¶216.

79. Even if the '173 patent claims were directed at an abstract idea, which no person of ordinary skill would reasonably believe, the claims capture subject matter that is inventive. The claims of the '173 patent are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time (like "packets," "IP data," a "packet switch network," "nodes," "addresses," and "IPv4 data" and "IPv6 data," for instance), they are employed together here in a way that was new (and would not have been

considered conventional, routine, or generic to skilled artisans). Put simply, the use of the various methods and routers claimed in a way that allows for a desired QoS in a packet switched network by classifying IP data based on a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus, especially in a way that overcame problems in both IPv4 and IPv6-based networks, was not known in the art, much less something a skilled artisan would consider a conventional or routine approach to ensuring a desired QoS for packet-switched networks or otherwise reliably routing packets in a packet switched network. *See* Overby Decl., at ¶217.

80. Even if that were not true, when you look at the elements of each claim as a whole, in ordered combinations of their limitations—including (A) independent claim 1, coupled with dependent claims 2-4 and 8-12, some of which build on each other; (B) independent claim 5, coupled with dependent claims 6-7; (C) independent claim 13, coupled with dependent claims 14-16 and 20-24, some of which build on each other; (D) independent claim 17, coupled with dependent claims 18-19; (E) independent claim 25, coupled with dependent claims 26-29 and 33-37, some of which build on each other; and (F) independent claim 30, coupled with dependent claims 31 and 32—the claims were not well-known in the art. A skilled artisan would know that these claims did not merely employ known generic components in a conventional or routine way. The opposite, in fact, is true, which is backed up by the teachings of the '173 patent, as noted above. These claims disclose and claim specific solutions through their claim elements in an inventive and unique way in order to solve problems that existed in April of 2001. In fact, this particular combination of claim elements, including in independent claims 1, 5, 13, 17, 25, and 30, especially in light of their dependent claims, being used in a way that solved the then-existing problems with communications in the packet switched networks that existed in April of 2001 was

unknown in the art. *See* Overby Decl., at ¶218.

81. For the above reasons, the subject claims in the '173 patent recite a combination of elements sufficient to ensure that the claims in substance and in practice amount to significantly more than a patent-ineligible abstract idea. *See* Overby Decl., at ¶219.

Direct Infringement under § 271(a)

82. Defendants have directly infringed and continue to infringe one or more claims of the '173 patent by using, providing, supplying, or distributing the Accused Products.

83. As just one example of infringement, the Accused Products perform a method of classifying Internet Protocol (IP) data to be sent from a source apparatus to a destination apparatus in a packet switched network, said method comprising: receiving said data at a first node, the data comprising a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus; and classifying said data at said first node based on an entry in said header.

84. Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '173 patent, as detailed in **Attachment 1**, which is incorporated by reference herein.

85. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

86. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '173 patent. Defendants' actions

have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

COUNT I(A): ***Indirect Infringement under § 271(b) and (c)***

87. Defendants were willfully blind to the existence of the '173 patent and their infringement, but Defendants had actual knowledge of the '173 patent on or around December 1, 2023.

88. Defendants have also indirectly infringed the '173 patent by inducing others to directly infringe the '173 patent.

COUNT I(A)(1): ***Induced Infringement Under § 271(b)***

89. Defendants have induced end-users, including, but not limited to, their employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '173 patent by providing or requiring use of the Accused Products.

90. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '173 patent, including, for example, claim 1 of the '173 patent.

91. Such steps by Defendants have included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home

Apps on how to use the Accused Products in an infringing manner.

92. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '173 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '173 patent.

93. Defendants' inducement is ongoing.

COUNT I(A)(2): *Contributory Infringement Under § 271 (c)*

94. Defendants have also indirectly infringed by contributing to the infringement of the '173 patent.

95. Defendants have contributed to the direct infringement of the '173 patent by their personnel, contractors, and customers.

96. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '173 patent, including, for example, claim 1 of the '173 patent.

97. The special features constitute a material part of the invention of one or more of the claims of the '173 patent and are not staple articles of commerce suitable for substantial non-infringing use.

98. Defendants' contributory infringement is ongoing.

COUNT I(B): *Willful Infringement*

99. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

100. Defendants' direct infringement of one or more claims of the '173 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations'

rights under the patent.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 7,384,798

101. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

102. The USPTO duly issued U.S. Patent No. 7,394,798 (hereinafter, the "'798 patent") on July 1, 2008, after full and fair examination of Application No. 10/962,694 which was filed on October 13, 2004. *See* '798 patent p.1.

103. IoT Innovations owns all substantial rights, interest, and title in and to the '798 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.

104. The claims of the '798 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon tools for, and the function and operation of, push-to talk functions over ad-hoc networks, such that they can be provided reliably while controlled over overlay networks.

105. The written description of the '798 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

106. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '798 patent.

107. The ’798 patent is directed to a network system and methods to “form a group in which a singlehop or multihop direct communication is possible. That is, the network nodes form an ad hoc network in which a push-to talk service is realised. Thus, for this push-to talk service, no signalling of the overly network is necessarily required, so that resources of the overlay network are saved “a personal digital gateway that communicates with a linked communications device to automatically provide customized presentation, selection, and management of programs and/or data to the linked communications device.” ’798 patent at 2:1-7; *see* Overby Decl. at ¶221.

108. A person of ordinary skill in the art (“POSITA”) at the time of the priority date of the ‘830 patent would have had a Bachelor of Science in computer engineering, information systems, or computer science and at least two years of experience in software development and/or engineering design, authentication, or security in the field of communications. *se See e* Overby Decl. at ¶222.

The Technical Problems In Sharing Information Between Devices In 2004

109. The specification of the ’798 patent discussed the background of existing Push-ToTalk over Cellular (“PoC”) systems and identified technical problems with that functionality as it stood in 2004. ’798 patent at 1:9-1:35; *see* Overby Decl. at ¶223.

110. Nokia Corporation, the company that applied for this patent, was a pioneer in PoC field and was also seeking to solve the problems that existed in the field as of 2004. *See, e.g.*, https://www.globenewswire.com/news-release/2003/10/28/1846250/0/en/Nokia-launches-push-to-talk-over-cellular-network-products.html (last accessed July 15, 2024) (announcing, in 2003, Nokia’s push-to-talk over cellular (PoC) solution that “allows operators to use their existing GSM/GPRS net-works to provide this attractive form of instant voice service over GSM, the world's most widely used cellular system.”). *See* Overby Decl. at ¶224.

111. The '798 patent explains that "Push-To-Talk over Cellular (PoC) . . . is an open standard for PTT (Push-To-Talk) "walkie-talkie" technology. Created by the OMA (Open Mobile Alliance) standards organization, PoC uses VoIP (Voice over Internet Protocol) technology to stream voice over data networks such as GPRS (General Packet Radio Service)." *Id*. at 1:9-13; *see* Overby Decl. at ¶225.

112. "PoC provides a connection of a network node (such as a mobile phone) to other network nodes. That is, a user starts a call with a push of key, similar as in "walkie-talkies." Push to talk calls are one-way communications, while one person speaks, the other(s) listen." *Id*. at 1:14-18; *see* Overby Decl. at ¶226.

113. The connection between devices in PoC applications "is provided via the GPRS network control nodes such as SGSN (Serving GPRS Support Node) and GGSN (Gateway GPRS Support Node) and the like. Furthermore, for the PoC functionality, an additional PoC application server is provided, which is responsible for the basic PoC functions, group management, floor control, distribution and filtering of voice messages and the like. *Id*. at 1:22-29; *see* Overby Decl. at ¶227.

114. The '798 patent recognized that existing implementations of PoC "involve[d] considerable signalling in the network, since PoC is provided via the normal network resources such as base stations." Id. at 1:30-32; *see* Overby Decl. at ¶228.

115. The '798 patent recognized that, due to the growing popularity of PoC communications, using VoIP to implement PoC could result in overloading the VoIP network, which was used for several other types of communication at the time. *Id*. at 1:32-35. This would potentially result in undesirable interruptions in service and increased costs to maintain the VoIP systems. *See* Overby Decl. at ¶229.

The Claimed Advances Of The '830 Patent.

116. The '798 patent discloses technical improvements that "overcome this problem such that the push-to talk function can be provided reliably also *via* singlehop or multihop direct radio links while controlled over the overlay networks like cellular or Internet." '798 patent at 1:39-43; *see* Overby Decl. at ¶230.

117. Specifically, the '798 patent discloses "a new connection service, which is referred to as push-to-talk over Ad Hoc (PoH), by defining the main procedures required for forming push-to-talk services over Ad Hoc networks." *Id*. at 2:66-3:2; *see* Overby Decl. at ¶231.

118. "The term 'Ad-Hoc Network' means a network structure that is temporary and its configuration is performed automatically and constantly because nodes may appear, disappear and move unexpectedly. That is, a standalone ad hoc wireless network consists of wireless nodes that self-configure to form a network without any help from a central controller. Nodes in the network handle handshaking and other network tasks themselves through use of a distributed-control algorithm." *Id*. at 3:3-10; *see* Overby Decl. at ¶232.

119. The '798 patent explains how the new Ad Hoc Networks it discloses improves on Nokia's prior PoC technology:

> Ad Hoc networking technology will bring about the realization of device networking by utilizing single hop or multihop radio connection with the help of wireless routing and self-organized networking. By enhancing the current PoC service in the above way, it would be readily possible to keep abreast the local groups of mobile users with the benefits of the PoC service. It will also enhance the PoC capability of swapping flexibly to the local and global domain when necessary.

Id. at 3:30-38; *see* Overby Decl. at ¶236.

120. In the example of FIG. 3, "the overlay packet network (*e.g.,* GPRS) is used in order to provide a connection between the two groups [*i.e.,* A and C]." *Id*. at. 5:19-21; *see* Overby Decl. at ¶242.

121. In other words, "single hop proximity PoH connections are tied together by using an overlay cellular network E." *Id*. at. 5:24-25; *see* Overby Decl. at ¶243.

122. "The connection between the two groups via the cellular network, which may be a packet network such as a GPRS network, can be provided such that one network node of the first group (for example, network node A1) provides a connection to the one network node (for example, network node C1) of the third group, so that these two network nodes are used as a kind of 'gateway' nodes by the other nodes of the respective group." *Id*. at. 5:26-33; *see* Overby Decl. at ¶244.

The Claims Of The '798 Patent Provide Technical Solutions To The Problems With Adding New Devices To A Network in June 2004.

123. The '798 patent contains 36 total claims (four independent). '798 patent, generally.

124. Claim 16 recites:

> 16. A method for controlling network system comprising:
>
> temporarily forming a first group including a first plurality of network nodes,
>
> temporarily forming a second group including a second plurality of network nodes,
>
> sending and receiving information between the first group and the second group, wherein a first network node included in the first plurality of network nodes and the second plurality of network nodes sends and receives the information between the first group and the second group;
>
> wherein the information is sent and received using a direct contact via a radio connection between at least two network nodes of the first group and the second group.

'798 patent at claim 16 (emphasis added).

125. Claim 16 is directed to a specific way to enable push-to-talk functionalities between various nodes and groups of nodes on a network while reducing the load on VoIP systems. The

method of claim 16 increases the efficiency and reliability of such communications systems. *See* Overby Decl. at ¶248.

126. This claim is directed to technical solutions to technical problems that existed in 2004. More specifically, the claimed subject matter overcame the technical problems in managing multiple communications devices that existed in 2004. This claim solves the problems identified above by using direct radio connection for communication within each group of nodes, removing that traffic from the cellular system. *See* Overby Decl. at ¶249.

127. A person skilled in the art would understand that claim 16 above provided a specific improvement in the function of communications systems that did not exist prior to the priority date of the '798 patent, and more specifically, permitted more reliable communications within each group of nodes while continuing to allow efficient and fast communications between a remote second group of nodes that may not be in direct radio connection with the first group of nodes. *See* Overby Decl. at ¶250.

128. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the communications systems (*i.e.*, enabling push-to-talk functionality while reducing the chances of traffic overload on cellular systems). None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '798 patent, the problems that the solutions of the '798 patent solve do not exist outside the computer realm. *See* Overby Decl. at ¶251.

129. Finally, the claims of the '798 patent do not preempt all the ways of arranging or facilitating push-to-talk functionalities in a networked environment, much less all methods of communicating between devices in such an environment. There are myriad other ways such

systems could be architected to allow such communications. *See* Overby Decl. at ¶252.

130. Even if the claims of the '798 patent were directed at an abstract idea, and they are not, the claims capture subject matter that is inventive. The claims of the '798 patent are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time, they are employed together here in a way that was new (and certainly would not have been considered conventional, routine, or generic to those skilled in the art). *See* Overby Decl. at ¶253.

131. For example, as noted above the '798 patent expressly discloses "***a new connection service***, which is referred to as push-to-talk over Ad Hoc (PoH), by defining the main procedures required for forming push-to-talk services over Ad Hoc networks." '798 patent at 2:66-3:2. PoH connection services and methods constituted concrete technical improvements over preexisting technologies in 2004. *See* Overby Decl. at ¶254.

132. Even if that were not true, the ordered combination of limitations in claim 16 of the '798 patent, as recited and described in detail above, were not well-known in the art. A skilled artisan would have understood that these claims do not merely employ known generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way to solve the well-documented problems that were then-known in the art. *See* Overby Decl. at ¶255.

133. For the above reasons, the claims of the '798 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl. at ¶256.

Direct Infringement under § 271(a)

134. Defendants have directly infringed one or more claims of the '798 patent by using, providing, supplying, and distributing the Accused Products.

135. As just one example of infringement, the Accused Products perform a method for controlling network system comprising: temporarily forming a first group including a first plurality of network nodes, temporarily forming a second group including a second plurality of network nodes, sending and receiving information between the first group and the second group, wherein a first network node included in the first plurality of network nodes and the second plurality of network nodes sends and receives the information between the first group and the second group; wherein the information is sent and received using a direct contact via a radio connection between at least two network nodes of the first group and the second group.

136. An exemplary claim chart illustrating Somfy's infringement of claim 1 is attached hereto as **Attachment 2** which is incorporated by reference herein**.**

137. IoT Innovations has been damaged as a result of the infringing conduct by Somfy alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

138. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Somfy's infringement of the '798 patent. Somfy's actions have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case

COUNT II(A): ***Indirect Infringement under § 271(b) and (c)***

139. Defendants had actual knowledge of the '798 patent on or around December 1, 2023.

140. Defendants have also indirectly infringed and continues to indirectly infringe one or

more claims of the '798 patent by inducing others to directly infringe said claims.

COUNT II(A)(1): *Induced Infringement Under § 271(b)*

141. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '798 patent by providing or requiring use of the Accused Products.

142. Defendants have taken active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '798 patent, including, for example, claim 16.

143. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home Apps on how to use the Accused Products in an infringing manner.

144. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '798 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '798 patent.

145. Defendants' inducement is ongoing.

COUNT II(A)(2): *Contributory Infringement Under § 271 (c)*

146. Defendants have also indirectly infringed and continues to indirectly infringe by contributing to the infringement of the '798 patent.

147. Defendants have contributed to the direct infringement of the '798 patent by its

personnel, contractors, and customers.

148. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '798 patent, including, for example, claim 16.

149. The special features constitute a material part of the invention of one or more of the claims of the '798 patent and are not staple articles of commerce suitable for substantial non-infringing use.

150. Defendants' contributory infringement is ongoing.

COUNT II(B):*Willful Infringement*

151. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Somfy.

152. Defendants' direct infringement of one or more claims of the '798 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,974,266

153. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

154. The USPTO duly issued U.S. Patent No. 7,974,266 (entitled "Method And Apparatus For Classifying Ip Data"; hereinafter, the "'266 patent") on July 5, 2011, after full and fair examination of Application No. 11/778,822, which was filed on July 17, 2007. *See* '266 patent at p.1. A Certificate of Correction was issued on November 22, 2011. *See id.* at p.11.

155. IoT Innovations owns all substantial rights, interest, and title in and to the '266 patent, including the sole and exclusive right to prosecute this action and enforce the '266 patent against infringers and to collect damages for all relevant times.

156. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the ’266 patent.

157. The claims of the ’266 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of data transmission in a in a packet switch network.

158. The written description of the ’266 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

159. The ’266 patent has a priority date of April 16, 2001, but was filed on July 17, 2007, and it claims a method and system “for classifying Internet Protocol (IP) data in a packet switch network.” ‘266 patent, at p. 1. The inventions of the ‘266 patent “relate to quality of service (QoS) for a stream of data packets. ’266 patent, at 1:7-11. The terms Quality of service (QoS) is generally used to describe ways that organizations control network traffic and ensure the performance of critical applications, even when network capacity is limited. QoS technologies or methods enable organizations to adjust their network traffic by prioritizing high-performance applications and also minimizes network connectivity issues, such as packet loss, network jitter, and high latency. *See* Overby Decl., at ¶292.

160. According to the specification, “[d]ata may be received at a first node and classified based on source routing information” of the data, which may be provided within LSRR/SSRR of

IPv4 data or within a routing header of lPv6 data." '266 patent, at 1:7-11; *see* Overby Decl., at ¶293.

The Technical Problems Existing In Packet Switched Networks In April of 2001

161. The inventions of the '266 patent are directed to solving technical problems that existed in packet switched network technologies in April of 2001 by employing QoS techniques through modification of IP data packets to overcome the problems with then-existing standard packet formats. The specification of '266 patent provides substantial detail concerning the problems with then-existing technology for packet switched networks. '266 patent, at 1:7-11. At the priority date of the '266 patent, the Internet was fairly new to the general public but was slowly making its way into its daily affairs. The smart phone had not yet been invented, so internet usage was still primarily limited to at-home or in-office computer usage over a modem. *See* Overby Decl., at ¶295.

162. The Internet is a packet switched network. "In packet switched networks, packets may be transmitted between nodes coupled to the network to effect communication between the nodes. Information in the packets may include messages and commands such as a request for service, connection managements controls, or data. Large transmissions may be divided into packets instead of being transmitted as one long string." *Id.* at 1:13-19; *see* Overby Decl., at ¶296.

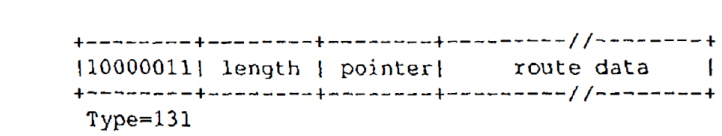
163. Although the Internet was new to the public, packet switched networks had been around since the early to mid-1960s. One of the first networks to use packet switching was ARPANET, a precursor to the Internet. As part of the development of packet switched networks, the Internet Protocol (IP) was created. IP is a "protocol that defines how to format various information into packets and transmit those packets using the Internet. IP provides a near universal delivery system that can operate on almost any underlying network." '266 patent, at 1:20-25; *see* Overby Decl., at ¶297.

164. At the priority date of the patent, the adopted IP version was IPv4, which was version 4 of the Internet Protocol, first deployed in the early 1980s. IPv4 serves what could be called the computer market. The focus of IPv4 is to couple computers together to permit communications over various networks where the computers range from personal computers (PCs) to supercomputers." '266 patent, at 1:26-31. At the priority date of the '266 patent, "[m]ost of the computers [we]re attached to local area networks (LAN s) and the vast majority [we]re not mobile." *Id.*, at 1:31-33. In December 1998, the first draft of Internet Protocol version 6 (IPv6) emerged. https://www.rfc-editor.org/rfc/pdfrfc/rfc2460.txt.pdf; *see also* '266 patent, p. 1, Other Publications Section. As of the priority date of the '266 patent, it was not fully developed and not yet standardized. https://www.internetsociety.org/blog/2017/07/rfc-8200-ipv6-has-been-standardized/. The Internet Engineering Task Force (IETF) ratified it as an Internet Standard on July 14, 2017. *Id.* "IPv6 is intended to be compatible with IPv4 while addressing the needs of high performance networks (*e.g.,* ATM) and low bandwidth networks (*e.g.*, wireless). IPv6 also provides a platform for new Internet functionality that may be required in the future (*e.g.*, telephony, television, video on demand, equipment control)." '266 patent, at 1:34-40; *see* Overby Decl., at ¶298.

165. The specification explains that "[a] characteristic of IPv4 and IPv6 is the use of an IP header of a particular format for each of the packets for identifying the source, destination and other information related to the packet. The routing header may identify one or more intermediate nodes to be visited by the packet on the way to the destination." '266 patent, at 2:37-42. The '266 patent notes that "[s]ource routing has been specified in both IPv4 and IPv6 to provide a means for the source apparatus to list one or more intermediate nodes to be visited on the way to a packet's destination." '266 patent, at 2:43-46; *see* Overby Decl., at ¶299.

166. However, source routing was handled differently in IPv4 and then-proposed IPv6. '266 patent, at 2:47-65. "In IPv4, a loose source and record route (LSRR) option and a strict source and record route (SSRR) option are provided for source routing. **FIG. 2A** illustrates a packet format for the LSSR option and **FIG. 2B** illustrates a packet format for the SSRR option." *Id.*, at 2:47-51.

FIG. 2A



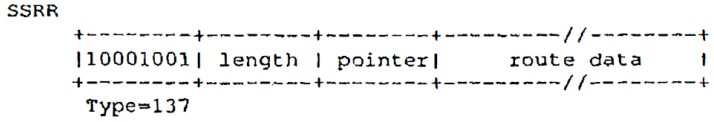


FIG. 2B

As noted in the '266 patent, "[t]he source apparatus may put the address of the first to intermediate router it wants the packet to visit in a destination address field in the IP header, and the addresses of the remaining routers the packet will visit in the route data field inside the LSRR option or the SSRR option." *Id.*, at 2:51-56. The specification explains that "[t]he address of the real destination to which the packet is sent may be put at the end of the route data field inside the LSRR option or the SSRR option." *Id.*, at 2:56-59. In IPv4, "[t]he intermediate router, whose address is in the destination address field in the packet, may replace the destination address field with the next address in the source route." *Id.*, at 2:59-61. "Therefore, before the source routing has been consumed completely (*i.e.*, the pointer field is not greater than the length field in the LSRR option

or the SSRR option), the destination address does not carry the address of the final destination." *Id.*, at 2:62-65; *see* Overby Decl., at ¶300.

167. Source routing in then-proposed IPv6 was more complicated. "FIG. 3 illustrates the format of an IP header for IPv6 and **FIGS. 4** and **5** illustrate the format of routing headers for IPv6." '266 patent, at 2:66-67.

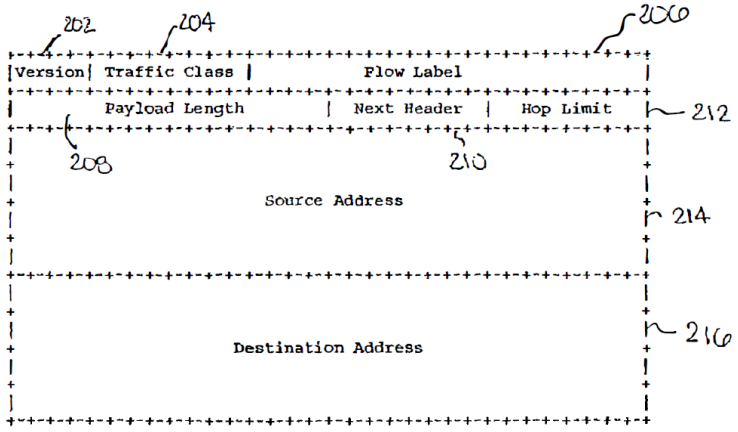


FIG 3

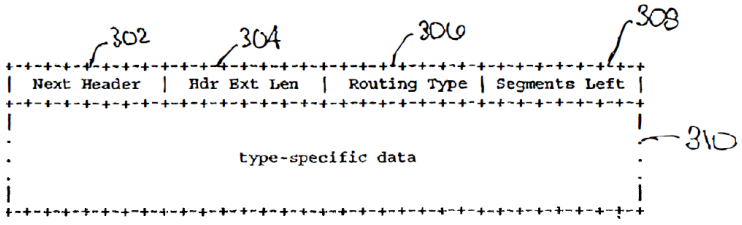


FIG 4

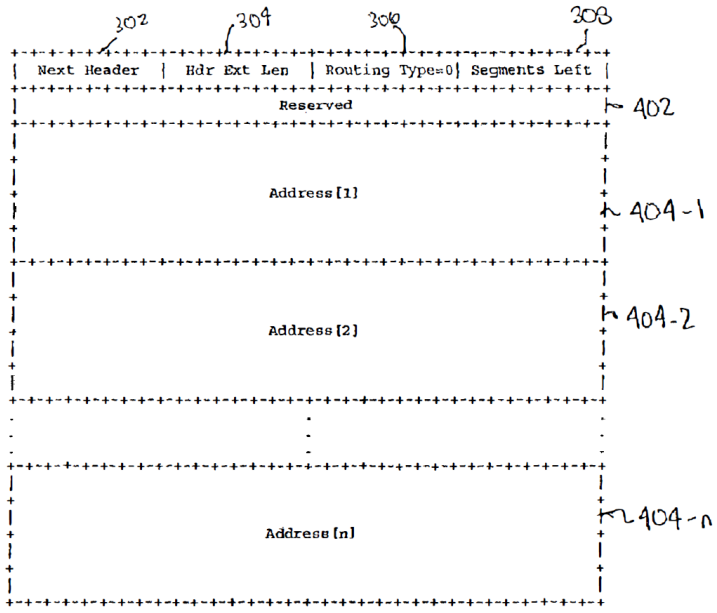


FIG 5

The ’266 patent explains that “[t]he IP header **200** illustrated in FIG. **3** includes the following fields: a version field **202**, a traffic class field **204**, a flow label field 206, a payload length field **208**, a next header field **210**, a hop limit field **212**, a source address field 214 and a destination address field 216.” ’266 patent, at 3:1-5. It further teaches that “[t]he source address field **214** may store the address of the initial sender (i.e., the source apparatus) of the packet and the destination address field **216** may store the address of the intended recipient (i.e., the destination apparatus) of the packet.” *Id.* at 3:20-24; *see* Overby Decl., at ¶301.

168. The ’266 patent further discusses the routing header in **FIG. 4** and **5**. It describes, through use of the Figures, the fields available in the routing header for then-proposed IPv6:

> The routing header **300** illustrated in **FIG. 4** includes the following fields: a next header field **302**, a header extension length field **304**, a routing type field **306**, a segments left field **308** and a type-specific data field **310**. The next header field **302** may store information identifying the type of header immediately following the routing header. The header extension length field **304** may store information indicating the length of the routing

> header. The routing type field **306** may store information indicating the variant of the routing header. The segments left field **308** may store a value indicating the number of route segments still remaining to be visited by the packet before the destination is reached, and the type-specific data field **310** may store information including addresses of the nodes to be visited by the packet.
>
> **FIG. 5** illustrates a routing header **400** where the routing type field **306** has a value of "0." This identifies the Z routing header as a Type 0 routing header. The Type 0 routing header **400** illustrated in **FIG. 5** includes all the same fields as shown in the routing header **300** (**FIG. 4**) with the exception of a reserved field **402** and address fields **404-1** to **404-n**. The reserved field **402** may be initialized by the source and can be used in any manner by the intermediate nodes. The address fields **404-1** and **404-n** include a sequence of addresses of nodes to which the packet is to be routed. This includes the address of the destination. For the Type 0 routing header 400, the bits of the reserved field **402** are all set to "0."

'266 patent, at 3:25-50; *see* Overby Decl., at ¶302.

169. Then the '266 patent explains how the use of these fields is accomplished and the problems that can occur under certain conditions. For instance, "[t]he source apparatus (such as the first host **10**) puts the address of the first router (such as the first router **20**) the packet should visit in the destination address field **216** of the IP header, and the addresses of the remaining routers in the address list 404-1-404-n of the routing header." '266 patent, at 3:51-55. "The address of the real destination may be put in the last entry (or last destination address field) in the address list (*i.e.,* the Address[n] field **404-n**)." *Id.* at 3:55-58. "The segments left field **308** in the routing header may indicate the number of intermediate routers still to be visited before reaching the final destination." *Id.* at 3:58-60; *see* Overby Decl., at ¶302.

170. One part of the technological problem is this: "[b]efore the segments left field **308** reaches zero, the destination address field **216** in the IP header carries the address of an intermediate node, rather than the address of the final destination[,]" which may be undesirable where a specific QoS is required. '266 patent, at 3:60-64. When attempting to ensuring a desired QoS (using RSVP, as an example), "upon receiving an incoming packet, a RSVP node may first

determine which session it belongs to based on the ***Destination Addresses***, the ProtocolId and the optional Destination Port." *Id.* at 4:7-20 (emphasis added). While "[s]uch classification procedure may perform correctly if there is no source routing[,] . . . the following conditions may lead to incorrect session classification.

> Condition A: In IPv4, if the LSRR option or the SSRR option is present and the source routing hasn't been consumed completely. That is, the pointer field is not greater than the length field in the LSRR option or the SSRR option.
>
> Condition B: If the IPv6v routing header is present and the source routing hasn't been consumed completely. That is, the segments left field 308 is not zero.

'266 patent, at 4:21-30; *see* Overby Decl., at ¶304.

171. "If one of these conditions [wa]s met, then the destination address field in the IP packet may carry the address of the next router it wants to visit rather than the final destination address in the session object in the traffic control state block. This may cause the packet to not receive the requested QoS until the source routing has been consumed completely." '266 patent, at 4:31-36; *see* Overby Decl., at ¶305.

The Claimed Advances of the '266 patent

172. The technological problems identified above left a need for improved methods and systems for ensuring a desired QoS is applied to a data stream by "classifying [IP] data to be sent from a source apparatus to a destination apparatus in a packet with network." '266 patent, at 1:44-47. According to the specification, the '266 patent claims are directed to "receiving the data (including a routing header) at a first node and classifying the data at the first node based on source routing information of the data," which "may be provided within a destination field of a routing header for IPv6 or may be provided within LSRR/SSRR of the data for IPv4." *Id*., at 1:47-52. "The routing header may include a segments left field, a first destination address field and a last

destination address field. Classifying may be based on the last destination address field of the routing header." *Id*., at 1:61-64. These advances are claimed by use of a method (described above) and "a router for use in a packet switched network" that "include[s] a receiving device to receive the IP data at a first node and a processor device coupled to the receiving device to receive the IP data and to classify the data at the first node based on source routing information." *Id*., at 1:65-2:5; *see* Overby Decl., at ¶306

173. The '266 patent teaches that "the present invention may be provided within each of the routers such as the first router 20 and the second router 30 (FIG. 1) in order to perform a classification method . . . to allow correct classification of packets." '266 patent, at 4:37-42. It is further explained that "to classify a session correctly and provide the desired QoS, the session classification may be based on the final destination address, which could be carried in the destination address field in the IP packet in the IPv4 LSRR/SSRR option or in the IPv6 routing header." '266 patent, at 4:44-49; *see* Overby Decl., at ¶307.

174. The '266 patent provides classification algorithms for IPv4 (see '266 patent, at 4:50-63) and for IPv6 (see '266 patent, at 4:64-5:8). These are self-explanatory, as cited in detail in the specification, and therefore will not be recited except to say they are largely captured in claims 1 and 16, claims 2-7 and 17-23 (algorithms for IPv6) and claims 8-11 and 24-27 (algorithms for IPv4). The specification provides other details of how to implement certain features of the teachings of the '266 patent, i.e., using a PATH refresh message, sorting source routing data at various nodes, reserving node resources, etc. See '266 patent, at 5:23-65. Explaining the specifics of those exceeds the scope of the relevant discussion here, except to the extent that they are directly incorporated into the other claims of the '266 patent. *See* '266 patent, at claims 12-15, 28-34; *see* Overby Decl., at ¶308.

The Claims Of The '266 patent Provide Solutions To Problems With Providing a Desired QoS in Packet Switched Networks in April of 2001

175. The '266 patent contains 34 total claims (2 independent and 32 dependents, each of which include additional technical steps/limitations). For purposes of this discussion, claims 1 and 16, the independent claims, are the primary focus, along with some of their dependent claims, though the same arguments (and more) apply to the other claims in the patent. Claims 1 (with some of its dependents) and claim 16 (and some of its dependents) are reproduced below, with some bolding, italics, and underlining for emphasis:

> **1.** A method of classifying data comprising:
>
> receiving Internet Protocol (IP) data at a first node;
>
> ***classifying the IP data*** received at the first node ***based on a last destination address entry of a plurality of destination address entries in a header of the IP data***; and
>
> ***forwarding the IP data*** from the first node ***to a second node, wherein the IP data is classified at the second node based on the last destination address entry*** of the plurality of destination address entries in the header of the IP data.
>
> **2**. The method of **claim 1**, wherein the IP data is ***defined according to an IPv6 protocol***.
>
> **3.** The method of **claim 2**, wherein the header of the IP data ***comprises a segments left field configured to store a value indicating a number of route segments yet to be visited*** by the IP data before reaching a destination.
>
> **4**. The method of **claim 3**, wherein the classifying the IP data comprises ***only classifying the IP data based on the last destination address entry if the value of the segments left field is not zero***.
>
> **6.** The method of **claim 5**, wherein the plurality of address fields includes ***at least one intermediate destination address field indicating an***

intermediate node through which the IP data is routed.

7. The method of **claim 6**, wherein the header of the IP data comprises ***a segments left field configured to store a value indicating a number of intermediate nodes yet to be visited*** by the IP data before reaching a destination node.

8. The method of **claim 1**, ***wherein the IP data is defined according to an Ipv4 protocol***.

9. The method of **claim 8**, wherein ***the header of the IP data includes a loose source and record route (LSRR) option and a strict source and record route (SSRR) option***.

10. The method of **claim 9**, wherein ***at least one of the LSRR option or the SSRR option comprises a route data field***, and wherein ***the last destination address entry is a final destination node entry in the route data field***.

11. The method of **claim 10**, wherein the ***route data field includes a plurality of intermediate node address entries***.

12. The method of **claim 1**, further comprising ***reserving resources of nodes at the first node***.

15. The method of **claim 1**, further comprising ***receiving a PATH refresh message*** from an intermediate node, wherein ***the PATH refresh message includes source routing information included in a most recent PATH message*** sent from a source apparatus, ***and*** wherein the PATH refresh message ***includes intermediate node address entries of a route*** between the first node and a destination node.

16. A router comprising:

a receiver configured to receive Internet Protocol (IP) data at the router;

a ***processing device configured to classify the IP data at the router based on a last destination address entry of a plurality of destination address entries in a header of the IP data***; and

a ***forwarding device configured to forward the IP data from the router to a node, wherein the IP data is classified at the node based on the last destination address entry*** of the plurality of destination address entries in the header of the IP data.

17. The router of **claim 16**, wherein the IP data is defined according to an ***Ipv6 protocol.***

18. The router of **claim 17**, wherein the header of the IP data comprises ***a segments left field configured to store a value indicating a number of route segments yet to be visited*** by the IP data before reaching a destination.

19. The router of **claim 18**, wherein the processing device is ***configured to classify the IP data based on the last destination address entry only if the value of the segments left field is not zero***.

21. The router of **claim 20**, wherein the ***plurality of address fields includes a first destination address field and a last destination address field***, and wherein the processing device is ***further configured to classify the IP data based on the last destination address field***.

22. The router of **claim 20**, wherein the ***plurality of address fields includes at least one intermediate destination address field indicating an intermediate node*** through which the IP data is routed.

23. The router of **claim 22**, wherein the header of the IP data comprises ***a segments left field configured to store a value indicating a number of intermediate nodes yet to be visited*** by the IP data before reaching a destination node.

24. The router of **claim 16**, wherein the IP data is defined according to an ***Ipv4 protocol***.

> **25.** The router of **claim 24**, wherein ***the header of the IP data includes a loose source and record route (LSRR) option and a strict source and record route (SSRR) option***.
>
> **26.** The router of **claim 25**, wherein ***at least one of the LSRR option or the SSRR option comprises a route data field, and wherein the last destination address entry is a final destination node entry in the route data field***.
>
> **27.** The router of **claim 26**, wherein ***the route data field includes a plurality of intermediate node address entries***.
>
> **29.** The router of **claim 16**, wherein the processing device is further ***configured to reserve resources of nodes***.
>
> **32.** The router of **claim 16**, wherein the receiver is further ***configured to receive a PATH refresh message from an intermediate node***, wherein ***the PATH refresh message includes source routing information included in a most recent PATH message*** sent from a source apparatus, ***and wherein the PATH refresh message includes intermediate node address*** entries of a route between the router and a destination node.
>
> **33.** The method of **claim 1** wherein classifying the IP data comprises ***determining a session belonging to the IP data based on the last destination address entry*** of the plurality of destination address entries in the header of the IP data.
>
> **34.** The router of **claim 16** wherein the processing device is further ***configured to determine a session belonging to the IP data based on the last destination address entry*** of the plurality of destination address entries in the header of the IP data.

'266 patent claims (emphasis added); *see* Overby Decl., at ¶309.

176. A skilled artisan would understand that the technical solutions discussed in the '266

patent to provide a desired QoS in a packet switched networks are directly captured in claims 1 and 16 (claiming a method and router for classifying IP data based on the last destination address entry of multiple such entries in a header of the IP data and classifying it accordingly at a node). The specific algorithms taught in the '266 patent to accomplish this for IPv6 and IPv4 are captured in claims 2-7 and 17-23 (algorithms for IPv6, *see* '266 patent, at 4:64-5:8) and claims 8-11 and 24-27 (algorithms for IPv4, *see* '266 patent, at 4:50-63). The other claims largely (and directly) capture the other teachings of the '266 patent and are directed to other details like using a PATH refresh messages, storing source routing data at various nodes, providing for multiple destination addresses, reserving node resources, determining sessions, etc. *See* '266 patent, at claims 12-15, 28-34; *see* Overby Decl., at ¶310.

177. These claims clearly claim the solutions that were identified as problems in the art in the specification of the '266 patent. No skilled artisan would reasonably understand these claims to be directed to "defining and transmitting a data sequence." Defendant Savant System's Motion to Dismiss (Dkt. No. 16) at pp. 14-17. That characterization is far removed from the actual teachings and claims of the '266 patent, which are anything but abstract. For instance, claims 1 and 16 are directed to, among other things, a method and router that allows for desired QoS by classifying IP data based on the last destination address entry of multiple destination address entries in the header of IP data. Claims 2-7 and 17-23 and claims 8-11 and 24-27 are further directed to solving the existing problems that were known in very specific ways depending on whether the data switch packet employed IPv4 or IPv6. Claims 12-15 and 28-34, among others, employ more detailed solutions to the technical problems that existed in packet switch networks in April of 2001 by using PATH refresh messages, storing source routing data at various nodes, providing for multiple destination addresses, reserving node resources, determining sessions, etc.

There is nothing abstract about these claims. A skilled artisan would understand that these claims provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '266 patent. *See* Overby Decl., at ¶311.

178. Certainly, these claims are not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including claims 1, 16, and the other depending claims referenced above, accomplish something tangible in the computer world. As explained above, the claims of the '266 patent are directed at improving the then-existing state of technology for packet switched networks in order to provide a desired QoS. None of these steps could be performed by a human or with a pen and paper because the problems do not exist outside the computer realm. *See* Overby Decl., at ¶312.

179. Finally, the claims of the '266 patent do not preempt all the ways of ensuring a desired QoS for packet-switched networks or reliably routing packets in a packet switched network. For instance, the prior art systems discussed in the '266 patent can be freely practiced without fear of infringing the patents. There are also countless other ways packet switched network packet routing can be employed. *See* Overby Decl., at ¶313.

180. Even if the '266 patent claims were directed at an abstract idea, which no person of ordinary skill would reasonably believe, the claims capture subject matter that is inventive. The claims of the '266 patent are directed to matter that was not known in the art at the time. Put simply, the use of the various methods and routers claimed to provide a desired QoS in a packet switched network by classifying IP data based on the last destination address entry of multiple destination address entries in the header of IP data, especially in a way that overcame problems in both IPv4 and IPv6-based networks, was not known in the art, much less a conventional or routine approach to ensuring a desired QoS for packet-switched networks or reliably routing packets in a

packet switched network. *See* Overby Decl., at ¶314.

181. Even if that were not true, when you look at the elements of each claim as a whole, in ordered combination of their limitations, including (A) independent claim 1, coupled with dependent claims 2-15, some of which build on each other and (B) independent claim 16, coupled with its various dependent claims 17-34, as recited and described in detail above, were not well-known in the art. These claims did not merely employ known generic components in a conventional or routine way. The opposite, in fact, is true, which is backed up by the teachings of the '266 patent. These claims disclose and claim specific solutions through their claim elements in an inventive and unique way in order to solve problems that existed in April of 2001. That particular combination of claim elements, including in independent claims 1 and 16, and in light of their dependent claims, was not used in the way described above before the priority date of this patent. *See* Overby Decl., at ¶315.

182. For the above reasons, the subject claims in the '266 patent recite a combination of elements sufficient to ensure that the claims in substance and in practice amount to significantly more than a patent-ineligible abstract idea. *See* Overby Decl., at ¶316.

Direct Infringement under § 271(a)

183. Defendants have directly infringed one or more claims of the '266 patent by using, providing, supplying, or distributing the Accused Products.

184. As just one example of infringement, the Accused Products perform a method of classifying data comprising: receiving Internet Protocol (IP) data at a first node: classifying the IP data received at the first node based on a last destination address entry of a plurality of destination address entries in a header of the IP data; and forwarding the IP data from the first node to a second node, wherein the IP data is classified at the second node based on the last destination address entry of the plurality of destination address entries in the header of the IP data.

185. Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '266 patent, as detailed in **Attachment 3**, which is incorporated by reference herein.

186. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 7,974,260

187. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

188. The USPTO duly issued U.S. Patent No. 7,974,260 (entitled "Method Of Transmitting Time-Critical Scheduling Information Between Single Network Devices In A Wireless Network Using Slotted Point-To-Point Links"; hereinafter, the "'260 patent") on July 5, 2011, after full and fair examination of Application No. 10/489,269, which was filed on September 10, 2001. *See* '260 patent at p.1. A Certificate of Correction was issued on November 29, 2011. *See id.* at p.17.

189. IoT Innovations owns all substantial rights, interest, and title in and to the '260 patent, including the sole and exclusive right to prosecute this action and enforce the '260 patent against infringers and to collect damages for all relevant times.

190. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '260 patent.

191. The claims of the '260 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of timing controls among

devices in a wireless network setting.

192. The written description of the '260 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

193. The '260 patent has a priority date of September 10, 2001, and it claims systems, methods, and means for transmitting time-critical and up-to-date timing control information to a recipient using point-to-point links. '260 patent, at p. 1; *see* Overby Decl., at ¶257.

194. In general, the '260 patent is directed to wireless networks communicating between single devices. In particular, the '260 patent relates "networks where non-centralized scheduling algorithms are executed on each network device independently and time-critical scheduling information has to be exchanged between the protocol layers or algorithms of the network devices." '260 patent, at 1:24-28; *see* Overby Decl., at ¶258.

The Technical Problems In Transmitting Time-Critical Information in September of 2001.

195. The specification of the '260 patent provides detailed concerns regarding the problems with then-existing systems for wireless networks communicating between devices. '260 patent, at 1:29-3:9. The '260 starts by recognizing that "[c]onventional networks, for example a network of microprocessor controlled devices such as computer, printers, modems etc., have relied upon physical wire connections between the devices in the network." '260 patent, at 1:29-32. It further recognizes that those networks were "fairly rigid in nature," and that "[r]ecently . . . wireless networks have emerged in which the network connections are provided typically by a wireless radio link." '260 patent, at 1:39-41. The '260 patent notes that "[o]ne of these networks is described in the various Bluetooth™ standards (*see e.g.*, http://www.bluetooth.com)" (while being

clear that "[t]hose skilled in the art will appreciate that other wireless networks also exist, and reference herein to the Bluetooth standards is not intended to be limited [t]hereto." '260 patent, at 1:41-45; *see* Overby Decl., at ¶260.

196. "Bluetooth wireless technology allows users to make effortless, wireless and instant connections between various communication devices, such as mobile phones, computers, printers etc. [and] provides for a short-range wireless connectivity and supports both point-to-point and point-to-multipoint connections." '260 patent, at 1:46-51. As described in the specification, at that time, "up to seven active 'slave' devices can communicate with a 'master' device, to form a 'piconet'. Several of these 'piconets' can be established and linked together in ad hoc 'scatternets,' to allow communication among continually flexible configurations." '260 patent, at 1:51-55; *see* Overby Decl., at ¶261.

197. But there were problems with low power wireless technologies like Bluetooth. For instance, "[d]ue to the wireless nature of the piconet and the scatternet, and to minimize expense, most of the wireless network devices comprise only one data-transceiver. Therefore, the network devices are only capable of communicating with one other network device at a time." '260 patent at 1:56-60. "Within a piconet with only one master and up to 7 active slaves, no special scheduling process has to be used to execute a nearly optimized data transfer." '260 patent at 1:60-62. "This is due to the fact that the master usually is the device having most computing power, and the slaves usually are peripheral applications for the master device. In this topology, the overall communication performance is optimized when the communication of the master is optimized." '260 patent at 1:62-67; *see* Overby Decl., at ¶262.

198. Moreover, "[a]t the level of scatternets, the overall communication performance depends on other parameters. In a scatternet, one network device is not fixed with its role to be

master or slave, but can be master to some of its links and simultaneously be slave to some other of its links. Therefore, an arbitrary or even distribution of priorities or transmission times can always be expected to be suboptimal." '260 patent at 1:67-2:7; *see* Overby Decl., at ¶263.

199. The specification of the '260 patent explains that "[p]rior solutions concerning connections between piconets . . . have been based on the utilization of specified Bluetooth low-power modes and negotiated time periods and were therefore bound to act within certain corresponding limits." *Id.* at 2:8-14. "In addition, periodic behaviour was assumed, thereby restricting the adaptation to varying traffic loads and topologies to a minimum. Moreover, prior solutions concerning piconets provide no method to transmit time-critical scheduling information between the independent piconet devices." *Id.* at 2:15-20; *see* Overby Decl., at ¶264.

200. As explained in the '260 patent, there were several modes of transmissions that were used within piconets to enable communication between the network devices. '260 patent at 2:21-23.

> The modes distinguish in the kind of connection state, i.e. the connection link between the network devices of the piconet is established and the data exchange through the connection links can be performed. For example, employing on Bluetooth networks the slots are assigned in number by a master network device to its connected slave network devices according to the demands of data packet throughput of the connection links thereof. The number of assigned slots between the master network device and a slave network device is negotiated. According to the kind of network device and its activity or data generation, respectively, different connection states are available in order to assign an appropriate number of slots to the respective communication links. The connection states differ in the assignment of allocated transmission slots of the wireless network and are negotiated between the link managers included in the network devices using certain information packets containing control massages that characterize among other things the communication links.

'260 patent at 2:23-41; *see* Overby Decl., at ¶265.

201. The transmission modes available were, for example, connection states that included

"active mode," in which each slave devices listen to each transmission on the network for incoming data destined for it. *Id.* at 2:43-51. In this mode, the master can also assign a certain number of slots for data communication to an addressed slave by a type indication, allowing non-addressed devices to sleep in the interim. *Id.*; *see* Overby Decl., at ¶266.

202. In another connection state, called "sniff mode," the "listen activity of the slave can be reduced, and that means that the slots for master-to-slave transmission for incoming packets those to which a slave device must listen-are reduced." '260 patent at 2:52-55. "These specified slots are regularly spaced and negotiated between master and slave before the slave enters the sniff mode." *Id.* at 2:55-57. "The sniff mode reduces the duty cycles of the slave i.e. the slave listens only to a reduced number of master-to-slave transmission slots." *Id.* at 2:43-51. "The sniff mode is introduced to handle slaves with lower transmission activity accordingly in order to increase the transmission bandwidth for other network devices requiring higher transmission bandwidth, and in order to enable battery-powered devices to decrease their power consumption." *Id.* at 2:60-65. "Correspondingly, the master can start transmitting data packets to a certain slave only in the specified time slots for master-to-slave transmission called sniff slots that are prenegotiated between master and slave." *Id.* at 2:65-3:1. "During periods of inactivity of the slave in sniff mode the master will not transmit data packets to the slave." *Id.* at 3:1-3; *see* Overby Decl., at ¶267.

The Claimed Advances Of The '260 Patent

203. Using any of the conventional systems and methods above, there was no way to send critical timing control information over a specified channel if the transmission channels of the wireless network are occupied by the network devices for packet transmission. In other words, there was no way to provide a network load independent specified channel in order to increase the transmission speed of the time-critical timing control information and ensures a just-in-time reception by the corresponding network device. '260 patent at 3:29-41; *see* Overby Decl., at ¶268.

204. Although this patent is complicated, for purposes of the Section 101 inquiry, the major points related to the '260 patent's advances over the conventional systems of the time are discussed here. As recited by the specification, the invention of the '260 patent solved then existing problems by "enabl[ing] the transmission of time-critical timing control information within a wireless network, especially wireless radio frequency networks, using slotted communication links between single network devices to transmit data sequences." '260 patent at 3:13-17. "Timing control information or scheduling information" are terms used to summarize the "parameters defining the connection modes and/or the assignment of slot distribution by operating scatternet arrangements over network devices." *Id.* at 3:4-8. It also included such things as network transmission rates and error handling information. *Id.* at 3:62-66, 4:4-11; *see* Overby Decl., at ¶269.

205. "Slotted communication links may be used in wireless radio frequency networks using time division duplex (TDD) transfer mode. A data sequence containing time-critical timing control information is provided which is defined by a header portion and a payload portion. The header portion contains at least an address code but may also contain additional code like code to indicate special contents or to indicate a special transmitting mode." '260 patent at 3:18-25. "The payload portion of the data sequence contains exclusively the time-critical timing control information." *Id.* at 3:27-29. A depiction of this data sequence is seen in Figure 1 of the patent, where H1 is the header portion and P1 is the payload portion; *see* Overby Decl., at ¶270.

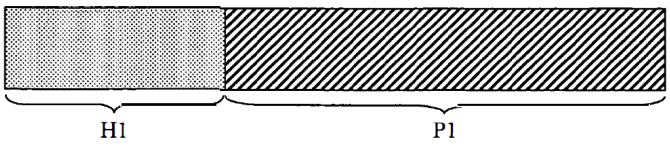


Fig.1

206. Optionally, the header portion may contain an additional code sequence to indicate

that the payload portion contains exclusively timing control information. *See* '260 patent at 14:47-50. This can be seen in Figure 2 of the '260 patent. H2 is the header portion, which is comprised of H2' (the address code) and H2'' (the additional code sequence). *See id.* at 16:10-14. P2 is the payload portion. *Id.* at 16:10; *see* Overby Decl., at ¶271.

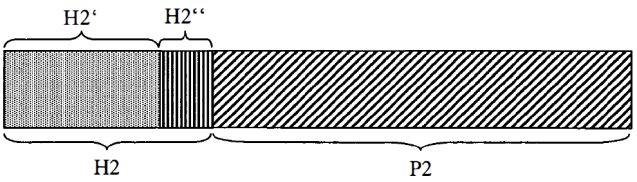


Fig. 2

207. In order "[t]o transmit the time-critical timing control information, a specified channel in accordance with the contents is used." '260 patent at 3:29-30. "Advantageously, the specified channel may be independent of the channels provide by the wireless network for transmitting the device generated data sequences or packets." *Id.* at 3:31-33. "A specified channel enables the transmission of the time-critical timing control information in time even if the transmission channels of the wireless network are occupied by the network devices for packet transmission. *Id.* at 3:34-36. Therefore, a network load independent specified channel increases the transmission speed of the time-critical timing control information and ensures a just-in-time reception by the corresponding network device." *Id.* at 3:36-41; *see* Overby Decl., at ¶272.

208. Specifically, "[i]n order to ensure the transmission of the time-critical control information to a certain network device this certain device may have assigned a second dedicated or virtual device address." *Id.* at 4:46-49; *see also id.* at 14:26-29. "This dedicated network address causes the establishment of a separate network link independently from existing network communication links. Moreover, the separate network communication link or quasi-separate logical channel can be used for transmitting data packets independently from the current used

network links and consequently, the transmission of data packets through the separate network link is unaffected of network load caused by the established network links." *Id.* at 4:49-57; *see also id.* at 14:29-36; *see* Overby Decl., at ¶273.

209. This is shown in Figure 3 of the '260 patent, which shows a topology comprising devices ND1 through ND5 and communication links L1 through L4. "In order to transmit the timing control information the device ND2 is addressed using the dedicated address addressing device ND2'. The devices ND2 and ND2' are physically the same network devices but logically different network devices. Therefore, an additional network communication link is established by device ND1 in order to transmit the packet containing timing control information to logical device ND2'. This communication link is referred to as communication link L1' in FIG. 3. Thus, the packet containing timing control information is transmitted parallel to the current established communication links of the network devices and consequently independent of the network communication load and current transmission priority of device ND2." '260 patent at 16:24-36; *see* Overby Decl., at ¶274.

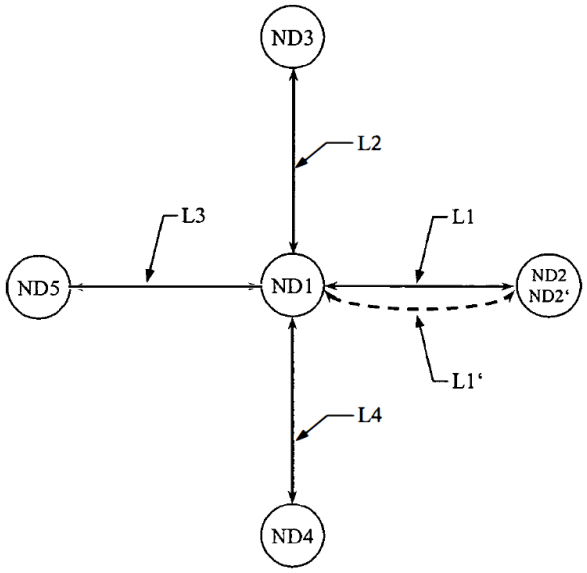


Fig. 3

210. The invention also provides for "the usage of a prioritized network" in which the single network devices in a wireless network can "prioritize the usage of slotted links for adapting to varying traffic loads." '260 patent at 5:63-66; *see* Overby Decl., at ¶275.

211. "[T]he prioritizing of each link comprises the monitoring and adapting of the values of a current slot number (N_{slot}), an amount of slots ($N_{contact\_timeout}$) after which a contact event is considered to be finished, and a next possible contact timestamp ($N_{next\_contact}$)." '260 patent at 9:7-11. "The master and the slave have to agree upon the actual value of N_{slot} to enable both systems to communicate with each other. Some slots can be used to start communication, wherein such a slot is called contact slot $N_{contact}$. By using contact slots, single master slave device pairs can define a discrete point in time in which a contact can be started. Both devices need to use the same algorithm to calculate the next $N_{contact}$." *Id.* at 9:24-31; *see* Overby Decl., at ¶276.

212. "A simple method to determine contact slots is to place them equidistantly into the predefined slotting. For this, the two parameters $N_{inter\_contact}$ and $0 \leq N_{contact\_offset} \leq N_{inter\_contact}$ are defined. The first parameter defines the distance between the two contact slots, the second parameter defines the relative placement within the slotting. The slot with the slot number N_{slot} is a contact slot, if: N_{slot} mod $N_{inter\_contact} = N_{contact\_offset}$. If $N_{next\_contact}$ has to be found, the smallest slot number after the current slot number fulfilling the equations above is taken." '260 patent at 9:48-57; *see* Overby Decl., at ¶277.

213. Alternatively, "the method of prioritizing the usage of slotted links in a network further comprises storing and adapting a value of a backoff counter (b)." '260 patent at 11:63-65. "Higher values of the backoff counter mean that the contact slots happen less frequently." *Id.* at 7:62-64; *see also id.* at 12:10-12. "[A] backoff counter is kept in each communication link." *Id.* at 12:8-9. "If the backoff counter b and equidistant placement of contact slots is implemented, N_{slot} is a

contact slot, if N_{slot} mod 2^b $N_{inter\_contact} = N_{contact\_offset}$." *Id.* at 12:15-18; *see* Overby Decl., at ¶278.

214. The specification additional provides reference to Figure 6 to explain how to solve two problems that can occur with the slot accounting. "FIG. 6 shows a timing diagram of slot accounting with differing slot timings. Up to now, it was assumed that all devices in a network use the same slot definitions. In the following, we introduce the adaptations that have to be made to the proposed mechanisms in order to support differing slot definitions on each master. However, a slave in a communication link continues to know the slot definition of its master, as it has to follow the master's timing when communicating with the master. In general, two problems have to be solved. Firstly, management of the slot accounts has to be done for different slot timings. Secondly, when contact slots are used, the time shift between different communication links has to be taken into account. It was assumed that all slots throughout the whole network are synchronized, so slot accounting can be performed at the beginning of each slot. If several different definitions of slot timing are present on one device, one is chosen as the reference timing." '260 patent at 17:26-52; *see* Overby Decl., at ¶279.

215. A thorough reading of the specification and the claims of the '260 patent by a skilled artisan would have made it apparent that the claims are directed to solving real technical problems that existed in wireless networks communicating between single devices in September of 2001. The advances are captured, quite literally, in the various claims of the '260 patent, as outlined below. In general, the claims are quite specific in their boundaries, and those boundaries appear to be directly in accordance with the teachings of the '260 patent; *see* Overby Decl., at ¶280.

The Claims Of The '260 Patent Provide Technical Solutions To The Problems With Providing Time-Critical Scheduling Information Between Single Devices in a Wireless Network In September of 2001

216. The '260 patent contains 29 total claims (6 independent and 23 dependents, each of which include additional technical steps/limitations). For the purposes of this complaint, claim 1

and claim 5 and its dependents are the focus of discussion. For emphasis, bolding, italics, and underlining for is used (as shown below). Claims 1 and 5 are recited below:

> **1.** A device comprising:
>
> ***a processor***;
>
> a ***non-transitory computer-readable medium*** including ***computer-executable instructions stored thereon*** that, if executed by the processor, cause the processor to:
>
> define a data sequence, the data sequence including ***a header portion and a payload portion***, wherein the ***header portion includes an address code of a second device and the payload portion includes timing control information*** for communicating packets between devices in a communication network wherein ***the timing control information defines when the second device communicates***, wherein the ***address code is a first active member address of the second device***, and wherein ***the first active member address and a second active member address are assigned to the second device***; and
>
> ***an antenna configured to transmit the defined data sequence in a data communication packet*** to the second device ***in a time defined contact slot***.

'260 patent, at claim 1.

> **5.** A method of ***transmitting timing control information from a first device to a second device*** in a communication network, the method comprising:
>
> ***defining a data sequence*** at a first device, the data sequence ***including a header portion and a payload portion***, wherein the ***header portion includes an address code of a second device and the payload portion includes timing control information*** for communicating packets between devices in a communication network wherein ***the timing control information defines when the second device communicates***, wherein the ***address code is a first active member address of the second device***, and wherein ***the first active member address and a second active member address are assigned to the second device***; and

t***ransmitting the defined data sequence in a data communication packet*** from the first device to the second device ***in a time defined contact slot***.

'260 patent, at claim 5. Several of the dependent claims to claims 1 and 5 are further cited below, which provide:

2. The device of **claim 1**, wherein the ***payload portion includes only the timing control information***.

3. The device of **claim 1**, wherein the ***address code indicates that the data communication packet contains the timing control information***.

4. The device of **claim 1**, wherein ***the data sequence further includes a flag bit indicating that the data communication packet contains the timing control information***.

6. The method of **claim 5**, further comprising:

identifying a current slot number at the first device;

determining ***a first value of a first parameter*** at the first device, the ***first parameter defining a distance between contact slots*** for communicating with the second device;

determining a ***second value of a second parameter*** at the first device, the ***second parameter defining an offset distance from a start of a contact slot*** for communicating with the second device;

determining a next contact slot for communicating with the second device, ***wherein the next contact slot is the smallest slot number after the identified current slot number that satisfies*** N_{slot} ***mod*** $N_{inter\_contact} = N_{contact\_offset}$ ***where*** N_{slot} ***is the smallest slot number after the identified current slot number,*** $N_{inter\_contact}$ ***is the determined first value, and*** $N_{contact\_offset}$ ***is the determined second value***.

7. The method of **claim 6**, further comprising determining a third value of a third parameter at the first device, ***the third parameter defining a backoff counter for communicating with the second device***, ***wherein the next contact slot is determined based on*** N_{slot} ***mod*** 2^b $N_{inter\_contact} = N_{contact\_offset}$ ***where b is the determined third value***.

> **9.** The method of **claim 5**, wherein the ***timing control information comprises scheduling information associated with a scheduling method for prioritizing use of contact slots*** in the communication network.
>
> **10.** The method of **claim 5**, wherein t***he payload portion includes only the timing control information***.
>
> **11.** The method of **claim 5**, wherein the data sequence further includes ***a flag bit indicating that the data communication packet contains the timing control information***.
>
> **13.** The method of **claim 5**, wherein the data communication packet is transmitted using a first communication link to the second device, wherein ***the first communication link is parallel to a second communication link to the second device***.

'260 patent at claims 2-4, 6-7, 9-11, 13; *see* Overby Decl., at ¶281.

217. The other dependent claims likewise include further equations for determining the maximum number of slots to allow since a last successful contact event (claim 8), and the use of header information to convey that the data communication packet contains the timing control information (claim 12). Other claims have similar (and more narrow) limitations. *See* Overby Decl., at ¶282.

218. The other five independent claims (claims 1, 14, 18, 22, and 26) are also directed to subject matter that provided technical solutions to technical problems that existed in September of 2001 (although each one is not discussed in detail here). These are directed to the same general subject matter as claims 1 and 5, but they focus on claiming specific devices (claim 18), a "computer readable medium" that performs the method of providing time-critical information between single devices over a wireless network (claims 14 and 26), and a method of doing the same (claim 22). Similar to claim 5 and its depending claims 6 to 13, the claims depending from the other independent claims also claim specific steps to be taken in order to timely provide time-

critical information between single devices over a wireless network (claims 2 to 4, claims 15 to 17, claims 19 to 21, claims 23 to 25, and claims 27 to 29). *See* Overby Decl., at ¶283.

219. These claims clearly claim systems, methods, and means of sending critical timing control information over a specified channel through data packets/sequences, which enables the timely transmission of the timing control information even if the transmission channels of the wireless network are occupied by the network devices for packet transmission, *i.e.*, a network load independent specified channel increases the transmission speed of the time-critical timing control information and ensures a just-in-time reception by the corresponding network device. *See, supra*; *see* Overby Decl., at ¶284.

220. To one skilled in the art at the time, these claims are directed to much more than "just a mental process of collecting information." Defendant Savant System's Motion to Dismiss (Dkt. No. 16) at p. 12. Any person with any reasonable understanding of this technology would describe the claims in that way. These claims are focused on nothing of the sort, and no skilled artisan of the time would understand the claims to be characterized in that way. In fact, the foregoing claim elements pretty far afield from anything a skilled artisan would consider abstract. Rather, they are directed at specific systems, methods, and means for transmitting time-critical information, which relies on a certain structure of a data packet/sequence and a determination of a time defined contact slot, ensuring just-in-time reception of time-critical timing control information at the device. *See* Overby Decl., at ¶285.

221. These claims are directed to technical solutions to technical problems that existed in September of 2001. More specifically, the claimed subject matter overcame the technical problems that existed in September of 2001. These claims provided a specific improvement in computer capabilities that did not exist prior to the filing of the '260 patent. *See* Overby Decl., at

¶286

222. Moreover, these claims are not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including claims 1and 5, accomplish something tangible in the computer world. As explained above, the claims of the '260 patent are directed at providing time-critical scheduling information to single devices over a wireless network using specific data packet/sequence format, which was not previously known. None of these steps could be performed by a human or with a pen and paper because these types of problems do not exist outside the computer realm. These claims are directed to solving specific technical problems existed with low power wireless systems in the early 2000s. *See* Overby Decl., at ¶287.

223. Finally, the claims of the '260 patent do not preempt all the ways of transmitting time-critical information in a wireless network. There are also ways other than those disclosed in the '260 patent that systems can attempt to transmit time-critical information between devices in a wireless network. In fact, there are over fifty (50) different prior art patents and publications describing a myriad was of transmitting date in wired and wireless systems, and none of those would be preempted by the '260 patent—they all could still be practiced without treading on the patent claims here. *See* Overby Decl., at ¶288

224. Even if the '260 patent claims were directed at an abstract idea, which no person of ordinary skill would reasonably believe, the claims are directed to inventive subject matter. The claims of the '260 patent are directed to matter that was not known in the art at the time. The concept of providing specific data sequences containing the time-critical information over channels independent of the data load on the network was not known in the art. Nor were the concepts of creating a second parallel communication link between the two devices or using certain

information, such as slot numbers and the distance between two slots to determine whether a data sequence should take priority over other data transmissions. *See* Overby Decl., at ¶289.

225. Even if that were not true, the ordered combination of claims that are highlighted above, including the independent claims, and the dependent claims to those, of the '260 patent, as recited and described in detail above, was not well-known in the art. These claims did not merely employ known generic components in a conventional or routine way. This claim discloses and claims specific solutions through its claim elements in an inventive and unique way in order to solve problems that existed in September of 2001. In fact, the particular combination of claim elements, as presented in each individual claim highlighted above, was not publicly used before the priority date of this patent. The claims of the '260 patent, including those that are discussed above, are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time, they are employed together here in a way that was new (and would not have been considered conventional, routine, or generic to those skilled in the art). *See* Overby Decl., at ¶290.

226. For the above reasons, the subject claims in the '260 patent recite a combination of elements sufficient to ensure that the claims in substance and in practice amount to significantly more than a patent-ineligible abstract idea. *See* Overby Decl., at ¶291.

Direct Infringement under § 271(a)

227. Defendants have directly infringed one or more claims of the '260 patent by making, using, selling, offering for sale, providing, supplying, distributing, and/or internal and external testing the Accused Products.

228. As just one example of infringement, a non-transitory computer-readable medium including computer-executable instructions stored thereon that, if executed by the processor, cause the processor to: define a data sequence, the data sequence including a header portion and a

payload portion, wherein the header portion includes an address code of a second device and the payload portion includes timing control information for communicating packets between devices in a communication network wherein the timing control information defines when the second device communicates, wherein the address code is a first active member address of the second device, and wherein the first active member address and a second active member address are assigned to the second device; and an antenna configured to transmit the defined data sequence in a data communication packet to the second device in a time defined contact slot.

229. Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '260 patent, as detailed in **Attachment 4**, which is incorporated by reference herein.

230. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 7,280,830

231. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

232. The USPTO duly issued U.S. Patent No. 7,280,830 (hereinafter, the "'830 patent") on October 9, 2007 after full and fair examination of Application No. 10/859,735 which was filed on June 2, 2004. *See* '830 patent p.1.

233. IoT Innovations owns all substantial rights, interest, and title in and to the '830 patent, including the sole and exclusive right to prosecute this action and enforce the '830 patent against infringers and to collect damages for all relevant times.

234. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations

required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the '830 patent.

235. The written description of the '830 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

236. U.S. Patent No. 7,280,830 (the "'830 patent") was filed on June 2, 2004, and in general, the '830 patent is directed to "computer networks, and more particularly to providing an automatic registration service through establishing a home relationship between a device and a network server." '830 patent at 1:8-11. The '830 patent claims a method and network for the automatic registration of a new device by establishing a "home" relationship between the new device and a network server, such that no additional configuration is required by a user of the new device to communicate over a network once the relationship is established. '830 patent at 1; *see* Overby Decl., at ¶171.

237. A person of ordinary skill in the art ("POSITA") at the time of the priority date of the '830 patent would have had a bachelor of science in computer engineering, information systems, or computer science and at least two years of experience in software development, and/or systems engineering design, authentication, or security. *See* Overby Decl., at ¶172.

238. Notably, Eric C. Anderson, one of the inventors of the innovations claimed in the '576 patent, is also the inventor of the innovations claimed by the '830 patent. *See* Overby Decl., at ¶173.

The Technical Problems In Adding and Maintaining Devices On A Network in June 2004

239. In June of 2004, "[t]he process of registering a newly-purchased electronic device

[wa]s often cumbersome." '830 patent at 1:15-16. "Typically, registration involves installing the device's software on a personal computer, filling out paper forms for warranty service, and sometimes authorization and on-line registration." *Id*. at 1:16-19. Upgrades were also cumbersome. "Upgrades for the device, if available, typically require[d] a user to manually search for them, and may involve a complex process of download, transfer, and installation." '830 patent at 1:19-22. Moreover, use of the newly-purchased electronic device also comes with a steep learning curve. "[T]he actual use of the device includes connecting to the local network either in a wired or wireless manner. In addition, it is necessary typically to learn a new set of software functions." '830 patent at 1:23-26. On top of all that, users typically own multiple devices, and the process for each device is often unique to the device or company. See '830 patent at 1:27-31. "This limits the penetration of the marketplace for high technology products." *Id*. at 1:31-32; *see* Overby Decl., at ¶174.

240. In light of those problems, the specification of the '830 patent notes that "there exist[ed] a need for a method and network for automatic registration of a new device through the establishment of a home relationship with a network server." '830 patent at 1:33-36; *see* Overby Decl., at ¶175.

The Claimed Advances Of The '830 Patent.

241. The claimed method and network for automatic registration of a new device first establishes a trusted ("home") relationship between the new device and a network server, such that no additional configuration is required by a user of the new device to communicate over a network once the relationship is established. This relationship is illustrated in Figure 1 of the '830 patent:

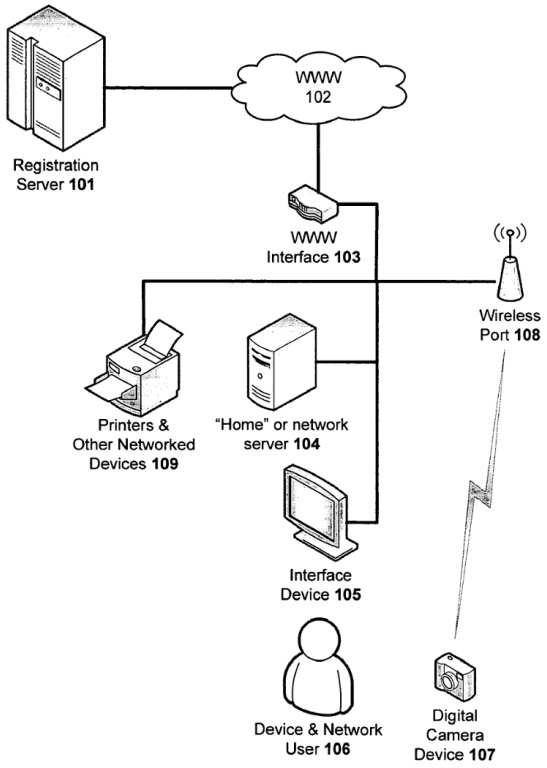


FIG. 1

242. "The network includes a "home" network server **104**, to which a user **106** can interface through an interface device **105**." '830 patent at 2:28-30. "The network server **104** can establish "home" relationships with various devices, such as printers and other networked devices **109**." *Id.* at 2:30-32. "When a user purchases a new device **107** . . ., the "home" relationship can be established between the network server **104** and the new device **107**." *Id.* at 2:33-35. "The establishment of this relationship is the identification of the network server **104** as "home" from the point of view of the devices **107-109**, and the identification of an "owned device" from the point of view of the network server **104**." *Id.* at 2:35-39. "The network server **104** is capable of connecting to a registration service **101** of a particular owned device through the Internet **102** via an Internet interface **103**." *Id.* at 2:40-42; *see* Overby Decl., at ¶177.

243. "[T]he establishment of a "home" relationship begins when the network server **104** detects the presence of the new device **107** and attempts to recognize it by requesting device identification from the new device **107**." '830 patent at 2:52-56. "The device information is information that uniquely identifies the new device **107,** such as a device ID, serial number, etc." *Id.* at 2:56-58. "If the device identification is found in an "owned device" database or list . . . at the network server **104**, then the new device **107** is granted access to the network." *Id.* at 2:58-61. "If not, then the network server **104** first obtains from the user **106** the authorization to grant access to the new device **107**." *Id.* at 2:61-63. Alternatively, the establishment of a "home" relationship between a new device **107** and the network server **104** may be established manually by a user or network administrator. '830 patent at 63-66; *see* Overby Decl., at ¶178.

244. Once the "home" relationship is established between the new device **107** and the network server **104**, the new device **107** recognizes the network as its home network, and the network server **104** recognizes the new device **107** as an "owned" device that is an extension of the network. Using the "home" relationship, the new device **107** is granted automatic access to the network." '830 patent at 3:5-11; *see* Overby Decl., at ¶179.

245. After a "home" relationship has been established, the registration information for the new device **107** is automatically obtained by the network server **104**. The registration information can include information concerning the user **106** of the new device **107**—such as name, address, etc.—and information concerning the new device **107** itself—such as its model, serial number, firmware version, etc. '830 patent at 3:12-21. "The registration information for the network server **104** can include the operating system type and configuration, process type and speed, memory, disk space available, etc. and is known to the network server **104** without user input." *Id.* at 3:22-25; *see* Overby Decl., at ¶180.

246. "A connection between the registration server **101** and the network server **104** is then established." '830 patent at 3:26-27. "[T]he new device **107** provides the information for this connection, and can include the registration server's public key so that a secure connection can be established." *Id.* at 3:28-31. "In establishing this secure connection, the network server uses the public key to encrypt information sent to the registration server **101**. The registration server **101** uses its private key to decrypt the information from the network server **104**. The registration server **101** can in turn use its private key to encrypt information sent to the network server **104**. The network server **104** then uses the public key to decrypt this information." *Id.* at 3:31-38; *see* Overby Decl., at ¶181.

247. "Once the connection between the registration server **101** and the network server **104** is established, the registration information is sent to the registration server **101**." '830 patent at 3:39-41. "Alternatively, the new device **107** could query for any missing registration information from the network server **104** and send the registration information directly to the registration server **101**." *Id.* at 3:42-45. Either way, the new device **107** is automatically registered with very little, if any, input from the user **106**. *See* Overby Decl., at ¶182.

248. After the new device **107** has been registered, many other services could be provided through the "home" relationship between the network server **104** and the new device **107**. For example, there may be automated software or firmware updates, automatic system software selection and installation, and automatic software installation for other network devices to support the new device **107**. '830 patent at 3:56-62; *see* Overby Decl., at ¶183.

The Claims of the '830 patent Provide Technical Solutions To The Problems With Adding New Devices To A Network in June 2004.

249. The '830 patent contains 52 total claims (six independent claims and 46 dependent). For purposes of this complaint, there is a particular focus on claim 1, but as noted below, similar

arguments apply to the other 51 claims in the patent, each of which require even more specific technical steps than claim 1. Claim 1 is recited below, along with exemplary other claims that claim more specific patentable subject matter that solve some of the technical problems existing in June 2004. Bolding, italics, and underlining is used below for emphasis, as shown, to highlight the limitations that are directed to solving then existing problems:

> **1.** A method for automatic registration of a new wireless device with a registration server, comprising:
>
> ***establishing a home relationship between the new wireless device and a network server***, such that ***no additional configuration is required by a user of the new device to communicate over a network once the relationship is established***, wherein establishing a home relationship includes, ***determining at the network server, that the wireless device is an owned device***, wherein the owned device is previously known to the network server;
>
> ***automatically obtaining registration information for the new device***;
>
> ***establishing a connection between a registration server and the network server***; and
>
> ***sending the registration information from the network server to the registration server***.

'830 patent at claim 1 (emphasis added). Several of the dependent claims to the independent claim are also recited below, which provide:

> **2.** The method of claim 1, wherein the ***registration information comprises information concerning the user of the new device***.
>
> **5.** The method of claim 1, wherein the ***registration information comprises information concerning the new device, obtainable directly from the new device***.

7. The method of claim 1, wherein the establishing of the connection between the registration server and the network server comprises:

obtaining connection information from the new device; and

establishing the connection between the registration server and the network server utilizing the connection information.

8. The method of claim 7, wherein ***the connection information comprises a public key of a public/private key pair for the registration server***.

9. The method of claim 1, wherein the sending comprises: ***sending the registration information from the network server to the registration server***, wherein ***the registration information is encrypted using a public key of a public/private key pair for the registration server***, wherein ***the registration server decrypts the registration information using a private key of the public/private key pair***.

10. The method of claim 1, further comprising:

determining by the registration server if software or firmware updates are available for the new device;

transferring the updates to the network server, if software or firmware updates are available; and

installing the updates onto the new device by the network server.

11. The method of claim 1, further comprising:

determining by the registration server if software updates for the network server are available for support of the new device;

transferring the updates to the network server, if software updates are available; and

installing the updates onto the network server.

12. The method of claim 1, further comprising:

> ***determining by the registration server if software for at least one device coupled to the network server for support of the new device is available***;
>
> ***transferring the software to the network server***, if the software is available; and
>
> ***installing the software onto the network server***.

'830 patent at claims 2-12 (emphasis added); *see* Overby Decl., at ¶184.

250. The other independent claims (claims 15, 29, 35, 41, and 47) are also directed to subject matter that provided technical solutions to technical problems that existed in June 2004. Claims 15 and 41 are directed to computer readable mediums encoded with computer executable instructions for automatic registration of a new wireless device with a registration server (after a "home" relationship is established), claims 29 and 47 are directed to networks with similar functionality, and claim 35 claims a method of accomplishing the same. *See* '830 patent at claims 15, 29, 35, 41, and 47. The claims that depend on these independent claims largely mirror those depending off claim 1, adding similar and additional requirements. *E.g., compare* claims 16 and 30 *with* claim 2 (same); *compare* claim 19 *with* claim 5 (same); *compare* claim 21 *with* claim 7 (same); *compare* claim 21 *with* claim 7 (same); *compare* claim 22 *with* claim 8 (same); *compare* claim 23 *with* claim 9 (same); *compare* claim 24 *with* claim 10 (same); *compare* claim 25 *with* claim 11 (same); *compare* claim 26 *with* claim 12; *see* Overby Decl., at ¶185.

251. These claims are directed to much more than "information exchange and/or establishing relationships among items or devices." The foregoing claim elements are both concrete and specific in what they claim. As noted above, for instance, the claims are directed to, among other things, the specific relationship established between a new wireless device and a network server and registration server and the communications that occur between them. The depending claims further claim more specific versions of the invention that are directed to solving

the technical problems in the art, including through the collection of user information (directly and indirectly from the device), by establishing a relationship between the network and registration servers, by employing the public key of a public/private key pair for the registration server, and by deploying software and firmware updates using the registration server. *See* Overby Decl., at ¶186.

252. The claims of the patent, including the independent claims, are directed to establishing a "home" relationship between a new wireless device and a network server to solve the problems in adding and maintaining new devices on a network in June 2004. Specifically, the "home" relationship enables communication of data between the wireless device, a network server, and a registration server, and these automatic registration services address problems then-existing in June of 2004 (the often cumbersome addition of a newly-purchased electronic device to a network, which comprised installing and updating disparate device software and firmware on a computer for multiple devices, which was a manual process that often included searching for updates, installing them, filling out warranty service forms, on-line registration, etc.). The other dependent claims add specific limitations that further improve the "home" relationship and the communications between the various devices. A skilled artisan would understand that each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '830 patent, and, more specifically, allowed for easier and more efficient registration of new devices for users. *See* Overby Decl., at ¶187.

253. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world (*i.e.*, creating a "home" relationship between a wireless device and a network server in order to facilitate automatic registration). As explained above, the claims of the '830 patent are directed at improving how the registration

process is managed between devices with minimal involvement from a user. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '830 patent, the problems that the solutions of the '830 patent solve do not exist outside the scope of the computer realm, and in fact, are actually directed to minimizing human performance. *See* Overby Decl., at ¶188.

254. Finally, the claims of the '830 patent do not preempt all the ways of registering new devices. There are many ways that a user could register a new device, including through a tedious manual process each time a device needs to rejoin a network. Further, systems that were disclosed in the prior art patents and applications identified on the face of the patent would not be preempted, and nor would any that do not include the specific limitations of the claims of the '830 patent. *See* Overby Decl., at ¶189.

255. Even if the '830 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '830 patent are directed to matter that was not known in the art at the time. To the extent that the claims employ components and technology that existed at the time (for instance, a "wireless device" and "server"), they are employed together here in a way that was new and improved, not conventional, routine, or generic to those skilled in the art. In fact, the use of a "home" relationship between a new wireless device and a network server, as claimed in the various forms in the claims highlighted above to address the problems in adding and maintaining new devices to a network, was inventive and not previously known in the art. *See* Overby Decl., at ¶190.

256. Even if that were not true, the ordered combination of limitations in claim 1 of the '830 patent, as recited and described in detail above, were not well-known in the art. No art or system that existed at the time disclosed all of these limitations in a way that solved the then-existing

problems with adding and maintaining new devices on a network. A skilled artisan would have understood that these claims do not merely employ generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way to solve the well-documented problems that were then-known in the art. *See* Overby Decl., at ¶191.

257. For the above reasons, the claims of the ’830 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl., at ¶192.

Direct Infringement under § 271(a)

258. Defendants have directly infringed and continue to infringe the claims of the ’830 patent by using, testing, providing, installing, supplying, or distributing the Accused Products.

259. For instance, Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the ’830 patent. As just one example, Defendants, using the Accused Products and their associated hardware and software and functionalities, perform a method for automatic registration of a new wireless device with a registration server, comprising: establishing a home relationship between the new wireless device and a network server, such that no additional configuration is required by a user of the new device to communicate over a network once the relationship is established, wherein establishing a home relationship includes, determining at the network server, that the wireless device is an owned device, wherein the owned device is previously known to the network server; automatically obtaining registration information for the new device; establishing a connection between a registration server and the network server; and sending the registration information from the network server to the registration server.

260. An exemplary claim chart illustrating Defendants’ infringement of claim 1 is attached

hereto as **Attachment 5** which is incorporated by reference herein.

261. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants is liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

262. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '830 patent. Defendants' actions have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

COUNT V(A): *Indirect Infringement Under § 271(b) and (c)*

263. Defendants have been willfully blind to the existence of the '830 patent and Defendants' infringement, but Defendants had actual knowledge of the '830 patent on or around December 1, 2023.

264. Defendants have also indirectly infringed the '830 patent by inducing others to directly infringe the '830 patent.

COUNT V(A)(1): *Induced Infringement Under § 271(b)*

265. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '830 patent by providing or requiring use of the Accused Products.

266. Defendants took active steps, directly or through contractual relationships with others,

with the specific intent to cause them to use the Accused Products in a manner that infringes the claims of the '830 patent, including, for example, claim 1 of the '830 patent.

267. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home Apps on how to use the Accused Products in an infringing manner.

268. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '830 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '830 patent.

269. Defendants' inducement is ongoing.

COUNT V(A)(2): *Contributory Infringement Under § 271 (c)*

270. Defendants have also indirectly infringed by contributing to the infringement of the '830 patent.

271. Defendants have contributed to the direct infringement of the '830 patent by its personnel, contractors, and customers.

272. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe the claims of the '830 patent, including, for example, claim 1 of the '830 patent.

273. The special features constitute a material part of the invention of one or more of the claims of the '830 patent and are not staple articles of commerce suitable for substantial non-infringing use.

274. Defendants' contributory infringement is ongoing.

COUNT V(B): *Willful Infringement*

275. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

276. Defendants' direct infringement of the claims of the '830 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 7,379,464

277. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

278. The USPTO duly issued U.S. Patent No. 7,379,464 (hereinafter, the "'464 patent") on May 27, 2008, after full and fair examination of Application No. 10/306,504 which was filed on November 27, 2002. *See* '464 patent p.1.

279. IoT Innovations owns all substantial rights, interest, and title in and to the '464 patent, including the sole and exclusive right to prosecute this action and enforce the '464 patent against infringers and to collect damages for all relevant times.

280. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the '464 patent.

281. The written description of the '464 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

282. U.S. Patent No. 7,379,464 was filed on November 27, 2002, and it claims methods, systems, and apparatuses for enabling a virtual personalized network. '464 patent, at p. 1.

283. In general, the '464 patent is directed to methods and systems for "a personal digital gateway that communicates with a linked communications device to automatically provide customized presentation, selection, and management of programs and/or data to the linked communications device." '464 patent, at 1:33-36; *see* Overby Decl., at ¶22.

284. A person of ordinary skill in the art ("POSITA") at the time of the priority date of the '464 patent would have had a bachelor of science in computer engineering, information systems, or computer science and at least two years of experience in software development, and/or systems engineering design, authentication, or security. *See* Overby Decl., at ¶23.

The Technical Problems In Sharing Information Between Devices in November 2002.

285. The specification of the '464 patent provides ample detail concerning the problems with how people managed data shared among numerous communications devices in November of 2002. '464 patent, at 1:39-2:27; *see* Overby Decl., at ¶24.

286. "One of the biggest barriers to managing multiple communications devices is creating, accessing, and maintaining up-to-date personalized information." '464 patent, at 1:56-58. At the time of the '464 patent, if a user wanted to exchange or share information between devices, they would typically have to enter the information at least twice—once on each device. *Id.* at 1:59-65. Information updated on one device was not updated on any other device, and the user had to update each communications device separately. *Id.* at 1:65-2:1; *see* Overby Decl., at ¶25.

287. In addition, "each of these communications devices [wa]s customized in terms of software, hardware, and network configuration," thus making it difficult for communications devices to share information between them. '464 patent, at 1:50-52. The problems created by that were difficult to solve, which led to the barrier of "providing this up-to-date personalized

information in a standardized or otherwise compatible data format, depending on functionality limitations of the communications device, so that each of the communications devices has efficient and effective access to the information." '464 patent, at 2:1-6. For example, as of November of 2002, wireless telephones had limited functionality compared to home computers, in that they could only "provide limited contact information" and were unable to run most application/software packages. *Id.* at 2:8-14; *see* Overby Decl., at ¶26.

288. On top of a lack of standardized functionalities, "some communications devices of the user also set forth a variety of login identifications and/or passwords in order to provide privacy, authorization, and/or security for the communications device and/or the connected communications networks." '464 patent, at 2:15-19; *see* Overby Decl., at ¶27.

289. The '464 patent recognized that, with the emergence of the new technological landscape, a personalized digital gateway is needed that "builds communications infrastructure to support and capitalize on the different communications devices of the user to provide up-to-date personalized information." '464 patent, at 2:30-37. The personalized digital gateway was envisioned to "enable multiple communications devices to share, transfer, and/or access standardized or otherwise compatible up-to-date personalized information." *Id.* at 2:37-40. The personalized digital gateway would then customize the presentation of the standardized up-to-date personalized information based on the functionalities of each individual communications device. *Id.* at 2:40-44. Importantly, all of this was needed "without investing millions of dollars in computer equipment, in networking infrastructures, in maintenance, and in training while also complying with security, authentication, and/or privacy requirements." *Id.* at 2:44-49; *see* Overby Decl., at ¶28.

The Claimed Advances Of The '464 patent.

290. AT&T, the company that applied for this patent, was a pioneer in the communications industry at the time of the priority date of this patent, and it was working on solutions to these problems, including through the inventions disclosed in the '464 patent. As recited by the specification, the invention of the '464 patent solved the technical problems that existed pertaining to sharing information between communications devices by providing "an interface between different communications devices, networks, systems, and thereby, provid[ing] universal access to and management of personalized information across a variety of communication devices." '464 patent at 2:54-58; *see* Overby Decl., at ¶29.

291. The heart of the invention is the personalized digital gateway, which "is a device that interfaces different communications devices, connected networks, and/or systems." '464 patent, at 5:13-15. "The purpose of the personal digital gateway is to efficiently automate configuration and routing of data to different communications devices of a common user and to effectively manage this data and the different communications devices." *Id.* at 5:15-19. "Some advantages of the PDG [personalized digital gateway] include increased ability of each connected communications device to flexibly manage and categorize data that is exchanged with other communications devices, provide access to up-to-date data . . ., and utilize a virtual personalized network to manage communications with connected networks, such the Internet." *Id.* at 5:27-34; *see also id.* at 2:63-3:3; *see* Overby Decl., at ¶30.

292. Figure 1 shows an exemplary personal digital gateway according to an embodiment of the invention:

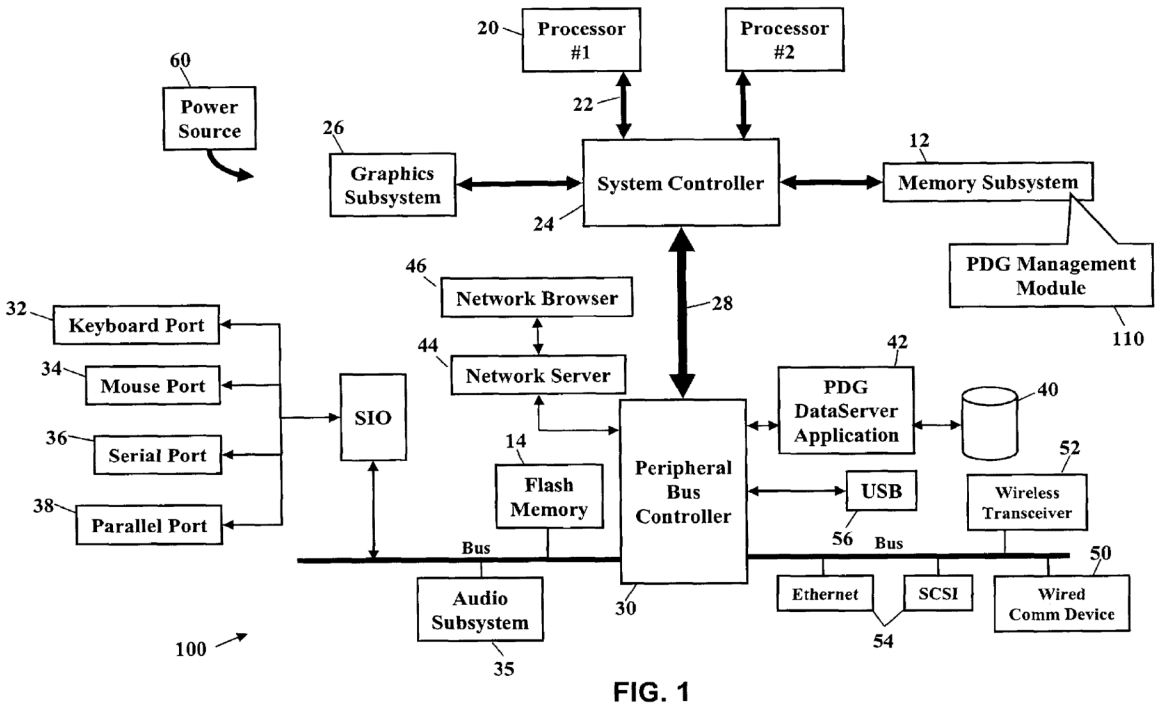


FIG. 1

293. In Figure 1, the personal digital gateway management module **110** resides in the personal digital gateway **100**. The personal digital gateway management module **110** operates within a system memory device, such as a memory subsystem **12** (as in Figure 1), flash memory **14**, and/or in a peripheral storage device **40**. *See* Overby Decl., at ¶32.

294. The personal digital gateway management module **110** allows a user to manage protocol transfer across a variety of communications devices and networks, and to manage communications of mobile data associated with the personal digital gateway **100**. For example, it allows the user to customize one or more personal digital gateway rule-based profiles (shown as reference number **304** in Figure 3 *infra*) of a rule-based dataserver application **42**, including a configuration agent, a security agent, an access agent, a management agent, and data associated with the common user. It also allows the user to customize presentation, features, and/or management of communications between the personal digital gateway **100** and the

communications device (shown as reference number **150** in Figure 3 *infra*). In addition, the personal digital gateway management module **110** also allows the user to manage network connection(s) of the personal digital gateway **100** and/or the communications device **150.** It further allows the user to customize features, such as data handling options, and it may allow the user to control whether to accept, decline, or postpone integration of the data with the connected communication device **150** (or, alternatively, may be set to automatically accept, decline, or postpone integration depending on rules contained in the personal digital gateway rule-based profile **304**). The personal digital gateway management module **110** also allows a user to control additional processing of data, such as editing the data, copying the data, deleting the data, associating the data with remote data or links, storing the data, administering the data, compressing or uncompressing the data, and encrypting or decrypting the data. Finally, it may provide a network address, such as an IP address, of the connected communications device **150** so that a connected network (shown as reference number **160** in Figure 3 *infra*) can communicate with the data. *See* Overby Decl., at ¶33.

295. In addition to the personal digital gateway management module **110,** the personal digital gateway also has one or more central processors **20** executing an operating system. A system bus **22** communicates signals between the central processors **20** and a system controller **24**, which provides a bridging function between one or more central processors **20**, a graphics subsystem **26**, the memory subsystem **12,** and a Peripheral Controller Interface bus **28**. The Peripheral Controller Interface bus **28** is controlled by a Peripheral Bus Controller **30**, which is an integrated circuit that serves as an input/output hub for various peripheral ports. Among other things, these peripheral ports would allow the personal digital gateway to communicate with a variety of communications devices through ports **54**, Wireless Transceiver **52**, and Wired Comm

Device Port **50**. The personal digital gateway may also include a network server **44** that operates a network browser **46**, and these may be stand-alone components or they may be integrated into the personal digital gateway dataserver application **42.** *See* Overby Decl., at ¶34.

296. The personal digital gateway dataserver application **42** functions as an intelligent server, database and processor that is dedicated to managing personal digital gateway activity, including communications with the connected communications device (shown as reference number **150** in Figure 3 *infra*) and/or the connected network (shown as reference number **160** in Figure 3 *infra*). It stores one or more personal digital gateway Rule-Based Profiles (shown as reference number **304** in Figure 3 *infra*) that include data and/or applications associated with various agents. *See* Overby Decl., at ¶35.

297. Figure 3 shows an exemplary operating environment that illustrates the personal digital gateway **100** communicating with a communications device **150** and a network **160**:

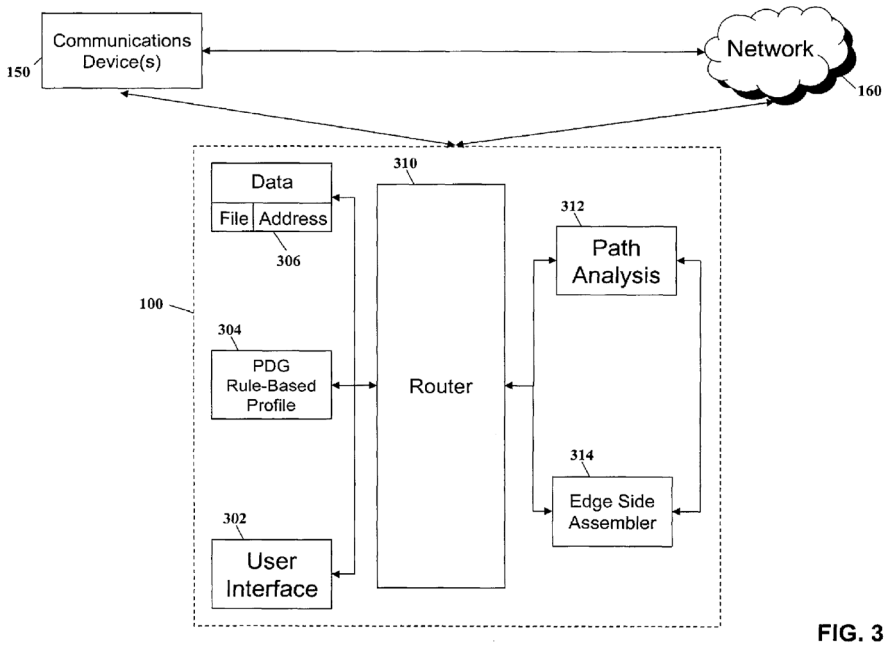


FIG. 3

298. In Figure 3, the user interacts with a User Interface **302** to select a personal digital gateway Rule-Based Profile **304** and/or the data **306** to communicate with the communications device **150** and/or network **160.** A router **310** of the personal digital gateway **100** chooses a communications path **312,** and an Edge Side Assembler **314** accesses, integrates, and configures the data **306** to communicate with the communications device **150.** *See* Overby Decl., at ¶37.

299. Figure 4 shows an exemplary framework of the data flow through a personal digital gateway **100**, a connected communications device **150**, and a connected network **160**:

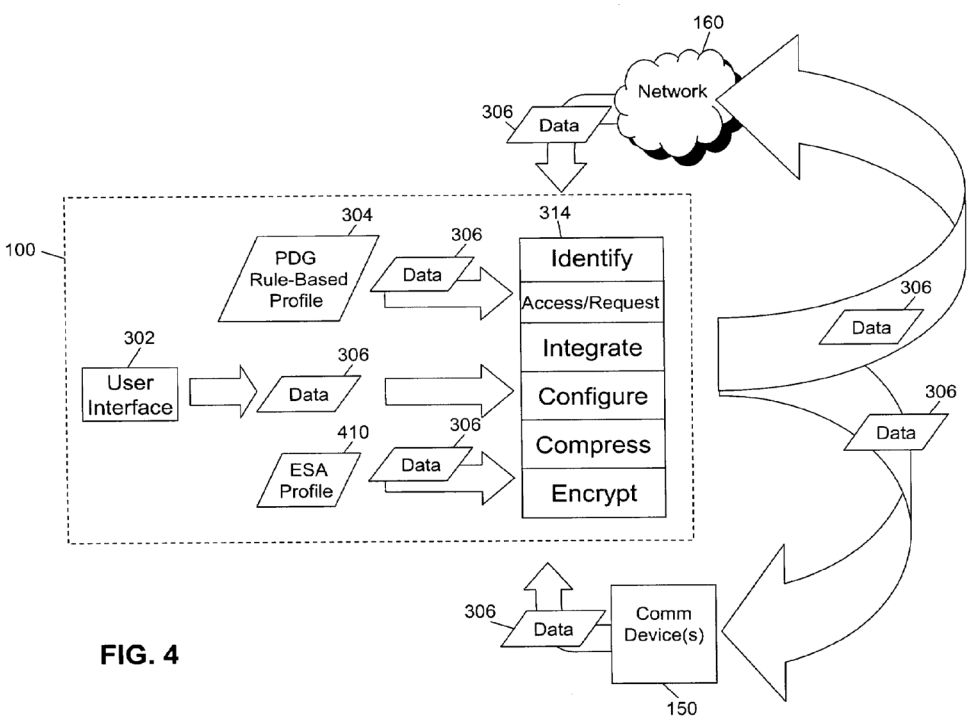


FIG. 4

300. The user of the personal digital gateway **100** may use the User Interface **302** to input or otherwise identify data **306**. Next, the user may select the personal digital gateway Rule-Based Profile **304** to associate or, alternatively, the personal digital gateway may automatically associate the Rule-Based Profile **304**. The personal digital gateway Rule-Based Profile **304** and the data **306** are processed by the Edge Side Assembler **314**, which identifies the data **306**, locates remote

data, and associates the Edge Side Assembly profile **410** (if available). The Edge Side Assembler **314** then configures a query for remote data **306**, and integrates the remote data with the data associated with the personal digital gateway Rule-Based Profile **304** and/or the Edge Side Assembly profile **410**. Next, the Edge Side Assembler **314** formats/configures the integrated data **306** for a presentation by the communications device **150** or, alternatively, by the personal digital gateway **100**. The Edge Side Assembler **314** may also compress/decompress or encrypt/decrypt data **306** communicated with the communications device **150**, the network **160**, and the personal digital gateway **100**. *See* Overby Decl., at ¶39.

301. A skilled artisan would understand that the "edge side assembler" of the claims is "a program that identifies local data, locates remote data, associates the profile to a query of the remote data, integrates the remote data with the data associated with the personal digital gateway and/or the profile, and formats it for presentation by the communication device and/or personal digital gateway." *See* Overby Decl., at ¶40.

The Claims Of The '464 patent Provide Technical Solutions To The Problems With Managing Multiple Communication Devices In November 2002.

302. The '464 patent contains 21 total claims (four independent and seventeen dependent). For purposes of this complaint, the focus will be on claim 1, though the same arguments (and more) apply to the other 20 claims in the patent, each of which require even more specific technical steps than claim 1. Claim 1 is recited below, along with exemplary other claims that claim more specific patentable subject matter that solve some of the then-existing technical problems existing November 2000Bolding, italics, and underlining are used for emphasis, as shown below, to highlight the limitations that are directed to solving then existing problems:

1. A method, comprising:

> selecting a user's communications device from a plurality of communications devices to communicate data between a ***personal digital gateway and the selected communications device***, the ***data associated with a common user of the personal digital gateway and of the selected communications device***;
>
> ***storing profiles for each of the user's communications devices***;
>
> ***retrieving a profile*** associated with the selected communications device;
>
> ***interpreting the data according to a rule-based engine to categorize the data*** as at least one of (1) data associated with ***an access agent***, (2***)*** data associated with ***a configuration agent***, (3) data associated with ***a security agent***, and (4) data associated with ***a management agent***;
>
> processing the data according to ***an edge side assembler***; and
>
> communicating ***the data and the profile to the selected communications device***.

'464 patent, at claim 1 (emphasis added). Several of the dependent claims to the independent claims are reproduced below, which provide:

> **2.** The method of claim 1, wherein processing the data according to the edge side assembler further comprises ***configuring the data for a presentation format compatible for the selected communications device***.
>
> **3.** The method of claim 2, wherein ***the format of the data is at least one of a text format, a voice data format, a video data format, a dual tone multi-frequency data format, an analog data format, and a digital data format***.
>
> **9.** The method of claim 8, wherein processing the data comprises communicating with the at least one communications network to ***access remote data associated with at least one of an address, a filename, and file identifier of the data***.

> **6.** The method of claim 1, further comprising ***storing a collection of bookmarks*** in the profile, ***each bookmark having a date stamp and indicating a specific version of the data***.
>
> **11.** The method of claim 10, wherein communicating the data and the profile comprises ***communicating the integrated, formatted data and the remote data***.
>
> **12.** The method of claim 1, further comprising communicating with the communications devices ***based on a proximity*** of each communications device.
>
> **16.** The method of claim 1, wherein processing the data further comprises at least one of (i***) associating an application program to communicate*** with the data to the selected communications device, (ii) ***associating a network address to communicate*** with the data to the selected communications device, and (iii) ***integrating electronic communications from at least one network***.
>
> **20.** The personal digital gateway of claim 19, wherein the communications devices comprises ***at least one of a wireless communications device, a mobile phone, a wireless phone, a WAP phone, an IP phone, a satellite phone, a computer, a modem, a pager, a digital music device, a digital recording device, a personal digital recording device, a personal digital assistant, an interactive television, a digital signal processor, and a Global Positioning System device***.
>
> **21.** The personal digital gateway of claim 19, wherein the data communicated to a respective one of the communications devices by the ***edge side assemble further comprises remote data***.

'464 patent at claims 2-21 (emphasis added). At least some of the other dependent claims also disclose the use of specific computer hardware or software to be used in performing these steps. *See, e.g.,* '464 patent at claim 13, 14, and 15 (requiring a wired, optical, or wireless transmission). *See* Overby Decl., at ¶41.

303. Although not overly elaborated upon here, the other independent claims (claim 17, 18, and 19) also are directed to subject matter that provided technical solutions to technical problems that existed in November of 2002. Although all of them claim a "a rule-based engine" like that which is claimed in Claim 1, Claim 17 is a means plus function claim that finds its structure in the specification in a way that would have been reasonably certain to a skilled artisan (subject to claim construction by the Court). Claim 18 is an apparatus claim that is directed to a machine that accomplishes the method of claim 1. Claim 19 claims a "personal digital gateway for communicating data between different communication devices" that specifically employs a "rule-based application dataserver" that is run by the "rule-based engine" driven by "stored profiles." These are directed to solve the technical problems identified above in much the same way. *See, supra,* Claims 17 to 19. *See* Overby Decl., at ¶42.

304. These claims are directed to much more than "information management, whereby data is received, stored, retrieved, and systematically categorized and/or processed[.]". In fact, the foregoing claim elements are both concrete and specific in what they claim. For instance, this claim is directed to, among other things, the specific way that data is transmitted between communications devices such that communicating common user data is possible, which was not previously known in the art. Further, the data communicated between the personal digital gateway and the subject communication device must be interpreted according to a rule-based engine to categorize the data, and the depending claims further claim more specific versions of the invention that are directed to solving the technical problems in the art. *See* Overby Decl., at ¶43.

305. The claims of the patent, including the independent claims, clearly claim use of a "personal digital gateway" to solve the problems in managing communications devices that existed in November of 2002. Specifically, through the use of rule-based engine and edge side assembler,

the personal digital gateway enables communication of the data with each communications device of the plurality of communications devices, and it also interprets the data according to the rule-based engine to categorize the data as being associated with an access agent, a configuration agent, a security agent, or a management agent. The other dependent claims add specific limitations that further improve such communications and allow for a user to have their personal data on multiple devices in a way that is consistent and up to date across disparate devices (avoiding "stale" data). *See* Overby Decl., at ¶44.

306. This claim is directed to technical solutions to technical problems that existed in November of 2002. More specifically, the claimed subject matter overcame the technical problems in managing multiple communications devices that existed in November of 2002. This claim solves the problems identified above by storing user/device profiles in a central location and using a rule-based engine to categorize the data (*e.g.,* as access agent, configuration agent, security agent, or management agent data) and then updating the user's communication device with their personalized data that is effectively assembled/translated by the edge side assembler. A person of ordinary skill in the art would further understand that the edge side assembler identifies and formats the data (including data associated with the rule-based profile) for presentation on the communication device. '464 patent, at 10:1-21; *See* Overby Decl., at ¶45.

307. A skilled artisan would understand that each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '464 patent, and more specifically, allowed data to be better communicated between multiple and disparate communications devices with a common user, *i.e.,* they improved then-existing ways of synchronizing data in a timely way across devices for a particular person. *See* Overby Decl., at ¶46.

308. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world (*i.e.*, improving data communications across multiple devices used by a single user). As explained above, the claims of the '464 patent are directed at improving how multiple communications devices are managed by using a personal digital gateway that is created, in a specific form. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '464 patent, the problems that the solutions of the '464 patents solve do not exist outside the computer realm. *See* Overby Decl., at ¶47.

309. Finally, the claims of the '464 patent do not preempt all the ways of information management in a computer network. There are myriad other ways such systems could be architected to manage, collect, or organize data. Notably, the many systems that were disclosed in the almost forty prior art patents and applications identified on the face of the patent would not be preempted, and nor would be any that do not include the specific limitations of the claims of the '464 patent. *See* Overby Decl., at ¶48.

310. Even if the '464 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '464 patent are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time (like a "gateway," "communication device," "database" and "bookmarks," for instance), they are employed together here in a way that was new (and certainly would not have been considered conventional, routine, or generic to those skilled in the art). The use of these components, as claimed in the various forms in the claims highlighted above, is inventive and was not previously known in the art. *See* Overby Decl., at ¶49.

311. Even if that were not true, the ordered combination of limitations in claim 1 of the '464 patent, as recited and described in detail above, were not well-known in the art. There was no art or system that existed at the time and that disclosed all of these limitations in a way that solved the then-existing problems with communications between multiple communications devices. A skilled artisan would have understood that these claims do not merely employ known generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way—such as have already been described above with respect to these claims—to solve the well-documented problems that were then-known in the art. *See* Overby Decl., at ¶50.

312. For the above reasons, the claims of the '464 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl., at ¶51.

Direct Infringement under § 271(a)

313. Defendants has directly infringed the claims of the '464 patent by using, providing, supplying, or distributing the Accused Products.

314. For instance, Defendants has directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '464 patent. As just one example, Defendants, using the Accused Products and their associated hardware and software and functionalities, perform a method for automatic registration of a new wireless device with a registration server, comprising: establishing a home relationship between the new wireless device and a network server, such that no additional configuration is required by a user of the new device to communicate over a network once the relationship is established, wherein establishing a home relationship includes, determining at the network server, that the wireless device is an owned device, wherein the owned device is previously known to the network server; automatically

obtaining registration information for the new device; establishing a connection between a registration server and the network server; and sending the registration information from the network server to the registration server.

315. An exemplary claim chart illustrating Defendants' infringement of claim 1 is attached hereto as **Attachment 6** which is incorporated by reference herein.

316. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

317. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '464 patent. Defendants' actions have interfered with and will interfere with Plaintiff's ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

COUNT VI(A): ***Indirect Infringement Under § 271(b) and (c)***

318. Defendants have been willfully blind to the existence of the '464 patent and their infringement, but Defendants had actual knowledge of the '464 patent on or around December 1, 2023.

319. Defendants have also indirectly infringed the '464 patent by inducing others to directly infringe the '464 patent.

COUNT VI(A)(1): ***Induced Infringement Under § 271(b)***

320. Defendants have induced end-users, including, but not limited to, Defendants'

employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '464 patent by providing or requiring use of the Accused Products.

321. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes the claims of the '464 patent, including, for example, claim 1 of the '464 patent.

322. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home Apps on how to use the Accused Products in an infringing manner.

323. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '464 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '464 patent.

324. Defendants' inducement is ongoing.

COUNT VI(A)(2): *Contributory Infringement Under § 271 (c)*

325. Defendants have also indirectly infringed by contributing to the infringement of the '464 patent. Defendants have contributed to the direct infringement of the '464 patent by its personnel, contractors, and customers.

326. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe the claims of the '464 patent, including, for example, claim 1 of the '464 patent.

327. The special features constitute a material part of the invention of one or more of the claims of the '464 patent and are not staple articles of commerce suitable for substantial non-infringing use.

328. Defendants' contributory infringement is ongoing.

COUNT VI(B): *Willful Infringement*

329. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

330. Defendants' direct infringement of the claims of the '464 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

COUNT VII: INFRINGEMENT OF U.S. PATENT NO. 7,474,667

331. Plaintiff repeats and re-alleges the allegations in Paragraphs above 1-51 as though fully set forth in their entirety.

332. The USPTO duly issued U.S. Patent No. 7,474,667 (hereinafter, the "'667 patent") on January 6, 2009, after full and fair examination of Application No. 11/879,576 which was filed on July 18, 2007. *See* '667 patent at p.1.

333. IoT Innovations owns all substantial rights, interest, and title in and to the '667 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.

334. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the '667 patent.

335. The written description of the '667 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-

conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

336. U.S. Patent No. 7,474,667 (the "'667 patent") was filed on July 18, 2007, and it claims methods, systems, and apparatuses for enabling a virtual personalized network. '667 patent at 1. The '667 patent is a continuation of application No. 10/306,848, filed on November 27, 2002, now Pat. No. 7,263,102, which means it has a priority of at least November 27, 2002. *See* Overby Decl., at ¶52.

337. In general, the '667 patent is directed to methods and systems "to control access, sharing, security, and/or management of up-to-date personalized data exchanged between or among a plurality of associated communications devices and/or communications networks" where the "associated communications devices are owned, operated, and/or accessed by a common user." '667 patent, at Abstract; *see* Overby Decl., at ¶53.

338. A person of ordinary skill in the art ("POSITA") at the time of the priority date of the '667 patent would have had a bachelor of science in computer engineering, information systems, or computer science and at least two years of experience in software development, and/or systems engineering design, authentication, or security; *see* Overby Decl., at ¶54.

The Technical Problems In Sharing Information Between Devices in November of 2002.

339. The specification of the '667 patent provides ample detail concerning the problems with how people managed data shared among numerous communications devices in November of 2002. '667 patent at 1:40-2:50; *see* Overby Decl., at ¶55.

340. "One of the biggest barriers to managing multiple communications devices is creating, accessing, and maintaining up-to-date personalized information." '667 patent, at 1:58-60. At the time of the '667 patent, if a user wanted to exchange or share information between devices, they

would typically have to enter the information at least twice—once on each device. *Id.* at 1:60-67. Information updated on one device was not updated on any other device, and the user had to update each communications device separately. *Id.* at 1:67-2:3; *see* Overby Decl., at ¶56.

341. In addition, "each of these communications devices [wa]s customized in terms of software, hardware, and network configuration," thus making it difficult for communications devices to share information between them. '667 patent at 1:52-54. The problems created by that were difficult to solve, which led to the barrier of "providing this up-to-date personalized information in a standardized or otherwise compatible data format, depending on functionality limitations of the communications device, so that each of the communications devices has efficient and effective access to the information." *Id.* at 2:3-8. For example, as of November of 2002, wireless telephones had limited functionality compared to home computers, in that they could only "provide limited contact information" and were unable to run most application/software packages. *Id.* at 2:8-15; *see* Overby Decl., at ¶57.

342. On top of a lack of standardized functionalities, "some communications devices of the user also set forth a variety of login identifications and/or passwords in order to provide privacy, authorization, and/or security for the communications device and/or the connected communications networks." '667 patent at 2:16-20; *see* Overby Decl., at ¶58.

343. The '667 patent recognized that, with the emergence of the new technological landscape, a personalized digital gateway is needed that "builds communications infrastructure to support and capitalize on the different communications devices of the user to provide up-to-date personalized information." '667 patent at 2:34-37. The personalized digital gateway was envisioned to "enable multiple communications devices to share, transfer, and/or access standardized or otherwise compatible up-to-date personalized information." *Id.* at 2:38-41. The

personalized digital gateway would then customize the presentation of the standardized up-to-date personalized information based on the functionalities of each individual communications device. *Id.* at 2:41-44. Importantly, all of this was needed "without investing millions of dollars in computer equipment, in networking infrastructures, in maintenance, and in training while also complying with security, authentication, and/or privacy requirements." *Id.* at 2:46-50; *see* Overby Decl., at ¶59.

The Claimed Advances Of The '667 patent.

344. AT&T, the company that applied for this patent, was a pioneer in the communications industry at the time of the priority date of this patent, and it was working on solutions to these problems, including through the inventions disclosed in the '667 patent. As recited by the specification, the invention of the '667 patent solved the technical problems that existed pertaining to sharing information between communications devices by providing "an interface between different communications devices, networks, systems, and thereby, provid[ing] universal access to and management of personalized information across a variety of communication devices." '667 patent at 2:55-59; *see* Overby Decl., at ¶60.

345. The focus of the claims of the '667 patent are methods and systems which "that interfaces different communications devices, connected networks, and/or systems." '667 patent at 5:12-14. Those methods and systems "control access, sharing, security, and/or management of up-to-date personalized data exchanged between or among a plurality of associated communications devices and/or communications networks." *Id.*, at Abstract. The purpose of the system "is to efficiently automate configuration and routing of data to different communications devices of a common user and to effectively manage this data and the different communications devices." *Id.* at 5:14-18. Advantages of the system include "increased ability of each connected communications device to flexibly manage and categorize data that is exchanged with other

communications devices, provide access to up-to-date data . . ., and utilize a virtual personalized network to manage communications with connected networks, such the Internet." *Id.* at 5:26-33; *see also id.* at 2:64-3:4; *see* Overby Decl., at ¶61.

346. Figure 1 shows an exemplary system according to an embodiment of the invention:

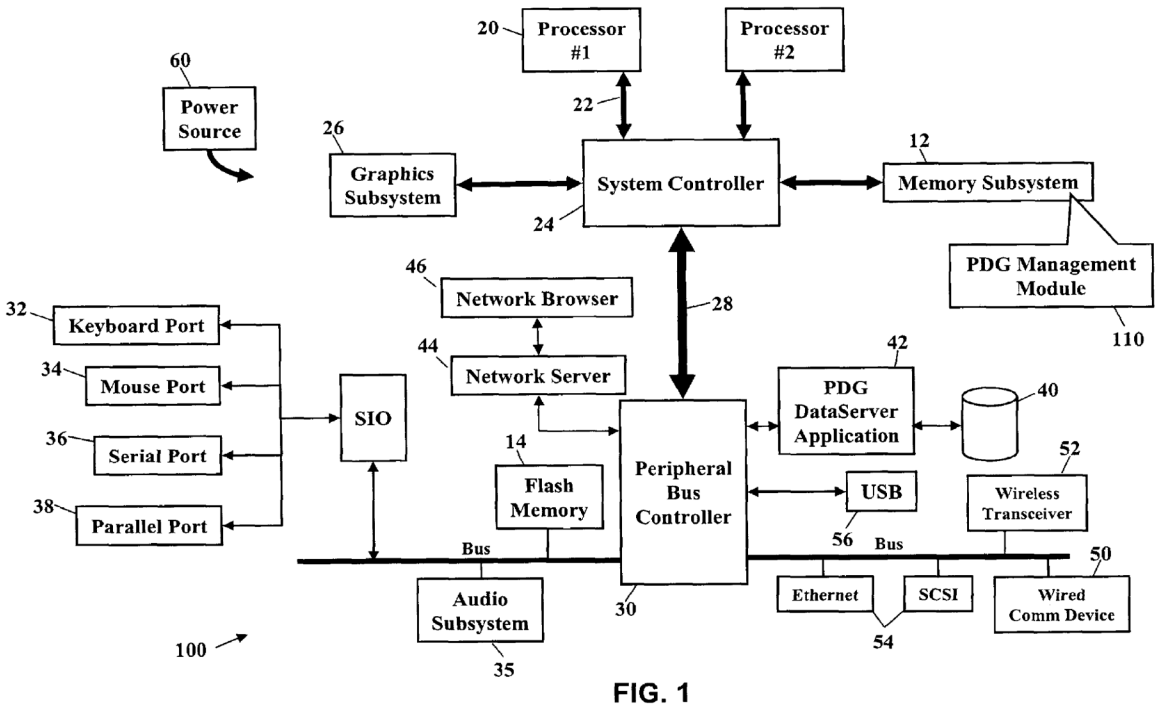


FIG. 1

347. In Figure 1, the personal digital gateway management module **110** resides in the personal digital gateway **100**. The personal digital gateway management module **110** operates within a system memory device, such as a memory subsystem **12** (as in Figure 1), flash memory **14**, and/or in a peripheral storage device **40.** *See* Overby Decl., at ¶63.

348. The personal digital gateway management module **110** allows a user to manage protocol transfer across a variety of communications devices and networks, and to manage communications of mobile data associated with the personal digital gateway **100**. For example, it allows the user to customize one or more personal digital gateway rule-based profiles (shown as

reference number **304** in Figure 3 *infra*) of a rule-based dataserver application **42**, including a configuration agent, a security agent, an access agent, a management agent, and data associated with the common user. It also allows the user to customize presentation, features, and/or management of communications between the personal digital gateway **100** and the communications device (shown as reference number **150** in Figure 3 *infra*). In addition, the personal digital gateway management module **110** also allows the user to manage network connection(s) of the personal digital gateway **100** and/or the communications device **150.** It further allows the user to customize features, such as data handling options, and it may allow the user to control whether to accept, decline, or postpone integration of the data with the connected communication device **150** (or, alternatively, may be set to automatically accept, decline, or postpone integration depending on rules contained in the personal digital gateway rule-based profile **304**). The personal digital gateway management module **110** also allows a user to control additional processing of data, such as editing the data, copying the data, deleting the data, associating the data with remote data or links, storing the data, administering the data, compressing or uncompressing the data, and encrypting or decrypting the data. Finally, it may provide a network address, such as an IP address, of the connected communications device **150** so that a connected network (shown as reference number **160** in Figure 3 *infra*) can communicate with the data. *See* Overby Decl., at ¶64.

349. The methods and systems also have one or more central processors **20** executing an operating system. A system bus **22** communicates signals between the central processors **20** and a system controller **24**, which provides a bridging function between one or more central processors **20**, a graphics subsystem **26**, the memory subsystem **12,** and a Peripheral Controller Interface bus **28**. The Peripheral Controller Interface bus **28** is controlled by a Peripheral Bus Controller **30**,

which is an integrated circuit that serves as an input/output hub for various peripheral ports. Among other things, these peripheral ports would allow the personal digital gateway to communicate with a variety of communications devices through ports **54**, Wireless Transceiver **52**, and Wired Comm Device Port **50**. The personal digital gateway may also include a network server **44** that operates a network browser **46**, and these may be stand-alone components or they may be integrated into the personal digital gateway dataserver application **42.** *See* Overby Decl., at ¶65.

350. The personal digital gateway dataserver application **42** functions as an intelligent server, database and processor that is dedicated to managing personal digital gateway activity, including communications with the connected communications device (shown as reference number **150** in Figure 3 *infra*) and/or the connected network (shown as reference number **160** in Figure 3 *infra*). It stores one or more personal digital gateway Rule-Based Profiles (shown as reference number **304** in Figure 3 *infra*) that include data and/or applications associated with various agents. *See* Overby Decl., at ¶66.

351. Figure 3 shows an exemplary operating environment that illustrates the personal digital gateway **100** communicating with a communications device **150** and a network **160**:

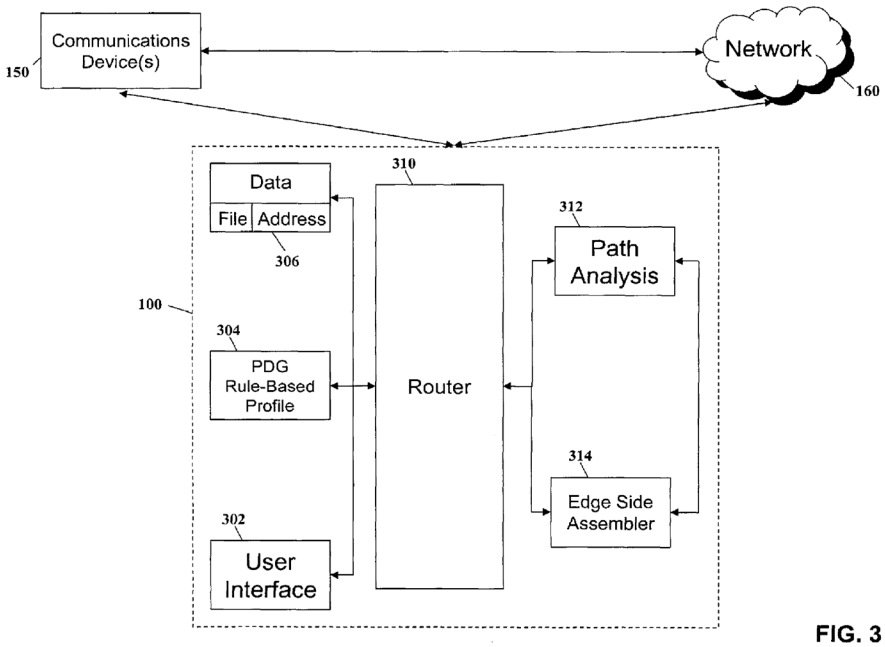


FIG. 3

352. In Figure 3, the user interacts with a User Interface **302** to select a personal digital gateway Rule-Based Profile **304** and/or the data **306** to communicate with the communications device **150** and/or network **160.** A router **310** of the personal digital gateway **100** chooses a communications path **312,** and an Edge Side Assembler **314** accesses, integrates, and configures the data **306** to communicate with the communications device **150.** *See* Overby Decl., at ¶68.

353. Figure 4 shows an exemplary framework of the data flow through a personal digital gateway **100**, a connected communications device **150**, and a connected network **160**:

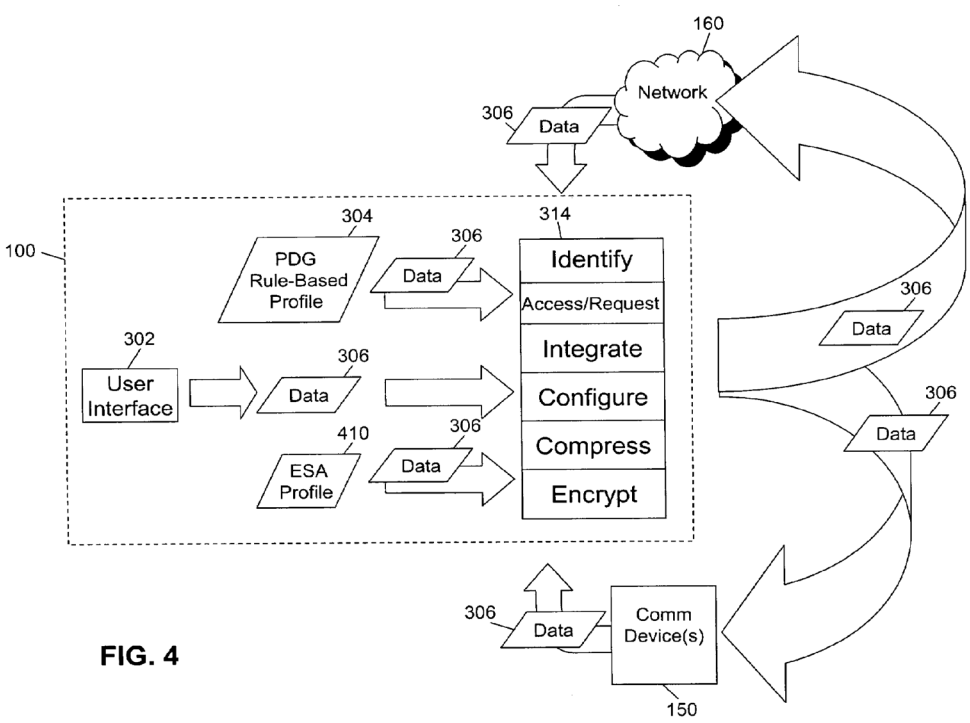


FIG. 4

354. The user of the systems and methods may use the User Interface **302** to input or otherwise identify data **306**. Next, the user may select the personal digital gateway Rule-Based Profile **304** to associate or, alternatively, the personal digital gateway may automatically associate the Rule-Based Profile **304**. The personal digital gateway Rule-Based Profile **304** and the data **306** are processed by the Edge Side Assembler **314**, which identifies the data **306**, locates remote data, and associates the Edge Side Assembly profile **410** (if available). The Edge Side Assembler **314** then configures a query for remote data **306**, and integrates the remote data with the data associated with the personal digital gateway Rule-Based Profile **304** and/or the Edge Side Assembly profile **410**. Next, the Edge Side Assembler **314** formats/configures the integrated data **306** for a presentation by the communications device **150** or, alternatively, by the personal digital gateway **100**. The Edge Side Assembler **314** may also compress/decompress or encrypt/decrypt

data **306** communicated with the communications device **150**, the network **160**, and the personal digital gateway **100**. *See* Overby Decl., at ¶70.

The Claims of the '667 patent Provide Technical Solutions To The Problems With Managing Multiple Communication Devices in November of 2002.

355. The '667 patent contains 20 total claims (two independent and eighteen dependent). For purposes of this complaint, the focus will be on claim 1, although the same arguments (and more) apply to the other 19 claims in the patent, each of which require even more specific technical steps than claim 1. Claim 1 is recited below, along with other exemplary claims directed to more specific patentable subject matter that solve some of the then-existing technical problems existing in November of 2002. Bolding, italics, and underlining is used for emphasis, as shown below, to highlight the limitations that are directed to solving then existing problems:

> **1.** A method of processing data, comprising:
>
> receiving ***a selection of a communications device from a plurality of communications devices associated with a common user***;
>
> ***receiving the data*** associated with the selected communications device;
>
> ***accessing a database of rule-based profiles comprising configuration and presentation parameters*** for the plurality of communications devices;
>
> ***querying the database of rule-based profiles*** for the selected communications device;
>
> ***retrieving a profile*** associated with the selected communications device;
>
> ***integrating the data into the profile***; and
>
> ***communicating the integrated data and the profile to the selected communications device***.

'667 patent at claim 1 (emphasis added). Several of the dependent claims to the independent claims are also recited below, which provide:

> **2.** The method according to claim 1, further comprising ***determining whether an external network should be queried for remote data.***
>
> **3.** The method according to claim 2, further comprising ***triggering the communications device to query for the remote data.***
>
> **4.** The method according to claim 1, further comprising ***determining whether an external network should be queried for linked data.***
>
> **5.** The method according to claim 4, further comprising ***triggering the communications device to query for the linked data.***
>
> **7.** The method according to claim 1, further comprising ***storing a collection of bookmarks in the profile***, each bookmark having a date stamp and indicating a specific version of the data.
>
> **8.** The method according to claim 1, further comprising ***dynamically communicating with the plurality of communications devices based on a proximity of each communications device.***

'667 patent at claims 2-8 (emphasis added). *See* Overby Decl., at ¶71.

356. Although not elaborated upon much here, the other independent claim (claim 11) is also directed to subject matter that provided technical solutions to technical problems that existed in November of 2002. Although it also claims a "rule-based profile" like that which is claimed in claim 1, claim 11 is a means plus function claim that finds its structure in the specification in a way that would have been reasonably certain to a skilled artisan (subject to claim construction by the Court). *See* '667 patent at claim 11. *See* Overby Decl., at ¶72.

357. These claims are directed to much more than "information management." The foregoing claim elements are both concrete and specific in what they claim. For instance, this claim is directed to, among other things, the specific way that data is transmitted between communications devices so that communicating common user data across devices is possible, which was not previously known in the art. Further, the data communicated between the personal digital gateway and the subject communication device must be interpreted according to a rule-based engine to categorize the data, and the depending claims further claim more specific versions of the invention that are directed to solving the technical problems in the art. *See* Overby Decl., at ¶73.

358. The claims of the patent, including the independent claims, are directed to solving the problems in managing communications devices that existed in November of 2002. Specifically, the methods and systems claimed enables the communication of data with each communications device (among a plurality of communications devices), and it also integrates the data into the rule-based profiles comprising configuration and presentation parameters. The other dependent claims add specific limitations that further improve such communications and allow for a user to have their personal data on multiple devices in a way that is consistent and up-to-date across disparate devices. *See* Overby Decl., at ¶74.

359. This claim is directed to technical solutions to technical problems that existed in November of 2002. More specifically, the claimed subject matter overcame the technical problems in managing multiple communications devices that existed in November of 2002. This claim solves the problems identified above by storing user/device profiles in a central location (a database of rule-based profiles comprising configuration and presentation parameters) and

integrating data into a rule-based profile such that the user's communication device is updated with their personalized data. *See* Overby Decl., at ¶75.

360. A skilled artisan would understand that each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '667 patent, and, more specifically, allowed data to be better communicated between multiple and disparate communications devices with a common user, *i.e.*, they improved then-existing ways of synchronizing data in a timely way across devices for a particular person. *See* Overby Decl., at ¶76.

361. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world (*i.e.*, improving data communications across multiple devices used by a single user). As explained above, the claims of the '667 patent are directed at improving how multiple communications devices are managed by using a personal digital gateway that is created in a specific form. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '667 patent, the problems that the solutions of the '667 patents solve do not exist outside the computer realm. *See* Overby Decl., at ¶77.

362. Finally, the claims of the '667 patent do not preempt all the ways of information management in a computer network. There are myriad other ways such systems could be architected to manage information. Notably, the systems that were disclosed in the dozen or so prior art patents and applications identified on the face of the patent would not be preempted, and nor would be any that do not include the specific limitations of the claims of the '667 patent. *See* Overby Decl., at ¶78.

363. Even if the '667 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '667 patent are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time (like a "communication device," "database" and "bookmarks," for instance), they are employed together here in a way that was new (and certainly would not have been considered conventional, routine, or generic to those skilled in the art). The use of these components, as claimed in the various forms in the claims highlighted above, is inventive and was not previously known in the art. *See* Overby Decl., at ¶79.

364. Even if that were not true, the ordered combination of limitations in claim 1 of the '667 patent, as recited and described in detail above, were not well-known in the art. No art or system that existed at the time and that disclosed all of these limitations in a way that solved the then-existing problems with communications between multiple communications devices. A skilled artisan would have understood that these claims do not merely employ known generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way, as explained above, to solve the well-documented problems that were then-known in the art. *See* Overby Decl., at ¶80.

365. For the above reasons, the claims of the '667 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl., at ¶81.

Direct Infringement under § 271(a)

366. Defendants have directly infringed the claims of the '667 patent by using, testing, providing, installing, supplying, or distributing the Accused Products.

367. For instance, Defendants have directly infringed, either literally or under the doctrine of equivalents, at least claim 1 of the '667 patent. As just one example, Defendants, using the

Accused Products and their associated hardware and software and functionalities, perform a method of processing data, the method including receiving a selection of a communications device from a plurality of communications devices associated with a common user; receiving the data associated with the selected communications device; accessing a database of rule-based profiles comprising configuration and presentation parameters for the plurality of communications devices; querying the database of rule-based profiles for the selected communications device; retrieving a profile associated with the selected communications device; integrating the data into the profile; and communicating the integrated data and the profile to the selected communications device.

368. An exemplary claim chart illustrating Defendants' infringement of claim 1 is attached hereto as **Attachment 7** which is incorporated by reference herein.

369. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VIII: INFRINGEMENT OF U.S. PATENT NO. 7,593,428

370. Plaintiff repeats and re-alleges the allegations in Paragraphs 1-51 above as though fully set forth in their entirety.

371. The USPTO duly issued U.S. Patent No. 7,593,428 (hereinafter, the "'428 patent") on September 22, 2009, after full and fair examination of Application No. 11/621,545, which was filed on January 9, 2007. *See* '428 patent at p,1.

372. IoT Innovations owns all substantial rights, interest, and title in and to the '428 patent, including the sole and exclusive right to prosecute this action and enforce the '428 patent against infringers and to collect damages for all relevant times.

373. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations

required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the ’428 patent.

374. The written description of the ’428 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

375. U.S. Patent No. 7,593,428 (the “’428 patent”) was filed on January 9, 2007, and it claims apparatuses and methods for forming a UDP-Lite, or other, data packet with multiple, dynamically-selected checksum-protected parts. ’428 patent at 1. The ‘428 patent is a continuation of application No. 10/106.468, filed on March 26, 2002, now U.S. Patent No. 7,161,960, which means it has a priority date of no later than March 26, 2002. Overby Decl., at ¶112.

376. In general, the ’428 patent is directed to “a manner by which selectively to provide extended checksum protection to a data packet communicated between communication stations of a communication system.” ’428 patent at 1:6-9. The claims are directed to an “[a]pparatus, and an associated method, for forming a UDP Lite, or other, data packet with multiple, dynamically-selected, checksum-protected parts. Digitized data is provided to a formatter, and the formatter forms the data packet to include header fields identifying parts of the payload portion of the data packet that are checksum-protected with different checksums.” ’428 patent at Abstract; *see* Overby Decl., at ¶113.

377. A person of ordinary skill in the art (“POSITA”) at the time of the priority date of the ’428 patent would have a bachelor of science in computer engineering, information systems, or

computer science, and at least two years of experience in software development and/or systems engineering design, authentication, or security. *See* Overby Decl., at ¶114.

The Technical Problems in Data Packet Transmission And Protection in March of 2002

378. The specification of the '428 patent provides detailed information regarding the problems with then-existing data packet transmission and protection in March of 2002. '428 patent at 1:25-2:55. In March of 2002, new types of communications systems were emerging as the result of advancements in communication technologies. These new and improved systems "generally permit[ed] larger amounts of, and additional types of data to be communicated at increased throughput rates. New communication services, requiring, e.g., high data throughput rates are possible through the use of such new and improved communication systems." '428 patent at 1:25-35; *see* Overby Decl., at ¶115.

379. The data in those communications systems, of course, needed to be digitized, and the digitized data is formatted in a selected manner prior to its transmission over any communication systems. '428 patent at 1:39-42. The digitized data to be sent over communications systems need to be packetized or formed into data packets, which are "communicated at discrete intervals to effectuate communication of the data pursuant to a communication service." '428 patent at 1:42-47; *see* Overby Decl., at ¶116.

380. The specification notes that "[a] communication device used to communicate data, either to send the data or to receive the data, can be represented in logical-layer form. Such representation, as appropriate, includes layers at which formatting is applied to, or removed from, digitized data. A user datagram protocol (UDP), or UDP protocol, is an exemplary protocol scheme that is widely utilized." '428 patent at 1:54-60. "In conventional UDP formatting, a checksum is used to verify UDP header and payload data parts, thereby to effectuate validation of received data packets." '428 patent at 1:66-2:1. The specification teaches that "[c]onventional UDP checksum

protection provides protection for an entire payload portion of a UDP-formatted data packet or for none of the payload portion of the data packet." '428 patent at 2:2-4. Due to the increasing prevalence of wireless communications systems, "a modified UDP formatting scheme, referred to as UDP-Lite, [wa]s sometimes used." '428 patent at 2:5-9. The UDP-Lite scheme is compatible with the conventional UDP formatting scheme and provides improved functionality and flexibility needed for wireless communications. '428 patent at 2:9-12; *see* Overby Decl., at ¶117.

381. "A UDP-Lite formatted data packet differs with a conventional, UDP-formatted packet in that the UDP length and checksum is replaced with a partial coverage length and partial checksum. Thereby, the data contained in the UDP-Lite data packet is separated into protected and unprotected sections." '428 patent at 2:13-18. When an error is detected in the protected part, the data packet is discarded. However, errors in the unprotected part of the data do not cause the data packet to be discarded. *Id.* at 2:18-23; *see* Overby Decl., at ¶118.

382. According to the specification, "[p]assing of data to an application layer irrespective of whether the data contains errors is generally advantageous in real-time applications, such as audio, video, or image communication applications." '428 patent at 2:24-27. "However, there may be times in which detection of errors should be detected and not necessarily immediately passed to the application layer." *Id.* at 2:27-29. For example, it may be more problematic in some instances to pass along corrupted data to the application layer level than to simply discard the data. *See* Overby Decl., at ¶119.

383. The specification recognizes that "[i]f a second checksum were provided for the data packet, the corrupted data would be detected and the data packet could be discarded." '428 patent at 2:43-45. Thus, improved communication could be provided if a second checksum protection could be provided to this additional portion of the UDP-Lite data packet. "More generally, a data

packet construction providing for multiple checksum protection would permit multiple portions of the data packet to be checksum protected." *Id.* at 2:49-51; *see* Overby Decl., at ¶120.

The Claimed Advances of the '428 Patent

384. The present invention relates generally to a manner by which selectively to provide extended checksum protection to a data packet communicated between communication stations of a communication system. '428 patent at 1:6-9. Multiple, contiguous parts of the data packet are checksum-protected with selectable checksum-types, and upon transmission (and delivery) of the data packet, checksum calculations are performed upon the separate parts of the data packet. '428 patent at 1:13-17. Increased flexibility of checksum protection is provided to permit any part of the data packet to be covered by any selected checksum-type coverage, and separate parts of a single data packet can be protected by separate, and different, checksums. '428 patent at 1:17-21; *see* Overby Decl., at ¶121.

385. As described by the specification, "[t]he present invention, accordingly, advantageously provides apparatus, and an associated method, by which selectively to provide extended checksum protection to a data packet constructed at a first communication station for communication to a second communication station." '428 patent at 59-63. The inventions can be implemented in "in almost any type of packet-formatted communication system in which packet-formatted data is communicated during operation of the communication system," and is not limited to wireless systems. '428 patent at 5:42-45. Nonetheless, Figure 1 shows the invention in the context of wireless system **10**:

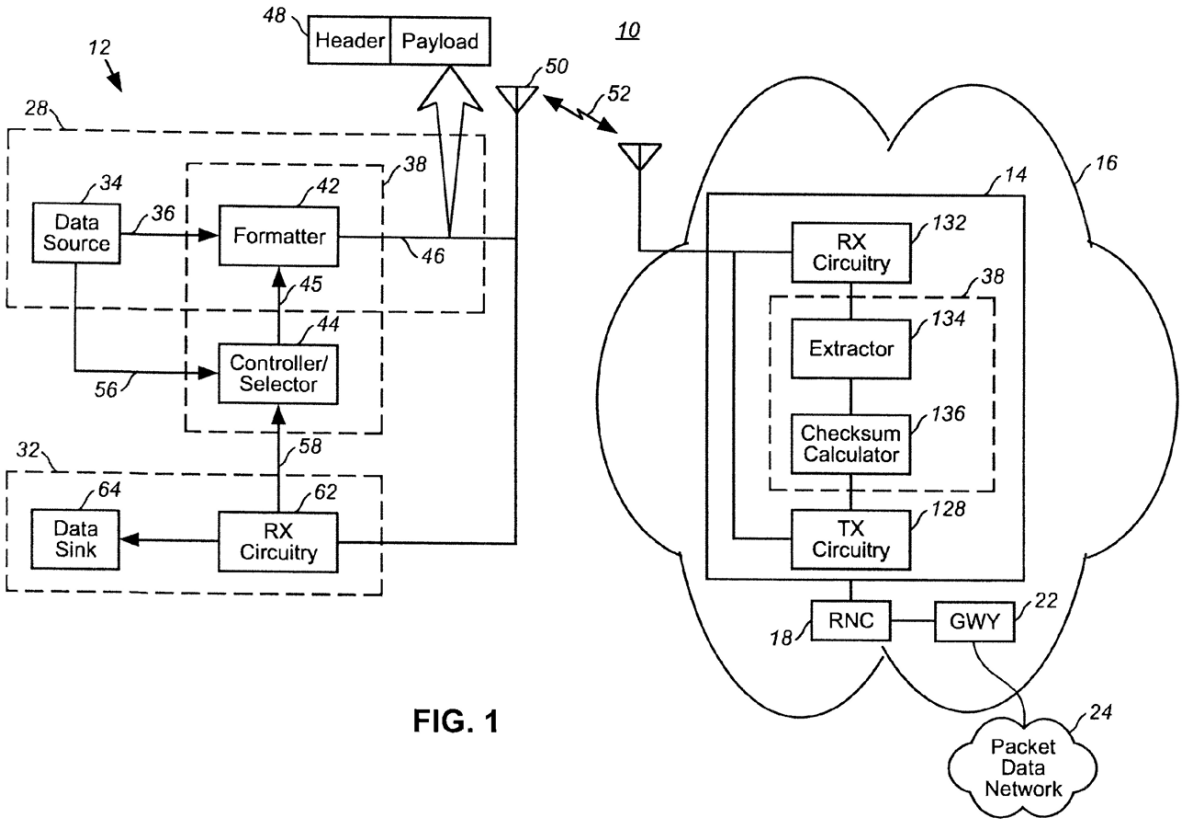


FIG. 1

386. With reference to Figure 1, the specification teaches that "a first communication station forms a mobile station **12**, and a second communication station forms a fixed-site base transceiver station . . . **14**." '428 patent at 5:22-24. "The base transceiver station **14** forms a portion of a radio access network . . . **16** that includes a radio network controller (RNC) **18** and a gateway (GWY) **22**." *Id.* at 5:25-27. "The radio access network, in turn, is coupled to a core network **24**, here a packet data network (PDN), such as the Internet backbone." *Id.* at 5:28-30; *see* Overby Decl., at ¶123.

387. As described, the mobile station **12** is representative of an end user unit, such as a cellular communication system. '428 patent at 5:46-49. "The mobile station forms a radio transceiver having a transmit part **28** and a receive part **32**, thereby to permit two-way

communication of packet-formatted data with the base transceiver station." *Id.* at 5:50-53. Data to be communicated by the mobile station to the base transceiver station is sourced at the data source **34**, which generates digitized data bits that are generated on the line **36**. '428 patent at 5:53-57; *see* Overby Decl., at ¶124.

388. The apparatus of the invention of the '428 patent is shown in Figure 1 as **38**, and is located in both the mobile station and the base transceiver station. As it is shown on the mobile station, the "apparatus here includes a formatter **42** and a selector **44**, coupled to the formatter by way of the lines **45.**" '428 patent at 5:66-67. "The formatter **42** is coupled to the line **36** to receive the digitized data generated by the data source **34**." *Id.* at 6:1-2. "The formatter operates to format the digitized data provided thereto according to a protocol . . . to produce, thereby, a packet-formatted data packet on the line **46**." *Id.* at 6:2-6. "Formatting by the formatter is, at least in part, controlled by the selector **44** . . . ." *Id.* at 6:14-15. The selector is responsive to indicia associated with the data sourced as the data source **34** and provided to the selector by way of the line **56.** *Id.* at 6:16-19. The selector is also coupled to the receive part **32**, to receive indicia associated with received data received at the mobile station. *Id.* at 6:19-24; *see* Overby Decl., at ¶125.

389. "During operation of the apparatus **38**, checksum protection is provided to two, or more, separate parts of a data packet formed by the formatter." '428 patent at 6:32-34. "The separate parts are protected by separate checksums, and the data packet includes indication of the checksum protection associated with the different parts to permit checksum calculations to be performed upon the data packet upon its delivery to a receiving station, here the base transceiver station **14**." *Id.* at 6:34-39; *see* Overby Decl., at ¶126.

390. As it is shown on the base transceiver station, the apparatus of the invention "includes an extractor **134** coupled to the receive part **128** to extract, from received data packets, the

information contained in the header field **92.**" '428 patent at 7:49-51. "[R]esponsive to the extracted information, a checksum calculator **136** operates to perform checksum calculations upon the separate parts of the data packet. Thereby, the integrity of the parts of the data packet are verified." *Id.* at 7:52-55. "If the parts are determined to be corrupted, the data packet can selectably be caused to be re-sent." *Id.* at 7:55-57; *see* Overby Decl., at ¶127.

391. Figure 2 of the '428 patent illustrates the communications system **10** in logical-layer form. The mobile station **12** and the base transceiver station **14** are both represented in Figure 2 as well:

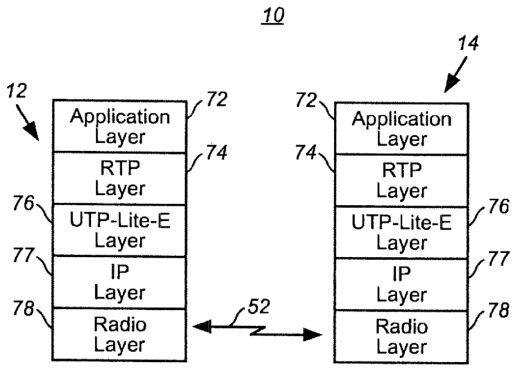


FIG. 2

392. The top-most layers of both the mobile station **12** and the base transceiver station **14** form application layers **72.** *See* '428 patent at 6:46-47. "The application layers generate the data that is communicated during operation of the communication system." *Id.* at 6:47-49. "The application layers are positioned upon packet-formatting layers **74**, **76,** and **77.** Here, specifically, the application layers include an RTP (real-time transport protocol) layer **74**, an extended, UDP-Lite (user datagram protocol-Lite) layer **76**, [and] an IP (Internet Protocol) layer **77**." *Id.* at 6:49-54. "The packet-formatting layers are positioned upon physical layers, here radio layers **78**, to

provide transmit and receive functionality to the respective devices **12** and **14**." *Id.* at 6:54-57; *see* Overby Decl., at ¶129.

393. Figure 3 of the '428 patent illustrates an exemplary data packet **48** formed pursuant to the operation of the invention of the patent:

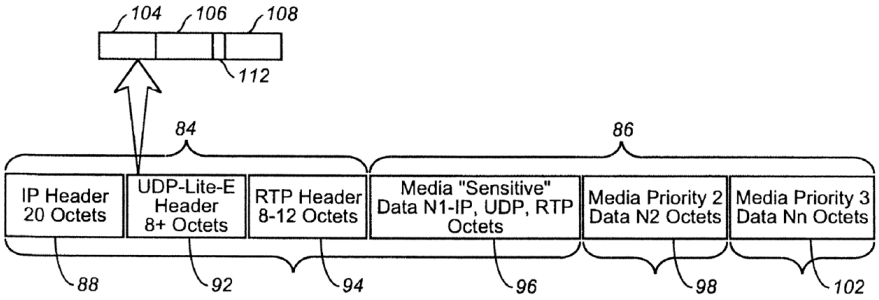


FIG. 3

394. "The data packet includes a header part **84** and a payload part **86**." '428 patent at 7:7-8. The header part **84** is comprised of the IP Header **88** (formed by the IP header layer **77** shown in Figure 2), the UDP-Lite-E Header **92** (formed by the UDP-Lite layer **76** shown in Figure 2), and the RTP Header **94** (formed by the RTP layer **74** shown in Figure 2)**.** The payload part **86** is comprised of a first part **96**, a second part **98**, and a third part **102**. "The first part **96** forms a media (sensitive) data part formed of IP, UDP, and/or RTP octets. And exemplary, lower-priority, here designated media priority 2 and media priority 3 data octets form the parts **98** and **102**, respectively." *Id.* at 7:16-20; *see* Overby Decl., at ¶131.

395. "Information contained in the extended UDP-Lite-header part **92** includes three sub-fields associated with each of the parts **96**, **98,** and **102**." '428 patent at 7:21-23. "Namely, the portion **92** includes length sub-fields **104**, checksum sub-fields **106**, and checksum value sub-fields **108** associated with each of the parts **96**, **98,** and **102**." *Id.* at 7:23-26. "For a payload part, the length sub-field is populated with values indicating the length of such payload part, the checksum

field sub-frame indicates the type of checksum by which the designated part is protected, and the checksum sub-frame **108** designates the checksum value of the checksum that protects the designated part." *Id.* at 7:26-31. "The checksum sub-field further includes a single-bit flag, or other identifier, here designated at **112**, representative of whether an additional part of the data packet is protected by additional checksums." *Id.* at 7:37-41; *see* Overby Decl., at ¶132.

The Claims of the '428 Patent Provide Technical Solutions To The Problems With Data Packet Protection in March of 2002.

396. The '428 patent contains 19 total claims (four independent and fifteen dependent). For purposes of this complaint, the focus is on claim 14, although similar arguments (plus some) apply to other 18 claims in the patent, each of which require even more specific technical steps than claim 14. Claim 1 is recited below, along with other claims that claim more specific patentable subject matter that solve some of the then-existing technical problems existing in March of 2002. Bolding, italics, and underlining are used below for emphasis, as shown, to highlight the limitations that are directed to solving then existing problems:

> **14.** A method comprising:
>
> ***receiving data from a data source at a transceiver station;*** and
>
> in response to programmed instructions in ***processing circuitry at the transceiver station***;
>
> ***selecting a first portion of the data to be protected by a first checksum*** and ***selecting a second portion of the data to be protected by a second checksum***;
>
> ***performing a first checksum calculation*** upon the selected first portion and ***performing at least a second checksum calculation*** upon the selected second portion; and

> ***formatting the data into a packet-formatted data packet***, wherein ***the packet-formatted data packet comprises the selected first portion, indicia associated with the first checksum calculation, the selected second portion, and indicia associated with the second checksum calculation***.

'428 patent at claim 14 (emphasis added). Several of the dependent claims to the independent claim are also reproduced below, which provide:

> **15.** The method of claim 14 wherein ***selecting the first portion of the data and the second portion of the data is based in part upon communication conditions.***
>
> **16.** The method of claim 15 further comprising ***determining the communication conditions of the communication channel.***
>
> **17.** The method of claim 14 wherein ***selecting is based in part on a content-type of the data to be sent.***

'428 patent at claims 15-17 (emphasis added); *see* Overby Decl., at ¶133.

397. The other independent claims (claims 1, 12, and 18) are also directed to subject matter that provided technical solutions to technical problems that existed in March of 2002. As noted above, claim 14 focuses on a method of employing multiple checksums to ensure data integrity, while claim 1 focuses on an apparatus that includes a data formatter and selector wherein the selector is configured to receive indications of the communication channel's condition, and wherein the selector is configured to be responsive, at least in part, to values of the indications of the communication conditions. *See* '428 patent at claims 1 and 14. Similarly, claim 18 focuses on the method that is specifically directed to extracting information from a header portion of the UDP-lite data packet, while claim 12 is specifically directed to a user datagram protocol lite (UDP-lite) data packet and includes a third and fourth checksum (on the first and second portion of the data packet, respectively). *See* '428 patent at claims 12 and 18; *see* Overby Decl., at ¶134.

398. The other dependent claims add even more specificity to the independent claims. For instance, the system of claim 2 is "configured to receive from a second communication station," claim 3 requires that "indications of the communication conditions are formed at a first logical layer and wherein the selector and the formatter are embodied at a second logical layer," claim 4 requires the system to have a "first logical layer comprises a physical layer and wherein the second logical layer comprises an extended UDP-Lite layer," the system of claim 8 additionally requires that the "first portion of the data packet comprises an indication field identifying presence of the second portion protected by the second checksum," and the system of claim 9 has "a second-length field, the second-length field configured to identify, at least by length, which portion is protected by the second checksum." Each of these additional limitations provide supplemental solutions to then-existing technical problems in data packet transmission and protection. *See* Overby Decl., at ¶135.

399. These claims are directed to more than "encoding information." The claims are concrete and specific in the subject matter they claim, which solve the technical problems existing in March of 2002 (those associated with employing a single checksum in data packet). For instance, claim 14 focuses on a method of employing two checksums to ensure data integrity, claim 1 is directed to an apparatus that formats data based on indications of communication conditions so that it is protected by at least two checksums, claim 12's system is directed to a UDP-lite packet and includes a third and fourth checksum, and the method of claim 18 extracts information from a UDP-lite header and protects it with at least two checksums. These inventions, as claimed by the independent claims, were previously unknown in the art. The dependent claims further claim more specific versions of the invention that are directed to solving the technical problems in the art that are identified above. *See* Overby Decl., at ¶136..

400. The claims of the patent, including the independent claims, clearly claim the formatting, sending, receiving, and processing of data with at least two checksums to solve problems in data packet protection that existed in March of 2002. Specifically, the use of at least two checksums adds additional protection to the data and improves communications. The other dependent claims add specific limitations that further improve such data packet protection. A skilled artisan would understand that each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '428 patent, and, more specifically, allowed data packets to be better protected and communicated between devices. *See* Overby Decl., at ¶137.

401. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world (*i.e.*, selecting two different portions of a data packet and protecting them with a first and second checksum, respectively). As explained above, the claims of the '428 patent are directed at improving data packet protection. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '428 patent, the problems that the solutions of the '428 patent solve do not exist outside the computer realm. *See* Overby Decl., at ¶138.

402. Finally, the claims of the '428 patent do not preempt all the ways of protecting data packets. There are many other ways that data packets could be formatted to protect them. Notably, the systems that were disclosed in the fifteen or so prior art patents and applications identified on the face of the patent would not be preempted, nor would be any that do not include the specific limitations of the claims of the '428 patent. *See* Overby Decl., at ¶139.

403. Even if the '428 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '428 patent are directed to matter that was not known in the art at the time. To the extent that the claims employ components and technology that existed at the time (for instance, a transceiver, processing circuitry, checksum calculations, and UDP-lite datagrams), they are employed together here in a way that was new and would not have been considered conventional, routine, or generic to those skilled in the art. The use of multiple checksums to ensure data packet integrity (header and payload, for instance) as claimed in the various forms in the claims highlighted above, is inventive and was not previously known in the art. *See* Overby Decl., at ¶140.

404. Even if that were not true, the ordered combination of limitations in claims 1, 12, 14, and 18 of the '428 patent, as recited and described in detail above, were not known in the art, much less well-known. No art or system that existed at the time disclosed all of the limitations of these claims in a way that solved the then-existing problems with data packet transmission and protection. A skilled artisan would have understood that these claims do not merely employ known generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way (described above) to solve the problems then-known in the art. *See* Overby Decl., at ¶141.

405. For the reasons stated above, the claims of the '428 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (and not abstract ideas). *See* Overby Decl., at ¶142.

Direct Infringement under § 271(a)

406. For instance, Defendants have directly infringed, either literally or under the doctrine of equivalents, at least claim 14 of the '428 patent. As just one example, Defendants, using the Accused Products and their associated hardware and software and functionalities, perform a

method including receiving data from a data source at a transceiver station; and in response to programmed instructions in processing circuitry at the transceiver station; selecting a first portion of the data to be protected by a first checksum and selecting a second portion of the data to be protected by a second checksum; performing a first checksum calculation upon the selected first portion and performing at least a second checksum calculation upon the selected second portion; and formatting the data into a packet-formatted data packet, wherein the packet-formatted data packet comprises the selected first portion, indicia associated with the first checksum calculation, the selected second portion, and indicia associated with the second checksum calculation.

407. An exemplary claim chart illustrating Defendants' infringement of claim 14 is attached hereto as **Attachment 8** which is incorporated by reference herein.

408. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IX: INFRINGEMENT OF U.S. PATENT NO. 8,085,796

409. Plaintiff repeats and re-alleges the allegations in the Paragraphs 1-51 above as though fully set forth in their entirety.

410. The USPTO duly issued U.S. Patent No. 8,085,796 (hereinafter, the "'796 patent") on December 27, 2011, after full and fair examination of Application No. 12/126,137, which was filed on May 23, 2008. *See* '796 patent at p.1.

411. IoT Innovations owns all substantial rights, interest, and title in and to the '796 patent, including the sole and exclusive right to prosecute this action and enforce the '796 patent against infringers and to collect damages for all relevant times.

412. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations

required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the '796 patent.

413. The written description of the '796 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

414. U.S. Patent No. 8,085,796 ("the '796 patent") was filed on May 23, 2008, and it claims methods, systems, and apparatuses for enabling a virtual personalized network. '796 patent, at p. 1. The '796 patent is a continuation of U.S. application Ser. No. 10/306,504, filed Nov. 27, 2002, now issued as U.S. Pat. No. 7,379,464, which means that the '796 patent has a priority date of no later than November 27, 2002. *See* Overby Decl., at ¶82.

415. In general, the '796 patent is directed to methods and systems "to control access, sharing, security, and/or management of up-to-date personalized data exchanged between or among a plurality of associated communications devices and/or communications networks" where "the associated communications devices are owned, operated, and/or accessed by a common user." '796 patent, at 1:33-37.'796 patent, at Abstract; *see* Overby Decl., at ¶83.

416. A person of ordinary skill in the art ("POSITA") at the time of the filing date of the Asserted Patents would have had a bachelor of science in computer engineering, information systems, or computer science and at least two years of experience in software development, and/or systems engineering design, authentication, or security. *See* Overby Decl., at ¶84.

The Technical Problems In Sharing Information Between Devices in November 2002.

417. The specification of the '796 patent provides ample detail concerning the problems with how people managed data shared among numerous communications devices in November of 2002. '796 patent, at 1:35-2:28; *see* Overby Decl., at ¶85.

418. "One of the biggest barriers to managing multiple communications devices is creating, accessing, and maintaining up-to-date personalized information." '796 patent, at 1:54-59. At the time of the '796 patent, if a user wanted to exchange or share information between devices, they would typically have to enter the information at least twice—once on each device. *Id.* at 1:59-66. Information updated on one device was not updated on any other device, and the user had to update each communications device separately. *Id.* at 1:66-2:2; *see* Overby Decl., at ¶86.

419. In addition, "each of these communications devices is customized in terms of software, hardware, and network configuration," thus making it difficult for communications devices to share information between them. '796 patent, at 1:51-53. For example, as of November of 2002, wireless telephones had limited functionality compared to home computers, in that they could only provide limited contact information and were unable to run most application/software packages. *Id.* at 2:8-15; *see* Overby Decl., at ¶87.

420. On top of a lack of standardized functionalities, "some communications devices of the user also set forth a variety of login identifications and/or passwords in order to provide privacy, authorization, and/or security for the communications device and/or the connected communications networks." '796 patent, at 2:12-20; *see* Overby Decl., at ¶88.

421. The '796 patent recognized that, with the emergence of the new technological landscape, a personalized digital gateway is needed that "builds communications infrastructure to support and capitalize on the different communications devices of the user to provide up-to-date personalized information." '796 patent, at 2:29-33. The personalized digital gateway was

envisioned to "enable multiple communications devices to share, transfer, and/or access standardized or otherwise compatible up-to-date personalized information." *Id.* at 2:33-41. The personalized digital gateway would then customize the presentation of the standardized up-to-date personalized information based on the functionalities of each individual communications device. *Id.* at 2:37-45. Importantly, all of this was needed "without investing millions of dollars in computer equipment, in networking infrastructures, in maintenance, and in training while also complying with security, authentication, and/or privacy requirements." *Id.* at 2:41-46; *see* Overby Decl., at ¶89.

The Claimed Advances Of The '796 patent.

422. AT&T, the company that applied for this patent, was a pioneer in the communications industry at the time this patent was filed, and it was working on solutions to these problems, including through the inventions disclosed in the '796 patent. As recited by the specification, the invention of the '796 patent solved the technical problems that existed pertaining to sharing information between communications devices by providing "an interface between different communications devices, networks, systems, and thereby, provid[ing] universal access to and management of personalized information across a variety of communication devices." '796 patent at 2:50-59; *see* Overby Decl., at ¶90.

423. The focus of claims of the '796 patents are systems and methods "that interfaces different communications devices, connected networks, and/or systems" using a personal digital gateway and a rule-based engine for synchronizing data across a user's devices. '796 patent, at 5:4-6. Those methods and systems "control access, sharing, security, and/or management of up-to-date personalized data exchanged between or among a plurality of associated communications devices and/or communications networks." *Id.*, at Abstract. The purpose of the systems and methods are "to efficiently automate configuration and routing of data to different communications

devices of a common user and to effectively manage this data and the different communications devices." *Id.* at 5:6-10. "Some of the advantages of the [systems and methods] include increased ability of each connected communications device to flexibly manage and categorize data that is exchanged with other communications devices, provide access to up-to-date data. . ., and utilize a virtual personalized network to manage communications with connected networks, such as a public data network (e.g., Internet)." *Id.* at 2:60-67; *see* Overby Decl., at ¶91.

424. Figure 1 shows the personal digital gateway according to one embodiment of the invention:

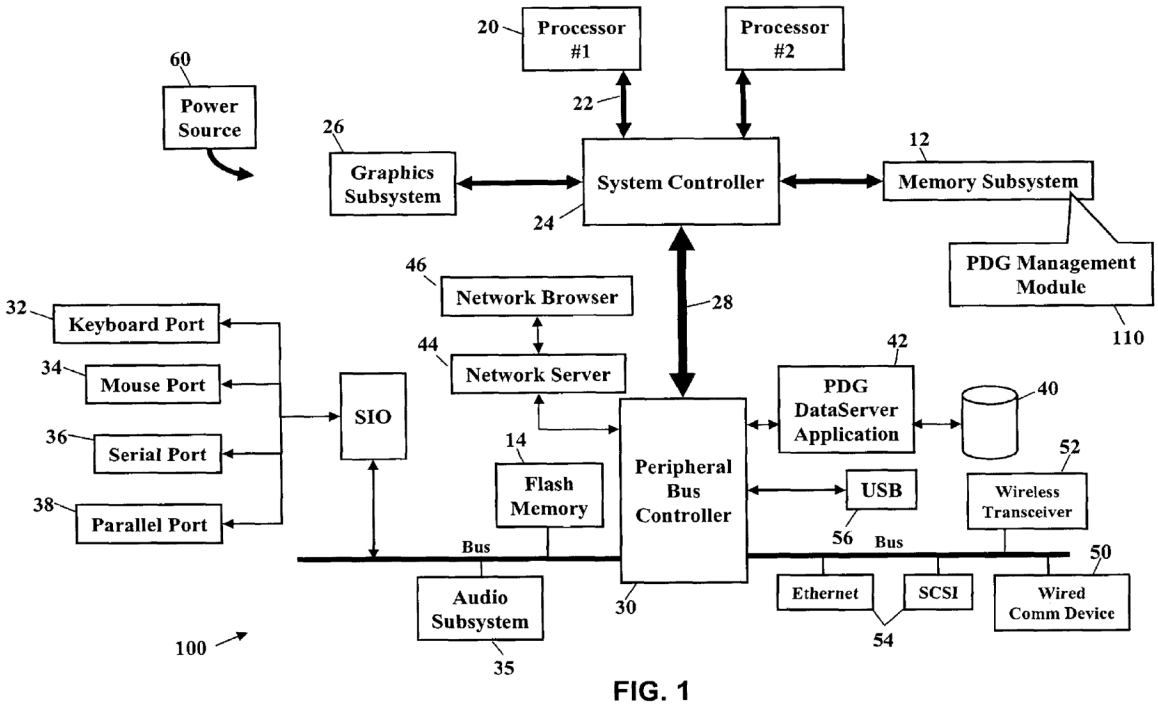


FIG. 1

425. In Figure 1, the personal digital gateway management module **110** resides in the personal digital gateway **100**. The personal digital gateway management module **110** operates within a system memory device, such as a memory subsystem **12** (as in Figure 1), flash memory **14**, and/or in a peripheral storage device **40**. *See* Overby Decl., at ¶93.

426. The personal digital gateway management module **110** allows a user to manage protocol transfer across a variety of communications devices and networks, and to manage communications of mobile data associated with the personal digital gateway **100**. For example, it allows the user to customize one or more personal digital gateway rule-based profiles (shown as reference number **304** in Figure 3 *infra*) of a rule-based dataserver application **42**, including a configuration agent, a security agent, an access agent, a management agent, and data associated with the common user. It also allows the user to customize presentation, features, and/or management of communications between the personal digital gateway **100** and the communications device (shown as reference number **150** in Figure 3 *infra*). In addition, the personal digital gateway management module **110** also allows the user to manage network connection(s) of the personal digital gateway **100** and/or the communications device **150.** It further allows the user to customize features, such as data handling options, and it may allow the user to control whether to accept, decline, or postpone integration of the data with the connected communication device **150** (or, alternatively, may be set to automatically accept, decline, or postpone integration depending on rules contained in the personal digital gateway rule-based profile **304**). The personal digital gateway management module **110** also allows a user to control additional processing of data, such as editing the data, copying the data, deleting the data, associating the data with remote data or links, storing the data, administering the data, compressing or uncompressing the data, and encrypting or decrypting the data. Finally, it may provide a network address, such as an IP address, of the connected communications device **150** so that a connected network (shown as reference number **160** in Figure 3 *infra*) can communicate with the data. *See* Overby Decl., at ¶94.

427. In addition to the personal digital gateway management module **110,** the personal digital gateway also has one or more central processors **20** executing an operating system. A system bus **22** communicates signals between the central processors **20** and a system controller **24**, which provides a bridging function between one or more central processors **20**, a graphics subsystem **26**, the memory subsystem **12,** and a Peripheral Controller Interface bus **28**. The Peripheral Controller Interface bus **28** is controlled by a Peripheral Bus Controller **30**, which is an integrated circuit that serves as an input/output hub for various peripheral ports. Among other things, these peripheral ports would allow the personal digital gateway to communicate with a variety of communications devices through ports **54**, Wireless Transceiver **52**, and Wired Comm Device Port **50**. The personal digital gateway may also include a network server **44** that operates a network browser **46**, and these may be stand-alone components or they may be integrated into the personal digital gateway dataserver application **42.** *See* Overby Decl., at ¶95.

428. The personal digital gateway dataserver application **42** functions as an intelligent server, database and processor that is dedicated to managing personal digital gateway activity, including communications with the connected communications device (shown as reference number **150** in Figure 3 *infra*) and/or the connected network (shown as reference number **160** in Figure 3 *infra*). It stores one or more personal digital gateway Rule-Based Profiles (shown as reference number **304** in Figure 3 *infra*) that include data and/or applications associated with various agents. *See* Overby Decl., at ¶96.

429. Figure 3 shows an exemplary operating environment that illustrates the gateway **100** communicating with a communications device **150** and a network **160**:

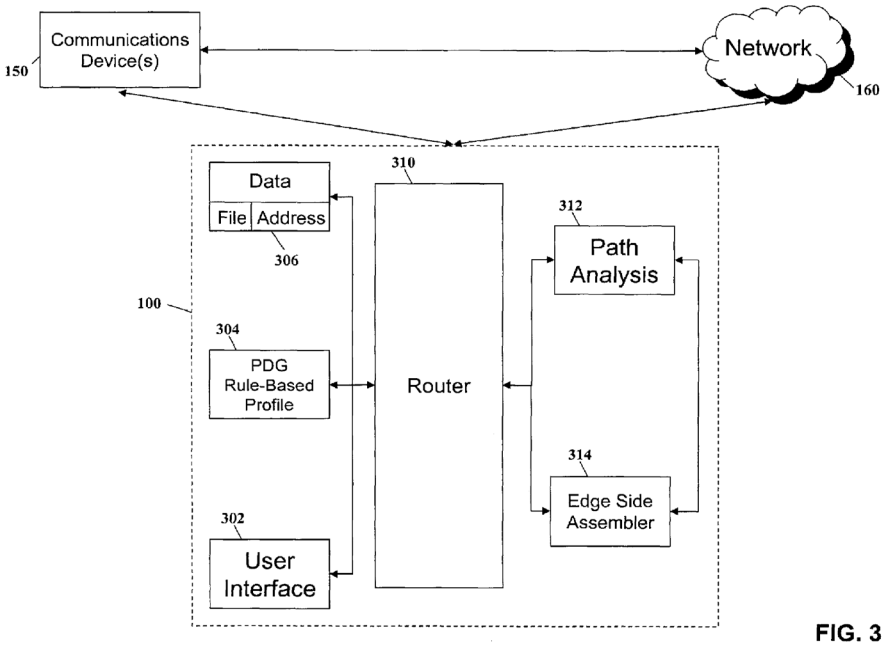


FIG. 3

430. In Figure 3, the user interacts with a User Interface **302** to select a personal digital gateway Rule-Based Profile **304** and/or the data **306** to communicate with the communications device **150** and/or network **160.** A router **310** of the personal digital gateway **100** chooses a communications path **312,** and an Edge Side Assembler **314** accesses, integrates, and configures the data **306** to communicate with the communications device **150.** *See* Overby Decl., at ¶98.

431. Figure 4 shows an exemplary framework of the data flow through a personal digital gateway **100**, a connected communications device **150**, and a connected network **160**:

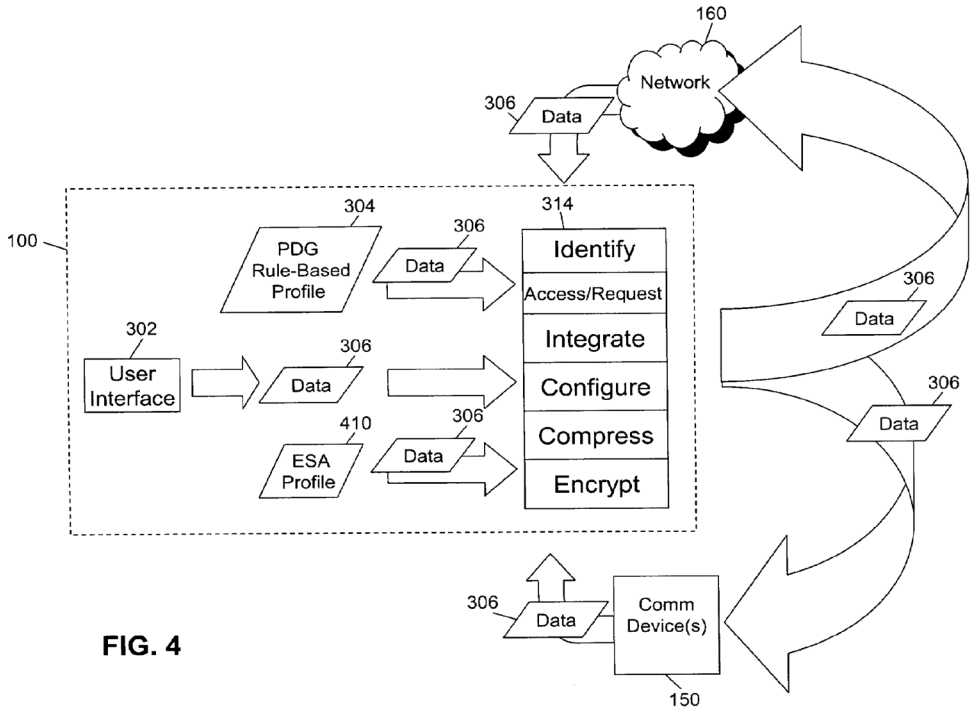


FIG. 4

432. The user of the personal digital gateway **100** may use the User Interface **302** to input or otherwise identify data **306**. Next, the user may select the personal digital gateway Rule-Based Profile **304** to associate or, alternatively, the personal digital gateway may automatically associate the Rule-Based Profile **304**. The personal digital gateway Rule-Based Profile **304** and the data **306** are processed by the Edge Side Assembler **314**, which identifies the data **306**, locates remote data, and associates the Edge Side Assembly profile **410** (if available). The Edge Side Assembler **314** then configures a query for remote data **306**, and integrates the remote data with the data associated with the personal digital gateway Rule-Based Profile **304** and/or the Edge Side Assembly profile **410**. Next, the Edge Side Assembler **314** formats/configures the integrated data **306** for a presentation by the communications device **150** or, alternatively, by the personal digital gateway **100**. The Edge Side Assembler **314** may also compress/decompress or encrypt/decrypt

data **306** communicated with the communications device **150**, the network **160**, and the personal digital gateway **100**. *See* Overby Decl., at ¶100.

433. A skilled artisan would understand that the "edge side assembler" of the claims is "a program that identifies local data, locates remote data, associates the profile to a query of the remote data, integrates the remote data with the data associated with the personal digital gateway and/or the profile, and formats it for presentation by the communication device and/or personal digital gateway." *See* Overby Decl., at ¶101.

The Claims Of The '796 patent Provide Technical Solutions To The Problems With Managing Multiple Communication Devices In November 2002.

434. The '796 patent contains 20 total claims (three independent and seventeen dependent). For purposes of this complaint, the focus is on claim 1, though the same arguments (and more) apply to the other 19 claims in the patent, each of which require even more specific technical steps than claim 1. Bolding, italics, and underlining is used below for emphasis, as shown, to highlight the limitations that are directed to solving then existing problems:

> **1.** A method, comprising:
>
> selecting a ***selected communications device*** from a plurality of communications ***devices associated with a user***;
>
> ***receiving data for communication between a personal digital gateway and the selected communications devic***e;
>
> ***storing profiles*** for each of the plurality of communications devices;
>
> ***retrieving a profile associated with the selected communications device***;
>
> ***interpreting the data*** for communication ***according to a rule-based engine***;
>
> ***processing*** the data for communication ***according to an edge side assembler***; and

> ***sending the data*** for communication ***and the profile from the personal digital gateway*** to the ***selected communications device***.

'796 patent, at claim 1 (emphasis added). Several of the dependent claims to claim 1 are also reproduced below, which provide:

> **2.** The method of claim 1, further ***comprising configuring the data for communication for a presentation format*** that is compatible for the selected communications device.
>
> **3.** The method of claim 1, further comprising ***storing a user interface in memory of the personal digital gateway***.
>
> **4.** The method of claim 1, further comprising ***storing a configuration agent that provides a listing*** of the plurality ***of the communications devices***.
>
> **6.** The method of claim 1, further comprising ***storing a collection of bookmarks in the profile***, each bookmark having ***a date stamp that indicates a specific version of the data*** for communication.
>
> **7.** The method of claim 1, further comprising ***splitting a display*** screen of the selected communications device ***into a first viewing area that displays management controls*** and into a ***second viewing area that displays the data for communication*** sent from the personal digital gateway.
>
> **10.** The method of claim 1, further comprising ***storing a display size for each of the plurality of the communications devices***.
>
> **11.** The method of claim 1, further comprising ***storing a timing sequence to automatically refresh a linked site*** for each of the plurality of the communications devices.
>
> **13.** The method of claim 1, further comprising ***receiving an updated file from a co-author***.
>
> **14.** The method of claim 13, further comprising ***sending a message to inform other co-authors of the updated file***.
>
> **15.** The method of claim 13, further comprising:
>
> ***storing routing instructions*** for sending messages to other co-authors; and

> ***automatically sending the messages to inform each co-author*** of the updated file.
>
> **16.** The method according to claim 1, further comprising:
>
> ***automatically detecting when a file is uploaded to the personal digital gateway*** from any of the plurality of communications devices; and
>
> ***sending a message to a list of contacts querying whether any of the contacts would like to receive a copy*** of the file.

'796 patent at claims 2-18 (emphasis added). At least some of the other dependent claims also disclose the use of specific computer hardware and software to be used in performing these steps. *See, e.g.,* '796 patent at claim 8 (storage of authentication information associated with a personal digital gateway) and claim 12 (storing a networking capability for each of the plurality of the communications devices). *See* Overby Decl., at ¶102.

435. The other independent claims (claim 19 and 20) are directed to subject matter that provided technical solutions to technical problems that existed in November of 2002. These are directed to that subject matter in much the same way, though they focus on claiming a system and non-transitory computer readable medium, respectively, that solve the same problems as claim 1. *See* Overby Decl., at ¶103.

436. The claims of the patent, including the independent claims, clearly claims use of a "personal digital gateway" to solve the problems in managing communications devices that existed in November of 2002. Specifically, through the use of rule-based profiles, the personal digital gateway enables communication of the data with each communications device of the plurality of communications devices. The other claims add specific limitations that further improve such communications and allow for a user to have their personal data on multiple devices in a way that is consistent and up to date (avoiding "stale" data). *See* Overby Decl., at ¶104.

437. These claims are directed to much more than "information management." In fact, the foregoing claim elements are both concrete and specific in what they claim. For instance, this claim is directed to, among other things, the way that data is transmitted between communications devices. The claim accomplishes this by claiming a system that is comprised of a "personal digital gateway," "a rule-based engine," an "edge side assembler," and a plurality of communication devices and that uses stored profiles to synchronize data between devices of a single user. *See, e.g.,* claim 1. The depending claims further claim more specific versions of the invention that are directed to solving the technical problems in the art through the employment of presentation formats targeted to particular devices and stored display sizes (providing the ability to have a seamless experience between devices) (claims 2 and 10), a user interface that is stored in the personal digital gateway (again, providing for the same user interface for all devices)(claim 3), a configuration agent with a device directory (claim 4), time-stamped data "bookmarks," (claim 6), a split display screen for managing devices and displaying data from the personal digital gateway (claim 7), among others (providing for sharing and updating of files by co-authors, *etc., see* claims 13-15 and automatic distribution of content to contacts, *see* claim 16)). *See* Overby Decl., at ¶105.

438. These claims are directed to technical solutions to technical problems that existed in November of 2002. More specifically, the claimed subject matter overcame the technical problems in managing multiple communications devices that existed in November of 2002. Each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '796 patent, and more specifically allowed data to be communicated between multiple communications devices, *i.e.*, they improved then-existing ways of synchronizing data in a timely way across devices for a particular person using rule-based

profiles and a personal digital gateway that enables communication of the data with each communications device (within a group of communications devices). *See* Overby Decl., at ¶106.

439. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world. As explained above, the claims of the '796 patent are directed at improving how multiple communications devices are managed by using a personal digital gateway that is created, in a specific form. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '796 patent, the problems that the solutions of the '796 patents solve do not exist outside the computer realm. *See* Overby Decl., at ¶107.

440. Finally, the claims of the '796 patent do not preempt all the ways of information management in a computer network. Motion to Dismiss, at p. 20. There are myriad other ways such systems could be architected to manage information in a network. Notably, those that do not include the specific limitations of the claims of the '796 patent. Also, all of the systems that were disclosed in the two dozen prior art patents and applications identified on the face of the patent would not be preempted. *See* Overby Decl., at ¶108.

441. Even if the '796 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '796 patent are directed to matter that was not known in the art at the time, and to the extent that the claims employ components and technology that existed at the time (like a "gateway," "communication device," "database," "assembler," and "bookmarks," for instance), they are employed together here in a way that was new (and certainly would not have been considered conventional, routine, or generic to those skilled in the art). The use of the personal digital gateway, along with the other limitations, as

claimed in the various forms in the claims highlighted above, is inventive and was not previously known in the art. *See* Overby Decl., at ¶109.

442. Even if that were not true, the ordered combination of limitations in claim 1 of the '796 patent, as recited and described in detail above, were not well-known in the art. No art or system that existed at the time disclosed all of these limitations in a way that solved the then-existing problems with communications between multiple communications devices. These claims do not merely employ known generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way (as described at length above) to solve the well-documented problems that were then-known in the art. *See* Overby Decl., at ¶110.

443. For the above reasons, the claims of the '796 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl., at ¶111.

Direct Infringement under § 271(a)

444. Defendants have directly infringed the claims of the '796 patent by using, providing, testing, installing, supplying, or distributing the Accused Products.

445. For instance, Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '796 patent. As just one example, Defendants, using the Accused Products and their associated hardware and software and functionalities, perform a method including selecting a selected communications device from a plurality of communications devices associated with a user; receiving data for communication between a personal digital gateway and the selected communications device; storing profiles for each of the plurality of communications devices; retrieving a profile associated with the selected communications device; interpreting the data for communication according to a rule-based engine;

processing the data for communication according to an edge side assembler; and sending the data for communication and the profile from the personal digital gateway to the selected communications device.

446. An exemplary claim chart illustrating Defendants' infringement of claim 1 is attached hereto as **Attachment 9** which is incorporated by reference herein.

447. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

448. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '796 patent. Defendants' actions have interfered with and will interfere with Plaintiff's ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

COUNT IX(A): ***Indirect Infringement Under § 271(b) and (c)***

449. Defendants have been willfully blind to the existence of the '796 patent and their infringement, but Defendants had actual knowledge of the '796 patent on or around December 1, 2023.

450. Defendants have also indirectly infringed the '796 patent by inducing others to directly infringe the '796 patent.

COUNT IX(A)(1): ***Induced Infringement Under § 271(b)***

451. Defendants have induced end-users, including, but not limited to, Defendants'

employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '796 patent by providing or requiring use of the Accused Products.

452. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes the claims of the '796 patent, including, for example, claim 1 of the '796 patent.

453. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home Apps on how to use the Accused Products in an infringing manner.

454. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '796 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '796 patent.

455. Defendants' inducement is ongoing.

COUNT IX(A)(2): *Contributory Infringement Under § 271 (c)*

456. Defendants have also indirectly infringed by contributing to the infringement of the '796 patent. Defendants have contributed to the direct infringement of the '796 patent by its personnel, contractors, and customers.

457. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe the claims of the '796 patent, including, for example, claim 1 of the '796 patent.

458. The special features constitute a material part of the invention of one or more of the claims of the '796 patent and are not staple articles of commerce suitable for substantial non-infringing use.

459. Defendants' contributory infringement is ongoing.

COUNT IX(B): *Willful Infringement*

460. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

461. Defendants' direct infringement of the claims of the '796 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

COUNT X: INFRINGEMENT OF U.S. PATENT NO. 8,972,576

462. Plaintiff repeats and re-alleges the allegations in the Paragraphs 1-51 above as though fully set forth in their entirety.

463. The USPTO duly issued U.S. Patent No. 8,972,576 (hereinafter, the "'576 patent") on March 3, 2015, after full and fair examination of Application No. 10/833,381, which was filed on April 28, 2004. *See* '576 patent at p.1.

464. IoT Innovations owns all substantial rights, interest, and title in and to the '576 patent, including the sole and exclusive right to prosecute this action and enforce the '576 patent against infringers and to collect damages for all relevant times.

465. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the claims of the '576 patent.

466. The written description of the '576 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-

conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

467. U.S. Patent No. 8,972,576 (the "'576 patent") was filed on April 28, 2004, and it claims a method, network, and apparatus for establishing a "home" relationship between a mobile device and network server(s) such that a mobile device can roam between networks and/or between access points, for example, of an 802.11 wireless LAN, so that the user can communicate over the network without additional configuration. '576 patent at Abstract; *see* Overby Decl., at ¶143.

468. In general, the '576 patent is directed to "computer networks, and more particularly to providing an automatic registration service through establishing a home relationship between a wireless device and a server in a wireless network." '576 patent at 1:7-10; *see* Overby Decl., at ¶144.

469. A person of ordinary skill in the art ("POSITA") at the time of the priority date of the '576 patent would have had a bachelor of science in computer engineering, information systems, or computer science and at least two years of experience in software development, and/or systems engineering design, authentication, or security. *See* Overby Decl., at ¶145.

The Technical Problems Mobile Device Connectivity In A Wireless Network in April 2004

470. As taught in the specification,"[a]wireless LAN is a local area network that transmits over the air and does not require a line site between a sending and receiving device. Typically, one or more wireless base stations, which are also referred to as access points, are wired to an Ethernet network, while wireless adapters are either built into or attached to client devices. The access points and the wireless devices communicate via radio frequency over an area of several hundred feet through walls and other barriers. If there are multiple access points as in a corporation, for example, then roaming devices can be handed-off from one access point to another. One example

of a wireless LAN standard today is 802.11." '576 patent at 1:14-25. The '576 patent further notes that "[f]or short distances between two devices, a wireless personal area network (PAN) may be used, such as Bluetooth[, which] is an open standard for short-orange transmission of digital voice and data between local devices, such as laptops, PDAs, imaging devices, phones, and desktop devices." '576 patent at 1:26-37; *see* Overby Decl., at ¶146.

471. According to the specification of the '576 patent, "[o]ne application for a wireless LAN is in the home for connecting two or more computers/devices." '576 patent at 1:38-39. A home LAN is usually powered by the same technology and protocols that are used in a corporate environment, "except that the home network is configured as one network, whereas a company may have many subnetworks for traffic and security purposes." '576 patent at 1:39-43; *see* Overby Decl., at ¶147.

472. In April of 2004, it was a few years before the first smart phone was introduced, but the use of wireless mobile devices was becoming ubiquitous. "Not only [wa]s the number of wireless mobile devices being introduced to the market steadily increasing, but the types of devices equipped with wireless technology [wa]s also growing." '576 patent at 1:44-46. All types of mobile devices that had wireless connectivity (WiFi, Bluetooth, Zigbee, etc.) were being introduced to the market, including camcorders, cell phones, laptops, printers, etc. '576 patent at 1:46-50; *see* Overby Decl., at ¶148.

473. One problem that arose with the increase in wireless mobile devices "was that the wireless devices are designed to work with a limited number of related products. Device manufacturers and network standard committees ha[d] yet to offer a "big picture" approach that deals with how wireless devices interact with networks in a rich environment in which a user may

encounter multiple wireless networks in any given day simply by walking around with his or her wireless device." '576 patent at 1:48-54; *see* Overby Decl., at ¶149.

474. As a result of this lack of a "big picture" approach to wireless mobile device connectivity, each time a user's wireless device detects the presence of a wireless network, the user had to "perform manual configuration to enable the device to communicate with a network, even if the user encounters the same network day after day, such as with a network they have set up at their home." '576 patent at 1:55-60. The specification notes that "[i]n some cases, access can be automatically established with a single network via password and ID or some security key, which was manually entered into the device to establish access the first time [but] when a different network is encountered, manual intervention is typically required to establish connection." '576 patent at 1:60-65; *see* Overby Decl., at ¶150.

475. For these reasons, the specification explains that "what is needed is an improved network protocol that enables the establishment of a known, persistent relationship between a mobile wireless device and a wireless network, such that no additional configuration is required by the user for the device to communicate over the network once the relationship has been established." '576 patent at 2:6-13; *see* Overby Decl., at ¶151.

The Claimed Advances Of The '576 Patent.

476. To address the technical problems identified above, a "home" relationship is established between the device and the network recognizes the device as an "owned" device that is an extension of the network, and as a result of this relationship, "the device is granted automatic access to the network whenever it comes within active range of the network." '576 patent at 2:28-33. Accordingly, the claims of the '576 patent provide for a network, method, and apparatus "for establishing a persistent relationship between a mobile device and a server in a network," including by "detecting the presence of the mobile device, and in response to determining that the device is

unrecognized, automatically notifying a network administrator." '576 patent at 2:17-21. As claimed, "[in response to receiving the administrator's authorization to establish the relationship, a user of the mobile device is notified and requested to authorize the establishment of the relationship," and "[i]f the user then accepts the offer and authorizes the relationship, the relationship is automatically established between the device and the network. '576 patent at 2:21-27; *see* Overby Decl., at ¶152.

477. The claimed method and network for automatic registration of a new device first establishes a "home" relationship between the new device and a network server, such that no additional configuration is required by a user of the new device to communicate over a network once the relationship is established. This relationship is illustrated in Figure 1 of the '576 patent:

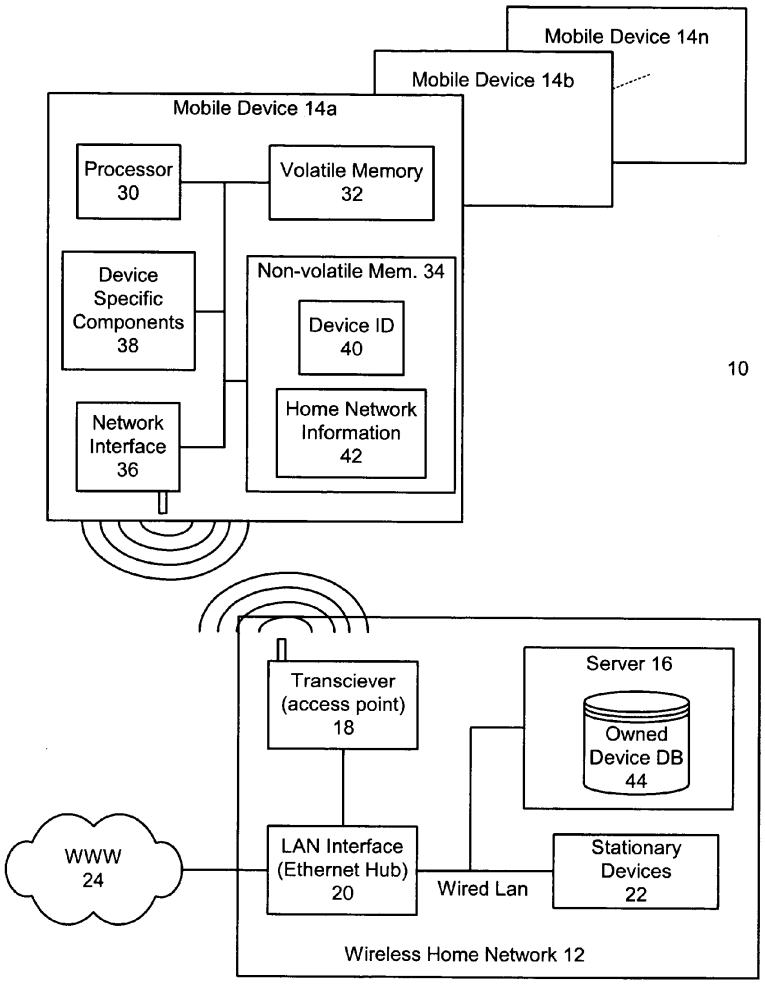


FIG. 1

478. More specifically, FIG. 1 is a block diagram illustrating a network configuration for use in accordance with the preferred embodiments of the present invention. The network configuration **10** comprises a wireless home network **12** capable of wireless communication with wireless mobile devices **14** *a*-**14** *n* (collectively, mobile devices **14**). The home network **12** includes one or more base stations, typically a server **16**, coupled to one or more access points (transceivers) **18** through a LAN interface (e.g., Ethernet hub) **20**. Other stationary devices **22** may also be coupled to the LAN interface **20** over a wired LAN, such as a printer, fax

machine, music jukebox, and the like. The LAN interface **20** provides all the devices within the home network access to the Internet **24**. Each mobile device **14** includes a CPU or DSP **30**, volatile and non-volatile memory **32** and **34**, a network interface **36** that enables wireless communication, and device specific components **38** for carrying out the intended function of the device **14**. '576 patent at 3:5-22; *see* Overby Decl., at ¶154.

479. The present invention eliminates the need for passwords, ID's, or security keys to be entered into the mobile device to establish a connection, and alleviates the need for users to continually perform manual steps to enable communication between the mobile devices **14** and the home network **12** each time one of the mobile devices **14** comes within communication range of the network **12**. According to the present invention, the network server **16** establishes a special relationship with a new device **14**, if desired both by the local network administrator and the new device owner. The relationship established between the network **12** and the wireless device **14** is the identification of the network **12** or network server **16** as "home" from the point of view of the wireless device **14**; and is the identification of an "owned device" from the point of view of the network server **16**. That is, owned by the server **16** as an extension component of itself, in the same way that Microsoft Windows™ recognizes attached plug & play devices. '576 patent at 3:23-40; *see* Overby Decl., at ¶155.

480. This special "home" relationship must be established with authorization from both the device owner and the network administrator or owner. It would be undesirable to automatically establish such a relationship via underlying wireless protocols because a person's device could be commandeered by any network that the user happens to pass by. However, according to the present invention, the network server **16** distinguishes between a new device **14** *a*—one not "owned" by the network **12**, and an owned device **14** *b*—one in which ownership has already been established.

The focus of the present invention is not on establishing actual ownership of the device **14** *a*, but on establishing automatic access of the device **14** *a* to the network **12** after a persistent relationship has been established. '576 patent at 3:41-54; *see* Overby Decl., at ¶156.

481. In operation, once the server **16** detects the presence of a device **14** *a* on the network **12**, it is assumed to be a visitor, unless it is recognized through a pre-established relationship. One of the ways of dealing with an unrecognized, and un-owned, device **14** *a* is to automatically notify the network administrator/owner, and request that they select from a list what kind of relationship is desired between the device and the network **12**. One specific relationship is the "home" relationship, which accepts the device **14** *b* as an extension of the network **12**, with full or specified access. Some relationships can be automatic, but typically the less restricted the access granted, the more likely owner intervention is required at some point in time. '576 patent at 3:55-67; *see* Overby Decl., at ¶157.

482. The "home" relationship allows automatic functions to occur, such as data sharing. In the case of a digital camera, for example, this could mean the automatic downloading of new images discovered on the storage device in the camera whenever the camera shows up on the network. '576 patent at 6:43-48; *see* Overby Decl., at ¶158.

483. Some embodiments of the inventions claims include storage of network information. The purpose of the stored network information within the device is to allow the device to also recognize its home network. This is important from a security point of view, because the home relationship may include not only access to the network, but network access to the device. For example, if the device is a cell phone, and a new phone number has been received by the network from a friend, this information can automatically update the phone list in the cell phone. Or, if the device is a digital camera, the network may interrogate the camera for new images, and, if found,

automatically download them, and even deleting them in the camera, based on preference settings. This would free up camera memory to take additional pictures without the user having to specifically download and store the images, and then erase them manually. Therefore, it is critical that the device recognize the home network as well as the home network recognize the device. It would be undesirable to grant any network that claims it is the home network access to the device: some form of certification or validation is required. '576 patent at 6:49-67; *see* Overby Decl., at ¶159.

484. When the "home" owned transaction is complete, there is a device record held by the network, and a network record held by the device, to facilitate recognition between the network and the device on subsequent detections. This record can be in many forms, including serial numbers, user names and other information. The only requirement is that the information provides unique identification of the device and network. '576 patent at 7:1-7; *see* Overby Decl., at ¶160.

The Claims of the '576 patent Provide Technical Solutions To The Problems Mobile Device Connectivity In A Wireless Network That Existed in April 2004.

485. The '576 patent contains 49 total claims (three independent claims and 46 dependent). For purposes of this complaint, the focus is on claim 1, although similar arguments apply to the other 48 claims in the patent, each of which require even more specific technical steps than claim 1. Claim 1 is recited below, along with exemplary other claims that claim more specific patentable subject matter that solve some of the then-existing technical problems existing in April 2004. Bolding, italics, and underlining is used below for emphasis, as shown, to highlight the limitations that are directed to solving then existing problems:

> **1.** A method for ***establishing a relationship between a mobile device and a server*** in a network, comprising;

> (a) ***detecting*** the presence of ***the mobile device***;
>
> (b) ***in response to determining that the mobile device is unrecognized, automatically notifying a network administrator***;
>
> (c) in response to ***receiving authorization from the network administrator to establish the relationship***, ***requesting authorization from the mobile device*** to authorize the establishment of the relationship; and
>
> (d) ***establishing the relationship between the mobile device and the network*** in response to receiving the authorization from the mobile device, ***such that no additional configuration is required by the mobile device to communicate over the network once the relationship has been established***.

'576 patent at claim 1 (emphasis added). Several of the dependent claims to the independent claim are also recited below, which provide:

> **2.** The method of claim 1, wherein (d) further comprises ***defining a home relationship between the mobile device and the network***.
>
> **3.** The method of claim 2, wherein (d) further comprises ***establishing the home relationship by identifying the network as home in the mobile device, and identifying the mobile device as owned to the server.***
>
> **4.** The method of claim 3, further comprising, ***upon the establishment of the home relationship, granting the mobile device access to the network and granting the network access to the mobile device***.
>
> **6.** The method of claim 5, wherein (b) further comprises ***notifying the network administrator by at least one of an audible or visual signal played on one or more devices*** coupled to the network, ***or an electronic***

notification sent to a mobile device owned by the network administrator.

7. The method of claim 6, wherein (b) further comprises ***displaying on a control center for the network*** for selection by the network administrator, ***a list of actions to be taken by the network in regard to the mobile device***.

9. The method of claim 6, wherein (b) further comprises ***allowing the network administrator to set a default action*** that defines the relationship for the device ***in absence of owner intervention***.

10. The method of claim 3, wherein (a) further comprises:

(i) ***requesting***, by the server, ***the device identification*** from the mobile device;

(ii) ***receiving***, by the server, ***the device identification***;

(iii) ***searching for the device identification among stored device identifications***; and

(iv) based at least ***on finding the device identification, granting the mobile device access to the network***.

11. The method of claim 10, wherein (d) further comprises ***storing***, by the server, the ***device identification previously transmitted by the mobile device***.

'576 patent at claims 2-12 (emphasis added); *see* Overby Decl., at ¶161.

486. The other independent claims (claims 17 and 34) are also directed to subject matter that provided technical solutions to technical problems that existed in April 2004. Claim 17 is directed to a network configuration that includes a mobile device and a wireless home network that detects the presence of an unrecognized mobile device and notifies the network administrator, upon which access can be granted and a relationship established such that no additional configuration is required by the mobile device to have access to network resources. Claim 34 claim computer

readable mediums encoded with computer executable instructions directed to subject matter nearly identical to claim 17. *See* '576 patent at claims 17 and 34. The claims depending on independent claims 17 and 34 roughly approximate the limitations of claims 2 to 16. *E.g., compare* claims 15 and 35 *with* claim 2 (same); *compare* claims 16 and 36 *with* claim 3 (same); *compare* claims 17 and 37 *with* claim 4 (same); *compare* claims 22 and 39 *with* claim 6 (same); *compare* claims 23 and 40 *with* claim 7 (same); *compare* claims 24 and 41 *with* claim 8 (same); *compare* claims 25 and 42 *with* claim 9 (same); *compare* claims 27 and 43 *with* claim 10 (similar); *compare* claims 28 and 44 *with* claim 11 (similar); *see* Overby Decl., at ¶162.

487. These claims are directed to much more than "access control." Indeed, the foregoing claim elements are both concrete and specific in what they claim. For instance, this claim is directed to, among other things, the specific relationship established between a new mobile device and a network server such that the new mobile device can access the network and its resources without requiring further configuration, manual input, etc. The depending claims further claim more specific versions of the invention that are directed to solving the technical problems in the art. *See* Overby Decl., at ¶163.

488. The claims of the patent, including the independent claims, solved the problems in mobile device connectivity in a wireless network that existed in April 2004by claiming a network, method, and system for establishing a relationship between a mobile device and a wireless home network by detecting the presence of an new mobile device and providing for certain access to be granted and a relationship established such that no additional configuration is required for future access to the network. The claims of the patents provide a number of approaches to solving these problems, including by creating a "home" relationship, establishing a mobile device as owned to the server, notifying a network administrator of new devices on the network using audible, visual,

and/or electronic signals, by employing a control center for the network, providing for the establishment of default actions to be taken for new devices, and by using a stored device identification to identify known devices. A skilled artisan would understand that each of the highlighted claims above provided a specific improvement in computer capabilities that did not exist prior to the priority date of the '576 patent, and, more specifically, allowed improved mobile device connectivity in the wireless networks of the time. *See* Overby Decl., at ¶164.

489. Additionally, this claim is not directed at subject matter that can be performed by a human, mentally or with pen and paper. The claims in the patent, including the claims highlighted above, accomplish something tangible in the computer world (*i.e.*, providing for the establishing a relationship between a mobile device and a network server in order to facilitate sustained and controlled communication on the network). As explained above, the claims of the '576 patent are directed at improving how mobile devices are added to a wireless network with minimal involvement from a user. None of these steps could be performed by a human or with a pen and paper because, as recited in the specific claims of the '576 patent, the problems that the solutions of the '576 patent solve do not exist outside the computer realm. *See* Overby Decl., at ¶165.

490. Finally, the claims of the '576 patent do not preempt all the ways of adding new mobile devices to a wireless network. There are many ways that a user could register a new device, including through a tedious manual process. Further, the over seventy systems that were disclosed in the prior art patents and applications identified on the face of the patent would not be preempted, and nor would any that do not detect the presence of a mobile device, issue automatic notifications, or provide for the establishment of a relationship, including a "home' relationship, of the claims of the '576 patent. *See* Overby Decl., at ¶166.

491. Even if the '576 patent claims were directed at an abstract idea (and they are not), the claims capture subject matter that is inventive. The claims of the '576 patent are directed to matter that was not known in the art at the time. To the extent that the claims employ components and technology that existed at the time (like a "mobile device," "server," and "network,"), they are employed together here in a way that was new and that a skilled artisan would not have considered conventional, routine, or generic. Establishing a relationship between a mobile device and a wireless home network by detecting the presence of an new mobile device and providing for certain access to be granted and a relationship established such that no additional configuration is required for future access to the network, including by creating a "home" relationship, establishing a mobile device as owned to the server, notifying a network administrator of new devices on the network using audible, visual, and/or electronic signals, by employing a control center for the network, providing for the establishment of default actions to be taken for new devices, and by using a stored device identification to identify known devices, as claimed in the various forms in the claims highlighted above, is inventive and was not previously known in the art. *See* Overby Decl., at ¶167.

492. Even if that were not true, the ordered combination of limitations in claim 1 of the '576 patent, as recited and described in detail above, were not well-known in the art. No art or system that existed at the time disclosed all of these limitations in a way that solved the then-existing problems with mobile device connectivity to a wireless network. *See* Overby Decl., at ¶168.

493. A skilled artisan would have understood that these claims do not merely employ generic components in a conventional or routine way. These claims are directed to specific solutions using technology in an inventive and unique way to solve the well-documented problems that were then-known in the art. *See* Overby Decl., at ¶169.

494. For the above reasons, the claims of the '576 patent claim a combination of elements sufficient to ensure that the claims themselves, both in substance and in practice, are directed to concrete and inventive concepts (not an abstract idea). *See* Overby Decl., at ¶170.

Direct Infringement under § 271(a)

495. Defendants have directly infringed the claims of the '576 patent by using, providing, testing, installing, supplying, or distributing the Accused Products.

496. For instance, Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '576 patent. As just one example, Defendants, using the Accused Products and their associated hardware and software and functionalities, perform a method for establishing a relationship between a mobile device and a server in a network, including (a) detecting the presence of the mobile device; (b) in response to determining that the mobile device is unrecognized, automatically notifying a network administrator; (c) in response to receiving authorization from the network administrator to establish the relationship, requesting authorization from the mobile device to authorize the establishment of the relationship; and (d) establishing the relationship between the mobile device and the network in response to receiving the authorization from the mobile device, such that no additional configuration is required by the mobile device to communicate over the network once the relationship has been established.

497. An exemplary claim chart illustrating Defendants' infringement of claim 1 is attached hereto as **Attachment 10** which is incorporated by reference herein.

498. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

499. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '576 patent. Defendants' actions have interfered with and will interfere with Plaintiff's ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

COUNT X(A)(1): *Induced Infringement Under § 271(b)*

500. Defendants have been willfully blind to the existence of the '576 patent and their infringement, but Defendants had actual knowledge of the '576 patent on or around December 1, 2023.

501. Defendants have also indirectly infringed the '576 patent by inducing others to directly infringe the '576 patent.

COUNT X(A)(2): *Contributory Infringement Under § 271 (c)*

502. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '576 patent by providing or requiring use of the Accused Products.

503. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes the claims of the '576 patent, including, for example, claim 1 of the '576 patent.

504. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing

instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on its website and/or *via* the Smart Home Apps on how to use the Accused Products in an infringing manner.

505. Defendants are performing these steps, which constitute induced infringement with the knowledge of the ’576 patent and with the knowledge that the induced acts constitute infringement. Defendants is aware that the normal and customary use of the Accused Products by others would infringe the ’576 patent.

506. Defendants’ inducement is ongoing.

507. Defendants have also indirectly infringed by contributing to the infringement of the ’576 patent. Defendants have contributed to the direct infringement of the ’576 patent by its personnel, contractors, and customers.

508. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe the claims of the ’576 patent, including, for example, claim 1 of the ’576 patent.

509. The special features constitute a material part of the invention of one or more of the claims of the ’576 patent and are not staple articles of commerce suitable for substantial non-infringing use.

510. Defendants’ contributory infringement is ongoing.

COUNT X(B): *Willful Infringement*

511. Defendants’ actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

512. Defendants’ direct infringement of the claims of the ’576 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations’ rights under the patent.

JURY DEMAND

513. IoT Innovations hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

514. IoT Innovations requests that the Court find in its favor and against Defendants, and that the Court grant IoT Innovations the following relief:

a. Judgment that one or more claims of each of the Asserted Patents has been infringed, either literally or under the doctrine of equivalents, by Defendants or others acting in concert therewith;

b. A permanent injunction enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert therewith from infringement of the '173 patent, '798 patent, '830 patent, '464 patent, the '796 patent, and the '576 patent; or, in the alternative, an award of a reasonable ongoing royalty for future infringement of said patents by such entities;

c. Judgment that Defendants account for and pay to IoT Innovations all damages to and costs incurred by IoT Innovations because of Defendants' infringing activities and other conduct complained of herein;

d. Judgment that Defendants' infringements be found willful as to the of the '173 patent, '798 patent, '830 patent, '464 patent, the '796 patent, and the '576 patent; and that the Court award treble damages for the period of such willful infringement pursuant to 35 U.S.C. § 284;

e. Pre-judgment and post-judgment interest on the damages caused by Defendants' infringing activities and other conduct complained of herein;

f. That this Court declare this an exceptional case and award IoT Innovations its reasonable attorneys' fees and costs in accordance with 35 U.S.C. § 285; and

g. All other and further relief as the Court may deem just and proper under the circumstances.

Dated: July 15, 2024

Respectfully submitted,

By: */s/ Kristin M. Whidby*

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CERTIFICATE OF SERVICE

I hereby certify that on this day, I caused to be electronically filed the foregoing document with the Clerk of Court using the CM/ECF system, which caused it to be served this day on all counsel of record who are registered to receive email Notices of Electronic Filing generated by the CM/ECF system.

Dated: July 15, 2024

Respectfully submitted,

By: */s/ Kristin M. Whidby*

List of Exhibits

A. Somfy Website | Smart Home Solutions
B. Somfy | Installation Guide | Connect Main Controller
C. Somfy | Specifications | IP/io Gateway
D. Somfy | Installation Guide | IP/io Gateway
E. Somfy | Ad/Flyer | Z-Wave
F. Somfy | User Manual | Z-Wave
G. Somfy Website | Z-Wave Integration for Blinds, Shades, Awnings and More

List of Attachments

(1) Exemplary Claim Chart - U.S. Patent No. 7,246,173

(2) Exemplary Claim Chart - U.S. Patent No. 7,394,798

(3) Exemplary Claim Chart - U.S. Patent No. 7,974,266

(4) Exemplary Claim Chart - U.S. Patent No. 7,974,260

(5) Exemplary Claim Chart - U.S. Patent No. 7,280,830

(6) Exemplary Claim Chart - U.S. Patent No. 7,379,464

(7) Exemplary Claim Chart - U.S. Patent No. 7,474,667

(8) Exemplary Claim Chart - U.S. Patent No. 7,593,428

(9) Exemplary Claim Chart - U.S. Patent No. 8,085,796

(10) Exemplary Claim Chart - U.S. Patent No. 8,972,576

Declaration Of Walter Gibson Overby In Support Of Consolidated Complaint For Patent Infringement